

38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

| Series | Series | Series  | Military | JT/LJT |       | Hermetics |         |     | Service Rating | Total Contacts | Contact Size |     |    |     |    |    |           |            |          |              |   |
|--------|--------|---------|----------|--------|-------|-----------|---------|-----|----------------|----------------|--------------|-----|----|-----|----|----|-----------|------------|----------|--------------|---|
|        |        |         |          | Solder | Crimp | Class H   | Class Y | TV* |                |                | 22D          | 22M | 22 | 20  | 16 | 12 | 12 (Coax) | 10 (Power) | 8 (Coax) | 8†† (Twinax) |   |
| 8-2■   |        |         |          | P      |       |           |         |     | M              | 2              |              |     |    | 2   |    |    |           |            |          |              |   |
| 8-3■   |        |         |          | X      | NA    | P         | P       |     | M              | 3              |              |     |    | 3   |    |    |           |            |          |              |   |
|        | 9-3■   |         |          | X      |       |           |         |     |                |                |              |     |    |     |    |    |           |            |          |              |   |
|        |        | 9-5★■   |          |        |       |           |         |     | Grounded       | 1              |              |     |    |     |    |    |           |            |          |              | 1 |
| 8-6    |        |         |          | X      | X     | P         | P       |     | M              | 6              |              | 6   |    |     |    |    |           |            |          |              |   |
|        | 9-6    |         |          | X      | X     | P         | P       |     | M              | 7              |              | 7   |    |     |    |    |           |            |          |              |   |
|        | 9-7■   |         |          | X      |       |           |         |     | M              | 7              |              |     |    |     |    |    |           |            |          |              |   |
|        | 9-22■  |         |          | X      |       |           |         |     | I              | 2              |              |     |    | 2   |    |    |           |            |          |              |   |
| 8-35   |        |         |          |        | X     | P         | P       |     | M              | 6              | 6            |     |    |     |    |    |           |            |          |              |   |
|        | 9-35   | 9-35    | A35      |        | X     | P         | P       | P   | M              | 6              |              |     |    |     |    |    |           |            |          |              |   |
| 8-44   |        |         |          |        | X     | P         | P       |     | M              | 4              |              |     | 4  |     |    |    |           |            |          |              |   |
|        | 9-44   |         |          |        | X     |           |         |     | M              | 4              |              |     |    |     |    |    |           |            |          |              |   |
|        |        | 9-94 ■  |          |        | ◆     |           |         |     | M              | 2              |              |     |    |     |    |    |           |            |          |              |   |
| 8-97■  |        |         |          | X      |       |           |         |     | M              | 4              |              | 2   |    | 2   |    |    |           |            |          |              |   |
| 8-98   |        |         |          | S      | X     | P         | P       |     | I              | 3              |              |     |    | 3   |    |    |           |            |          |              |   |
|        | 9-98   | 9-98    | A98      | X      | X     | P         | P       | P   | I              | 3              |              |     |    |     |    |    |           |            |          |              |   |
|        | 11-2★  | 11-2★   | B2       |        | X     | P**       |         |     | I              | 2              |              |     |    | 2   |    |    |           |            |          |              |   |
| 10-4   |        |         |          |        | 3     |           |         |     | I              | 4              |              |     |    | 4   |    |    |           |            |          |              |   |
|        | 11-4   | 11-4    |          | X      | S/2   |           |         |     | I              | 4              |              |     |    |     |    |    |           |            |          |              |   |
| 10-5   |        |         |          | X      | X     | P         | P       |     | I              | 5              |              |     |    | 5   |    |    |           |            |          |              |   |
|        | 11-5   | 11-5    | B5       | X      | X     |           |         | P   | I              | 5              |              |     |    |     |    |    |           |            |          |              |   |
|        | 11-6■  |         |          | S      |       |           |         |     | I              | 6              |              |     |    | 6   |    |    |           |            |          |              |   |
| 10-13  |        |         |          | X      | X     | P/S       | P/S     |     | M              | 13             |              | 13  |    |     |    |    |           |            |          |              |   |
|        | 11-13  |         |          | X      | X     | P/S       | P/S     |     | M              | 13             |              |     |    |     |    |    |           |            |          |              |   |
| 10-35  |        |         |          |        | X     | P/S       | P/S     |     | M              | 13             | 13           |     |    |     |    |    |           |            |          |              |   |
|        | 11-35  | 11-35   | B35      |        | X     | P/S       | P/S     | P   | M              | 13             |              |     |    |     |    |    |           |            |          |              |   |
|        |        | 11-54 ■ |          |        | X     | ◆         |         |     | II             | 4              | 4            |     |    |     |    |    |           |            |          |              |   |
| 10-98  |        |         |          | X      | X     | P/S       | P/S     |     | I              | 6              |              |     |    | 6   |    |    |           |            |          |              |   |
|        | 11-98  | 11-98   | B98      | X      | X     | P/S       | P/S     | P   | I              | 6              |              |     |    |     |    |    |           |            |          |              |   |
| 10-99  |        |         |          |        | X     | P         | P       |     | I              | 7              |              |     |    | 7   |    |    |           |            |          |              |   |
|        | 11-99  | 11-99   | B99      |        | P     | X         |         | P   | I              | 7              |              |     |    |     |    |    |           |            |          |              |   |
| 12-3   |        |         |          | X      | X     | ◆         | P       | P   | II             | 3              |              |     |    |     | 3  |    |           |            |          |              |   |
|        | 13-3■  |         |          |        | P     |           |         |     | II             | 3              |              |     |    |     |    |    |           |            |          |              |   |
| 12-4   |        |         |          | X      | X     | P         | P       |     | I              | 4              |              |     |    | 4   |    |    |           |            |          |              |   |
|        | 13-4★  | 13-4★   | C4       | X      | X     | P         | P       | P   | I              | 4              |              |     |    |     |    |    |           |            |          |              |   |
| 12-8   |        |         |          | X      | X     | P         | P       |     | I              | 8              |              |     |    | 8   |    |    |           |            |          |              |   |
|        | 13-8   | 13-8    | C8       | X      | X     | P         | P       | P   | I              | 8              |              |     |    |     |    |    |           |            |          |              |   |
|        |        | 13-13■  |          |        |       |           |         |     | I, Fiber Optic | 4              |              |     |    | 2** | 2  |    |           |            |          |              |   |
| 12-22  |        |         |          |        | X     | P/S       | P/S     |     | M              | 22             |              | 22  |    |     |    |    |           |            |          |              |   |
|        | 13-22  |         |          | X      | X     | P/S       | P/S     |     | M              | 22             |              |     |    |     |    |    |           |            |          |              |   |
| 12-35  |        |         |          |        | X     | P/S       | P/S     |     | M              | 22             | 22           |     |    |     |    |    |           |            |          |              |   |
|        | 13-35  | 13-35   | C35      |        | X     | P/S       | P/S     | P   | M              | 22             |              |     |    |     |    |    |           |            |          |              |   |
|        |        | 13-63■  |          |        | ◆     |           |         |     | I              | 4              |              |     |    | 2   | 2  |    |           |            |          |              |   |
| 12-98  |        |         |          | X      | X     | P/S       | P/S     |     | I              | 10             |              |     | 10 |     |    |    |           |            |          |              |   |
|        | 13-98  | 13-98   | C98      | X      | X     | P/S       | P/S     | P   | I              | 10             |              |     |    |     |    |    |           |            |          |              |   |
| 14-4■  |        |         |          |        | 2     |           |         |     | I              | 4              |              |     |    |     | 4  |    |           |            |          |              |   |
|        | 15-4■  | 15-4■   |          |        | 2     | ◆         |         |     | I              | 4              |              |     |    |     |    |    |           |            |          |              |   |
| 14-5   |        |         |          | X      | X     | P         | P       |     | II             | 5              |              |     |    | 5   |    |    |           |            |          |              |   |
|        | 15-5★  | 15-5★   | D5       | X      | X     | P         | P       | P   | II             | 5              |              |     |    |     |    |    |           |            |          |              |   |
| 14-15  |        |         |          | X      | X     | P         | P       |     | I              | 15             |              |     | 14 | 1   |    |    |           |            |          |              |   |
|        | 15-15  | 15-15   | D15      | X      | X     | P/S       | P/S     | P   | I              | 15             |              |     | 14 | 1   |    |    |           |            |          |              |   |

X Completely tooling.  
 • Majority of tooling is completed (contact Amphenol Aerospace for availability).  
 ◆ Not tooling for 02-R.  
 P Available with Pin contacts only  
 S Available with Socket contacts only  
 P/S Available with Pin contacts or Socket contacts  
 ★ Ground plane proprietary option available. Arrg. 9-5 is exclusively ground plane type.  
 ■ Not Mil-Qualified.  
 ◆ 21-75 is Mil-Qualified with twinax contacts only.  
 Note: MS connector 21-75 is supplied with size 8 twinax.  
 Commercial connector 21-75 is supplied with size 8 coax.

\* Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).  
 \*\* Two size 16 contacts dedicated to fiber optics. See the Fiber Optic section for more information.  
 \*\*\* For use in MIL-STD-1760 applications (see pages 40 & 41).  
 † For RG 180/U and RG 195/U cables only.  
 †† Size 8 Coax and Twinax are interchangeable.  
 (2) Not Tooled for RP or 02RE  
 (3) Pin inserts only, not tooled for RP or 02RE (Consult Sidney, NY for avail.)  
 (5) MS Connector 21-79 has provision for two size 8 coax contacts.  
 Coax contacts are not supplied unless specified by customer.

# MIL-DTL-38999, Series I LJT, II JT, III TV

## Insert Availability and Identification Chart



| Series | Series | Series | Military | JT/LJT |       | Hermetics |         |     | Service Rating | Total Contacts | Contact Size |     |    |    |    |    |           |            |          |              |
|--------|--------|--------|----------|--------|-------|-----------|---------|-----|----------------|----------------|--------------|-----|----|----|----|----|-----------|------------|----------|--------------|
|        |        |        |          | Solder | Crimp | Class H   | Class Y | TV* |                |                | 22D          | 22M | 22 | 20 | 16 | 12 | 12 (Coax) | 10 (Power) | 8 (Coax) | 8†† (Twinax) |
| 14-18  |        |        |          | X      | X     | P/S       | P/S     |     | I              | 18             |              |     |    |    |    |    |           |            |          |              |
|        | 15-18  | 15-18  | D18      | X      | X     | P/S       | P/S     | P   | I              | 18             |              |     |    |    |    |    |           |            |          |              |
| 14-19  |        |        |          | X      | X     |           |         |     | I              | 19             |              |     |    |    |    |    |           |            |          |              |
|        | 15-19  | 15-19  | D19      |        | X     | P         | P       | P   | I              | 19             |              |     |    |    |    |    |           |            |          |              |
| 14-35  |        |        |          |        | X     | P         | P       |     | M              | 37             | 37           |     |    |    |    |    |           |            |          |              |
|        | 15-35  | 15-35  | D35      |        | X     | P/S       | P/S     | P   | M              | 37             | 37           |     |    |    |    |    |           |            |          |              |
| 14-37  |        |        |          | X      | X     | P         | P       |     | M              | 37             |              | 37  |    |    |    |    |           |            |          |              |
|        | 15-37  |        |          | X      | X     | P         | P       |     | M              | 37             |              | 37  |    |    |    |    |           |            |          |              |
| 14-68  |        |        |          |        | 2     |           | P       |     |                |                |              |     |    |    |    |    |           |            |          |              |
|        | 15-68  |        |          | X      | 2     |           |         |     |                |                |              |     |    |    |    |    |           |            |          |              |
| 14-97  |        |        |          |        | X     | P         | P       |     | I              | 12             |              |     |    |    |    |    |           |            |          |              |
|        | 15-97  | 15-97  | D97      | X      | X     | P         | P       | P   | I              | 12             |              |     |    |    |    |    |           |            |          |              |
|        | 17-2   | 17-2   | E2       |        | X     |           |         |     | M              | 39             | 38           |     |    |    |    |    |           |            |          | 1            |
| 16-6   |        |        |          |        | X     | P         | P       |     | I              | 6              |              |     |    |    |    |    |           |            |          |              |
|        | 17-6   | 17-6   | E6       |        | X     | P         | P       | P   | I              | 6              |              |     |    |    |    |    |           |            |          |              |
| 16-8   |        |        |          | X      | X     | P         | P       |     |                |                |              |     |    |    |    |    |           |            |          |              |
|        | 17-8★  | 17-8★  | E8       | X      | X     | P/S       | P/S     | P   | II             | 8              |              |     |    |    |    |    |           |            |          |              |
| 16-13  |        |        |          |        | 2     |           |         |     | I              | 13             |              |     |    |    |    |    |           |            |          |              |
|        | 17-13  |        |          |        | 2     |           |         |     | I              | 13             |              |     |    |    |    |    |           |            |          |              |
|        | 17-22  | 17-22★ |          |        | 2     |           |         |     | Coax           | 4              |              |     |    |    |    |    |           |            |          |              |
|        | 17-25  |        |          |        | 2     |           |         |     | M              | 24             | 22           |     |    |    |    |    |           |            |          |              |
| 16-26  |        |        |          | X      | X     | P/S       | P/S     |     |                |                |              |     |    |    |    |    |           |            |          |              |
|        | 17-26  | 17-26  | E26      | X      | X     | P/S       | P/S     | P   | I              | 26             |              |     |    |    |    |    |           |            |          |              |
| 16-35  |        |        |          |        | X     | P         | P       |     |                |                |              |     |    |    |    |    |           |            |          |              |
|        | 17-35  | 17-35  | E35      | X      | X     | P         | P       | P   | M              | 55             | 55           |     |    |    |    |    |           |            |          |              |
| 16-42  |        |        |          |        | X     |           |         |     | M              | 42             |              |     |    |    |    |    |           |            |          |              |
|        | 17-42  |        |          |        | P     |           |         |     | M              | 42             |              |     |    |    |    |    |           |            |          |              |
|        |        | 17-52  |          |        | X     |           |         |     | M              | 2              |              |     |    |    |    |    |           |            |          | 2            |
| 16-55  |        |        |          | X      | X     | P/S       | P/S     |     | M              | 55             |              |     |    |    |    |    |           |            |          |              |
|        | 17-55  |        |          | X      | X     | P/S       | P/S     |     | M              | 55             |              |     |    |    |    |    |           |            |          |              |
|        |        | 17-60  |          |        | X     |           |         |     | I/Coax         | 10             | 8            |     |    |    |    |    |           |            |          | 2            |
| 16-99  |        |        |          | X      | X     | P         | P       |     | I              | 23             |              |     |    |    |    |    |           |            |          |              |
|        | 17-99  | 17-99  | E99      | X      | X     | P         | P       |     | I              | 23             |              |     |    |    |    |    |           |            |          |              |
|        |        | 19-AD  |          |        | X     |           |         |     | Inst.          | 17             |              |     |    |    |    |    |           |            |          | 1            |
| 18-11  |        |        |          | X      | X     | P         | P       |     | II             | 11             |              |     |    |    |    |    |           |            |          |              |
|        | 19-11★ | 19-11★ | F11      | X      | X     | P         | P       | P   | II             | 11             |              |     |    |    |    |    |           |            |          |              |
|        | 19-18  | 19-18  | F18      |        | 2     | X         |         |     | M              | 18             | 14           |     |    |    |    |    |           |            |          | 4            |
| 18-28  |        |        |          | X      | X     |           |         |     | I              | 28             |              |     |    |    |    |    |           |            |          |              |
|        | 19-28  | 19-28  | F28      | X      | P     | X         |         |     | I              | 28             |              |     |    |    |    |    |           |            |          |              |
| 18-30  |        |        |          | X      | X     |           |         |     | I              | 30             |              |     |    |    |    |    |           |            |          |              |
|        | 19-30  |        |          | X      | P     |           |         |     | I              | 30             |              |     |    |    |    |    |           |            |          |              |
|        |        | 19-31  |          |        | X     |           |         |     | M              | 15             | 12           |     |    |    |    |    |           |            |          | 2            |
| 18-32  |        |        |          | X      | X     | P/S       | P/S     |     | I              | 32             |              |     |    |    |    |    |           |            |          |              |
|        | 19-32  | 19-32  | F32      | X      | X     | P/S       | P/S     | P   | I              | 32             |              |     |    |    |    |    |           |            |          |              |
| 18-35  |        |        |          |        | X     | P         | P       |     | M              | 66             | 66           |     |    |    |    |    |           |            |          |              |
|        | 19-35  | 19-35  | F35      |        | X     | P         | P       | P   | M              | 66             | 66           |     |    |    |    |    |           |            |          |              |
| 18-53  |        |        |          | X      | X     |           |         |     | M              | 53             |              |     |    |    |    |    |           |            |          |              |
|        | 19-53  |        |          |        | P     |           |         |     | M              | 53             |              |     |    |    |    |    |           |            |          |              |
| 18-66  |        |        |          | X      | X     | P         | P       |     | M              | 66             |              |     |    |    |    |    |           |            |          |              |
|        | 19-66  |        |          |        | X     | P         | P       |     | M              | 66             |              |     |    |    |    |    |           |            |          |              |
|        | 19-67  |        |          | X      | 3     | S         | S       |     | M              | 67             |              |     |    |    |    |    |           |            |          |              |
| 18-68  |        |        |          |        | 2     |           |         |     | I              | 18             |              |     |    |    |    |    |           |            |          |              |
|        | 19-68  |        |          |        | 3     |           |         |     | I              | 18             |              |     |    |    |    |    |           |            |          |              |
| 18-96  |        |        |          |        | 2     |           |         |     | I              | 9              |              |     |    |    |    |    |           |            |          |              |
| 20-1   |        |        |          |        | X     | P         | P       |     | M              | 79             |              |     |    |    |    |    |           |            |          |              |
|        | 21-1   |        |          |        | X     | P/S       | P/S     |     | M              | 79             |              |     |    |    |    |    |           |            |          |              |
| 20-2   |        |        |          |        | X     |           |         |     | M              | 65             |              |     |    |    |    |    |           |            |          |              |
|        | 21-2   |        |          |        | X     |           |         |     | M              | 65             |              |     |    |    |    |    |           |            |          |              |
| 20-11  |        |        |          |        | 3     |           |         |     | I              | 11             |              |     |    |    |    |    |           |            |          |              |
|        | 21-11★ | 21-11★ | G11      |        | X     |           |         |     | I              | 11             |              |     |    |    |    |    |           |            |          |              |

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| Series | Series | Series   | Military | JT/LJT |       | Hermetics |     |     |     | Service Rating | Total Contacts | Contact Size |     |     |    |    |           |            |          |              |    |     |
|--------|--------|----------|----------|--------|-------|-----------|-----|-----|-----|----------------|----------------|--------------|-----|-----|----|----|-----------|------------|----------|--------------|----|-----|
|        |        |          |          | Solder | Crimp | H         | Y   | TV* | 22D |                |                | 22M          | 22  | 20  | 16 | 12 | 12 (Coax) | 10 (Power) | 8 (Coax) | 8†† (Twinax) |    |     |
| 20-16  |        |          |          | X      | X     | P/S       | P/S |     |     | II             | 16             |              |     |     |    |    |           |            | 16       |              |    |     |
|        | 21-16★ | 21-16★   | G16      | X      | X     | P         | P   | P   |     | I              | 25             |              |     |     |    |    |           |            | 25       |              |    |     |
|        | 21-25■ |          |          | X      |       |           |     |     |     | I              | 27             |              |     |     |    |    |           |            | 27       |              |    |     |
|        | 21-27■ |          |          | X      |       |           |     |     |     | I              | 27             |              |     |     |    |    |           |            | 19       | 4            | 4  |     |
|        |        | 21-29■   |          |        | X     |           |     |     |     | I              | 27             |              |     |     |    |    |           |            |          |              |    |     |
| 20-35  |        |          |          |        | X     | P         | P   |     |     | M              | 79             | 79           |     |     |    |    |           |            |          |              |    |     |
|        | 21-35  | 21-35    | G35      |        | X     | P/S       | P/S | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 20-39  |        |          |          | X      | X     | P         | P   |     |     | I              | 39             |              |     |     |    |    |           |            | 37       | 2            |    |     |
|        | 21-39  | 21-39    | G39      | X      | X     | P         | P   | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 20-41  |        |          |          | X      | X     | P         | P   |     |     | I              | 41             |              |     |     |    |    |           |            | 41       |              |    |     |
|        | 21-41  | 21-41    | G41      | X      | X     | P/S       | P/S | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 21-75★ | 21-75★◇  | G75      |        | 2     | X         |     |     | N   | M              | 4              |              |     |     |    |    |           |            |          |              | 4  | (4) |
|        | 21-79■ | 21-79■   |          |        | 2     | X         |     |     |     | II             | 19             | 17           |     |     |    |    |           |            |          |              | 2  | (5) |
| 22-1   |        |          |          |        | X     | P/S       | P/S |     |     | M              | 100            |              | 100 |     |    |    |           |            |          |              |    |     |
|        | 23-1   |          |          |        | X     | P         | P   |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 22-2   |        |          |          | X      | X     | P         | P   |     |     | M              | 85             |              |     | 85  |    |    |           |            |          |              |    |     |
|        | 23-2   |          |          | X      | X     | P         | P   |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 23-6★■ | 23-6★■   |          |        | P     |           |     |     |     | M              | 6              |              |     |     |    |    |           |            |          |              |    | 6   |
| 22-14■ |        |          |          |        | 2     | ◆         |     |     |     | I              | 14             |              |     |     |    |    |           |            |          |              | 14 |     |
|        | 23-14■ | 23-14■   |          |        | 2     | ◆         |     |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 22-21  |        |          |          | X      | X     | P         | P   |     |     | II             | 21             |              |     |     |    |    |           |            | 21       |              |    |     |
|        | 23-21★ | 23-21★   | H21      | X      | X     | P         | P   | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 22-32  |        |          |          | X      | X     | P         | P   |     |     | I              | 32             |              |     |     |    |    |           |            | 32       |              |    |     |
|        | 23-32■ |          |          | X      | P     |           |     |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 23-34■ |          |          | X      |       |           |     |     |     | I              | 34             |              |     |     |    |    |           |            | 34       |              |    |     |
| 22-35  |        |          |          |        | X     | P/S       | P/S |     |     | M              | 100            | 100          |     |     |    |    |           |            |          |              |    |     |
|        | 23-35  | 23-35    | H35      |        | X     | P         | P   | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 22-53■ |        |          |          |        | P     |           |     |     |     | I              | 53             |              |     |     |    |    |           |            | 53       |              |    |     |
|        | 23-53  | 23-53    | H53      | X      | X     | P/S       | P/S | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        |        | 23-54■   |          |        | X     |           |     |     |     | M              | 53             | 40           |     |     |    |    |           |            | 9        | 4            |    |     |
| 22-55  |        |          |          | X      | X     | P         | P   |     |     | I              | 55             |              |     |     |    |    |           |            | 55       |              |    |     |
|        | 23-55  | 23-55    | H55      |        | X     |           |     | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 23-97■ |          |          | X      |       |           |     |     |     | II             | 16             |              |     |     |    |    |           |            | 16       |              |    |     |
|        | 23-99■ |          |          | X      |       |           |     |     |     | II             | 11             |              |     |     |    |    |           |            | 11       |              |    |     |
| 24-1   |        |          |          |        | X     | P         | P   |     |     | M              | 128            |              | 128 |     |    |    |           |            |          |              |    |     |
|        | 25-1   |          |          |        | X     | P         | P   |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 24-2   |        |          |          |        | X     |           |     |     |     | M              | 100            |              |     | 100 |    |    |           |            |          |              |    |     |
|        | 25-2   |          |          |        | X     |           |     |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
| 24-4   |        |          |          |        | X     | P         | P   |     |     | I              | 56             |              |     |     |    |    |           |            | 48       | 8            |    |     |
|        | 25-4   | 25-4     | J4       |        | X     |           |     | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 25-7■  | 25-7     | J7       |        | X     |           |     |     | M   | Twinax         | 99             | 97           |     |     |    |    |           |            |          |              | 2  |     |
|        |        | 25-8★    | J8       |        | ◆     |           |     |     |     | Twinax         | 8              |              |     |     |    |    |           |            |          |              |    | 8   |
|        |        | 25-11*** | J11      |        | 2     | ◆         |     |     | N   |                | 11             |              |     |     |    |    |           |            | 2        |              |    | 9   |
|        |        | 25-17■   |          |        | ◆     |           |     |     | M   |                | 42             | 36           |     |     |    |    |           |            |          |              |    | 6   |
| 24-19■ |        |          |          |        | X     | P         | P   |     |     | I              | 19             |              |     |     |    |    |           |            |          |              | 19 |     |
|        | 25-19★ | 25-19★   | J19      |        | X     |           |     | P   |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        | 25-20■ | 25-20*** | J20      |        | 2     | ◆         |     |     | N   |                | 30             |              |     |     |    |    |           |            | 10       | 13           |    | 4   |
| 24-24  |        |          |          |        | X     | P         | P   |     |     | I              | 24             |              |     |     |    |    |           |            |          | 12           | 12 |     |
|        | 25-24★ | 25-24★   | J24      |        | X     | P         | P   |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |
|        |        | 25-26■   |          |        | ◆     |           |     |     |     | I              | 25             |              |     |     |    |    |           |            | 16       | 5            |    | 4   |
| 24-29  |        |          |          |        | X     |           |     |     |     | I              | 29             |              |     |     |    |    |           |            |          |              | 29 |     |
|        | 25-29★ | 25-29★   | J29      | X      | X     |           |     |     |     |                |                |              |     |     |    |    |           |            |          |              |    |     |

X Completely tooled.  
 • Majority of tooling is completed (contact Amphenol Aerospace for availability).  
 ◆ Not tooled for 02-R.  
 P Available with Pin contacts only  
 S Available with Socket contacts only  
 P/S Available with Pin contacts or Socket contacts  
 ★ Ground plane proprietary option available. Arrg. 9-5 is exclusively ground plane type.  
 ■ Not Mil-Qualified.  
 ◇ 21-75 is Mil-Qualified with twinax contacts only.  
 \* Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).

\*\* Two size 16 contacts dedicated to fiber optics. See the Fiber Optic Section for more information.  
 \*\*\* For use in MIL-STD-1760 applications (see pages 40 & 41).  
 † For RG 180/U and RG 195/U cables only.  
 †† Size 8 Coax and Twinax are interchangeable.  
 (2) Not Tooled for RP or 02RE  
 (3) Pin inserts only, not tooled for RP or 02RE (Consult Sidney, NY for avail.)  
 (4) MS connector 21-75 is supplied with size 8 twinax. Commercial connector 21-75 is supplied with size 8 coax.  
 (5) MS Connector 21-79 has provision for two size 8 coax contacts. Coax contacts are not supplied unless specified by customer.

# MIL-DTL-38999, Series I LJT, II JT, III TV Insert Availability and Identification Chart



| Series | Series | Series  | Military | JT/LJT | Hermetics |   |   |     |                | Contact Size   |     |     |    |    |    |    |           |            |          |              |           |
|--------|--------|---------|----------|--------|-----------|---|---|-----|----------------|----------------|-----|-----|----|----|----|----|-----------|------------|----------|--------------|-----------|
| JT II  | LJT I  | TV III  | TV III   | Solder | Crimp     | H | Y | TV* | Service Rating | Total Contacts | 22D | 22M | 22 | 20 | 16 | 12 | 12 (Coax) | 10 (Power) | 8 (Coax) | 8†† (Twinax) | 8 Quadrax |
| 24-35  |        |         |          |        | X         | P | P |     | New            | 128            | 128 |     |    |    |    |    |           |            |          |              |           |
|        | 25-35  | 25-35   | J35      |        | X         | P | P | P   | M              |                |     |     |    |    |    |    |           |            |          |              |           |
| 24-37  |        |         |          |        | X         |   |   |     | I              | 37             |     |     |    | 37 |    |    |           |            |          |              |           |
|        | 25-37★ | 25-37★  | J37      |        | X         |   |   |     |                |                |     |     |    |    |    |    |           |            |          |              |           |
| 24-43■ |        |         |          |        | 3         |   |   |     | I              | 43             |     |     |    | 23 | 20 |    |           |            |          |              |           |
|        | 25-43  | 25-43   | J43      | X      | 2         | ♦ |   |     | I              | 46             |     |     |    | 40 | 4  |    |           |            | 2        |              |           |
|        | 25-46  | 25-46   | J46      |        | 2         | ♦ |   |     |                |                |     |     |    |    |    |    |           |            |          |              |           |
| 24-61  |        |         |          |        | X         | X | P | P   | I              | 61             |     |     |    | 61 |    |    |           |            |          |              |           |
|        | 25-61  | 25-61   | J61      | X      | X         | P | P | P   |                |                |     |     |    |    |    |    |           |            |          |              |           |
|        |        | 25-62■  |          |        | X         | ♦ |   |     | I              | 12             |     |     |    |    | 8  |    |           |            |          |              | 4         |
|        |        | 25-90■  |          |        | ♦         |   |   |     | I              | 46             |     |     |    | 40 | 4  |    |           |            |          | 2            |           |
|        |        | 25-F4 ■ |          |        | X         |   |   |     | M/I            | 66             | 49  |     |    |    | 13 | 4  |           |            |          |              |           |

- X Completely tooled.
- ♦ Not tooled for 02-R.
- P Pin inserts only (contact Amphenol Aerospace for socket availability).
- ★ Ground plane proprietary option available. Arrg. 9-5 is exclusively ground plane type.
- Not Mil-Qualified.

## TV Series III

### Select Shell Size - Special Insert Arrangement

(Not Mil-Spec Qualified)

| Shell Size-Insert Arrg. | Crimp | Hermetics* | Service Rating | Total Contacts | Comments         | Contact Size |    |    |    |              |
|-------------------------|-------|------------|----------------|----------------|------------------|--------------|----|----|----|--------------|
|                         |       |            |                |                |                  | 22D          | 20 | 16 | 12 | 8†† (Twinax) |
| 9-2                     | X     |            | I              | 2              | Formerly Pyle    |              | 2  |    |    |              |
| 15-4                    | X     |            | II             | 4              | Formerly Pyle    |              |    | 4  |    |              |
| 15-25                   | X     |            | M              | 25             | Formerly Pyle    | 22           |    | 3  |    |              |
| 17-20                   | X     |            | M              | 20             | Formerly Pyle    |              | 16 | 4  |    |              |
| 21-12                   | X     |            | I              | 12             | Formerly Pyle    |              | 3  |    | 9  |              |
| 21-21                   | X     |            | M/Inst.        | 41             | Improved sealing | 32           |    |    | 9  |              |
| 21-99                   | X     |            | M              | 16             | Formerly Pyle    | 5            |    |    | 11 |              |
| 25-92                   | X     |            | M              | 101            | Formerly Pyle    | 92           |    | 9  |    |              |
| 25-97                   | X     |            | M              | 42             | Formerly Pyle    | 26           |    | 3  | 13 |              |

## Select Non-Standard Shell Size

### - Special Insert Arrangement

| Shell Size-Insert Arrg. | Crimp | Hermetics* | Service Rating | Total Contacts | Contact Size |    |   |   |   |
|-------------------------|-------|------------|----------------|----------------|--------------|----|---|---|---|
|                         |       |            |                |                | 22D          | 20 | 8 | 4 | 0 |
| 25-16                   | X     |            | M              | 8              |              | 6  |   | 2 |   |
| 25L-3                   | X     |            | II             | 3              |              |    | 1 | 2 |   |
| 25L-7                   | X     |            | II             | 7              |              |    | 7 |   |   |
| 33-3                    | X     |            | II             | 3              |              |    |   | 1 | 2 |
| 33-5                    | X     |            | II             | 5              |              |    |   | 5 |   |
| 33-6                    | X     |            | II             | 6              |              |    | 2 | 4 |   |
| 37-5                    | X     |            | II             | 4              |              |    |   |   | 4 |

(Insert arrangements requiring non-standard shells or larger contacts)

- X Completely tooled.
  - Majority of tooling is completed (contact Amphenol Aerospace for availability).
  - ♦ Not tooled for 02-R.
  - P Pin inserts only (contact Amphenol Aerospace for socket availability).
  - ★ Ground plane proprietary option available. Arrangement 9-5 is exclusively ground plane type.
  - Not Mil-Qualified.
  - \* Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).
  - \*\* Two size 16 contacts dedicated to fiber optics. See the Fiber Optic section for more information.
  - \*\*\* For use in MIL-STD-1760 applications (pgs. 40 & 41).
  - † For RG 180/U and RG 195/U cables only.
  - †† Size 8 Coax and Twinax are interchangeable.
- Note: 25L-3 and 25L-7 require longer shells.

- III 38999
- II SJT
- I Matrix 2
- 26482 Matrix 2
- 83723 III Matrix Pyle
- 5015 Crimp Rear Release Matrix
- 26500 Pyle
- Printed Circuit Board
- EMI Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

Front face of pin inserts illustrated

38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

Shell Size & Insert Arrg. for:

|                      |     |     |          |     |      |      |      |      |      |
|----------------------|-----|-----|----------|-----|------|------|------|------|------|
|                      |     |     |          |     |      |      |      |      |      |
| <b>Series II JT</b>  | 8-2 | 8-3 | 8-6      |     |      | 8-35 | 8-44 | 8-97 | 8-98 |
| <b>Series I LJT</b>  |     | 9-3 | 9-6      | 9-7 | 9-22 | 9-35 | 9-44 |      | 9-98 |
| <b>Series III TV</b> |     |     | 9-5      |     |      | 9-35 |      | 9-94 | 9-98 |
| Service Rating       | M   | M   | Grounded | M   | M    | I    | M    | M    | I    |
| Number of Contacts   | 2   | 3   | 1        | 6   | 7    | 2    | 6    | 4    | 2    |
| Contact Size         | 20  | 20  | 8 Twinax | 22M | 22M  | 20   | 22D  | 22   | 20   |

Shell Size & Insert Arrg. for:

|                      |      |      |      |      |       |       |       |       |       |
|----------------------|------|------|------|------|-------|-------|-------|-------|-------|
|                      |      |      |      |      |       |       |       |       |       |
| <b>Series II JT</b>  |      | 10-4 | 10-5 |      | 10-13 | 10-35 |       | 10-98 | 10-99 |
| <b>Series I LJT</b>  | 11-2 | 11-4 | 11-5 | 11-6 | 11-13 | 11-35 |       | 11-98 | 11-99 |
| <b>Series III TV</b> | 11-2 | 11-4 | 11-5 |      |       | 11-35 | 11-54 | 11-98 | 11-99 |
| Service Rating       | I    | I    | I    | I    | M     | M     | II    | I     | I     |
| Number of Contacts   | 2    | 4    | 5    | 6    | 13    | 13    | 4     | 6     | 7     |
| Contact Size         | 16   | 20   | 20   | 20   | 22M   | 22D   | 22D   | 20    | 20    |

Shell Size & Insert Arrg. for:

|                      |      |      |       |       |       |       |      |       |
|----------------------|------|------|-------|-------|-------|-------|------|-------|
|                      |      |      |       |       |       |       |      |       |
| <b>Series II JT</b>  | 12-4 | 12-8 | 12-22 | 12-35 | 12-98 | 14-4  | 14-5 | 14-15 |
| <b>Series I LJT</b>  | 13-4 | 13-8 | 13-22 | 13-35 | 13-98 | 15-4  | 15-5 | 15-15 |
| <b>Series III TV</b> | 13-4 | 13-8 | 13-35 | 13-35 | 13-63 | 13-98 | 15-4 | 15-5  |
| Service Rating       | I    | I    | M     | M     | I     | I     | II   | I     |
| Number of Contacts   | 4    | 8    | 22    | 22    | 2     | 10    | 4    | 5     |
| Contact Size         | 16   | 20   | 22M   | 22D   | 16    | 12    | 20   | 16    |

Shell Size & Insert Arrg. for:

|                      |       |       |       |       |       |       |      |
|----------------------|-------|-------|-------|-------|-------|-------|------|
|                      |       |       |       |       |       |       |      |
| <b>Series II JT</b>  | 14-18 | 14-19 | 14-35 | 14-37 | 14-68 | 14-97 |      |
| <b>Series I LJT</b>  | 15-18 | 15-19 | 15-35 | 15-37 | 15-68 | 15-97 | 17-2 |
| <b>Series III TV</b> | 15-18 | 15-19 | 15-35 |       |       | 15-97 | 17-2 |
| Service Rating       | I     | I     | M     | M     | I     | I     | M    |
| Number of Contacts   | 18    | 19    | 37    | 37    | 8     | 8     | 4    |
| Contact Size         | 20    | 20    | 22D   | 22M   | 16    | 20    | 16   |

Shell Size & Insert Arrg. for:

|                      |      |      |       |         |        |       |
|----------------------|------|------|-------|---------|--------|-------|
|                      |      |      |       |         |        |       |
| <b>Series II JT</b>  | 16-6 | 16-8 | 16-13 |         |        | 16-26 |
| <b>Series I LJT</b>  | 17-6 | 17-8 | 17-13 | 17-22   | 17-25  | 17-26 |
| <b>Series III TV</b> | 17-6 | 17-8 |       | 17-22   |        | 17-26 |
| Service Rating       | I    | II   | I     | Coax    | M      | I     |
| Number of Contacts   | 6    | 8    | 13    | 2       | 2      | 26    |
| Contact Size         | 12   | 16   | 16    | 12 Coax | 8 Coax | 20    |



# MIL-DTL-38999, Series I LJT, II JT, III TV Insert Arrangements



Front face of pin inserts illustrated



| Shell Size & Insert Arrg. for: | 16-35 | 16-42 | 16-55    | 16-99  | 18-11 |
|--------------------------------|-------|-------|----------|--------|-------|
| <b>Series II JT</b>            | 16-35 | 16-42 | 16-55    | 16-99  | 18-11 |
| <b>Series I LJT</b>            | 17-35 | 17-42 | 17-55    | 17-99  | 19-11 |
| <b>Series III TV</b>           | 17-35 |       | 17-52    | 17-99  | 19-11 |
| Service Rating                 | M     | M     | M        | I/Coax | II    |
| Number of Contacts             | 55    | 42    | 55       | 21     | 11    |
| Contact Size                   | 22D   | 22    | 8 Twinax | 20     | 16    |



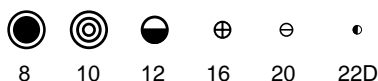
| Shell Size & Insert Arrg. for: | 18-28        | 18-30 | 18-32 | 18-35 |
|--------------------------------|--------------|-------|-------|-------|
| <b>Series II JT</b>            | 18-28        | 18-30 | 18-32 | 18-35 |
| <b>Series I LJT</b>            | 19-18        | 19-28 | 19-32 | 19-35 |
| <b>Series III TV</b>           | 19-18        | 19-28 | 19-32 | 19-35 |
| Service Rating                 | M            | I     | I     | M     |
| Number of Contacts             | 14 4         | 26 2  | 29 1  | 66    |
| Contact Size                   | 22D 8 Twinax | 20 18 | 20 16 | 22D   |



| Shell Size & Insert Arrg. for: | 18-53 | 18-66 | 18-68 | 18-96 |
|--------------------------------|-------|-------|-------|-------|
| <b>Series II JT</b>            | 18-53 | 18-66 | 18-68 | 18-96 |
| <b>Series I LJT</b>            | 19-53 | 19-66 | 19-67 | 19-68 |
| <b>Series III TV</b>           |       |       |       |       |
| Service Rating                 | M     | M     | I     | I     |
| Number of Contacts             | 53    | 66    | 67    | 9     |
| Contact Size                   | 22    | 22M   | 22M   | 12    |



| Shell Size & Insert Arrg. for: | 20-1        | 20-2 | 20-11 | 20-16 |
|--------------------------------|-------------|------|-------|-------|
| <b>Series II JT</b>            | 20-1        | 20-2 | 20-11 | 20-16 |
| <b>Series I LJT</b>            | 21-1        | 21-2 | 21-11 | 21-16 |
| <b>Series III TV</b>           | 19-AD       |      | 21-11 | 21-16 |
| Service Rating                 | Inst.       | M    | I     | II    |
| Number of Contacts             | 16 1        | 79   | 11    | 16    |
| Contact Size                   | 20 8 Twinax | 22M  | 22    | 16    |



38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



Front face of pin inserts illustrated



Shell Size &  
Insert Arrg. for:

|                    | Series II JT |    | Series I LJT |    |    | Series III TV |     |  |
|--------------------|--------------|----|--------------|----|----|---------------|-----|--|
| Service Rating     | I            | I  | I            | I  | I  | M             | M   |  |
| Number of Contacts | 25           | 27 | 19           | 4  | 4  | 79            | 79  |  |
| Contact Size       | 20           | 20 | 20           | 16 | 12 | 22D           | 22D |  |



Shell Size &  
Insert Arrg. for:

|                    | Series II JT |    | Series I LJT |            | Series III TV |     |
|--------------------|--------------|----|--------------|------------|---------------|-----|
| Service Rating     | I            | I  | N            | II         | M             | M   |
| Number of Contacts | 37           | 2  | 41           | 4          | 17 (See Note) | 100 |
| Contact Size       | 20           | 16 | 20           | (See Note) | 22D           | 22M |



Shell Size &  
Insert Arrg. for:

|                    | Series II JT |          | Series I LJT |    | Series III TV |    |
|--------------------|--------------|----------|--------------|----|---------------|----|
| Service Rating     | M            | M        | I            | II | I             | I  |
| Number of Contacts | 85           | 6        | 14           | 21 | 32            | 32 |
| Contact Size       | 22           | 8 Twinax | 12           | 16 | 20            | 20 |

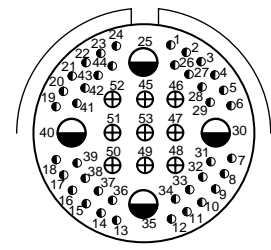
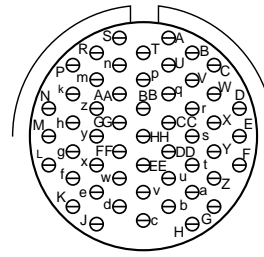
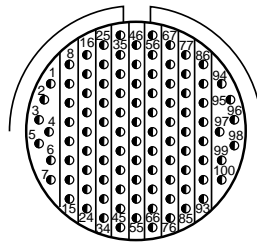
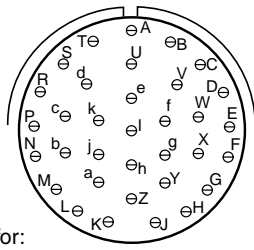
**Note:** MS connector 21-75 is supplied with four size 8 twinax contacts.  
Commercial connector 21-75 is supplied with four size 8 coax contacts.  
MS connector 21-79 has provision for two size 8 coax contacts.  
Coax contacts are not supplied unless specified by customers.



# MIL-DTL-38999, Series I LJT, II JT, III TV

## Insert Arrangements

Front face of pin inserts illustrated



Shell Size & Insert Arrg. for:

|                      |              |              |              |                  |
|----------------------|--------------|--------------|--------------|------------------|
| <b>Series II JT</b>  |              | <b>22-35</b> | <b>22-53</b> |                  |
| <b>Series I LJT</b>  | <b>23-34</b> | <b>23-35</b> | <b>23-53</b> |                  |
| <b>Series III TV</b> |              | <b>23-35</b> | <b>23-53</b> | <b>23-54</b>     |
| Service Rating       | <b>I</b>     | <b>M</b>     | <b>I</b>     | <b>M</b>         |
| Number of Contacts   | <b>34</b>    | <b>100</b>   | <b>53</b>    | <b>40 9 4</b>    |
| Contact Size         | <b>20</b>    | <b>22D</b>   | <b>20</b>    | <b>22D 16 12</b> |



Shell Size & Insert Arrg. for:

|                      |              |              |              |             |
|----------------------|--------------|--------------|--------------|-------------|
| <b>Series II JT</b>  | <b>22-55</b> |              |              | <b>24-1</b> |
| <b>Series I LJT</b>  | <b>23-55</b> | <b>23-97</b> | <b>23-99</b> | <b>25-1</b> |
| <b>Series III TV</b> | <b>23-55</b> |              |              |             |
| Service Rating       | <b>I</b>     | <b>II</b>    | <b>II</b>    | <b>M</b>    |
| Number of Contacts   | <b>55</b>    | <b>16</b>    | <b>11</b>    | <b>128</b>  |
| Contact Size         | <b>20</b>    | <b>16</b>    | <b>16</b>    | <b>22M</b>  |



Shell Size & Insert Arrg. for:

|                      |             |              |                     |                 |
|----------------------|-------------|--------------|---------------------|-----------------|
| <b>Series II JT</b>  | <b>24-2</b> | <b>24-4</b>  |                     |                 |
| <b>Series I LJT</b>  | <b>25-2</b> | <b>25-4</b>  | <b>25-7</b>         |                 |
| <b>Series III TV</b> |             | <b>25-4</b>  | <b>25-7</b>         | <b>25-8</b>     |
| Service Rating       | <b>M</b>    | <b>I</b>     | <b>M</b>            | <b>Twinax</b>   |
| Number of Contacts   | <b>100</b>  | <b>48 8</b>  | <b>97 2</b>         | <b>8</b>        |
| Contact Size         | <b>22</b>   | <b>20 16</b> | <b>22D 8 Twinax</b> | <b>8 Twinax</b> |

\*\*\* For use in MIL-STD-1760 applications (see pages 40 and 41).



**CONTACT LEGEND** 8 10 12 16 20 22D

**38999**  
SJT

**26482**  
Matrix 2

**83723 III**  
Matrix Pyle

**5015**  
Crimp Rear Release Matrix

**26500 Pyle**

**Printed**  
Circuit Board

**EMI Filter**  
Transient

**Fiber Optics**

**High Speed**  
Contacts

**Options**  
Others



Front face of pin inserts illustrated

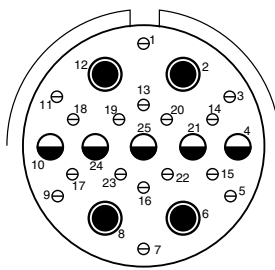


Shell Size & Insert Arrg. for:

| Series II JT       | 24-19    |
|--------------------|----------|
| Series I LJT       | 25-11    |
| Series III TV      | 25-11*** |
| Service Rating     | N        |
| Number of Contacts | 2 9      |
| Contact Size       | 20 10    |

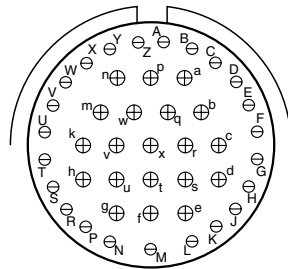
| Series II JT       | 25-17        | 25-19 | 25-20                  |
|--------------------|--------------|-------|------------------------|
| Series I LJT       | 25-19        | 25-19 | 25-20                  |
| Series III TV      | 25-19***     | 25-19 | 25-20***               |
| Service Rating     | M            | I     | N                      |
| Number of Contacts | 36 6         | 19    | 10 13 3 4              |
| Contact Size       | 22D 8 Twinax | 12    | 20 16 8 Twinax 12 Coax |

(With Matched Impedance)



Shell Size & Insert Arrg. for:

| Series II JT       | 24-24 | 24-29        | 24-35  |
|--------------------|-------|--------------|--------|
| Series I LJT       | 25-24 | 25-29        | 25-35  |
| Series III TV      | 25-24 | 25-29        | 25-35  |
| Service Rating     | I     | I            | M      |
| Number of Contacts | 12 12 | 16 5 4       | 29 128 |
| Contact Size       | 16 12 | 20 12 8 Coax | 16 22D |



Shell Size & Insert Arrg. for:

| Series II JT       | 24-37 | 25-43 | 25-46        |
|--------------------|-------|-------|--------------|
| Series I LJT       | 25-37 | 25-43 | 25-46        |
| Series III TV      | 25-37 | 25-43 | 25-46        |
| Service Rating     | I     | I     | I            |
| Number of Contacts | 37    | 23 20 | 40 4 2       |
| Contact Size       | 16    | 20 16 | 20 16 8 Coax |

† Coax contacts for RG180/U or RG195/U cable.



## CONTACT RATING

| Contact Size | Test Current (Amps) |          | Maximum Millivolt Drop Crimp* | Maximum Millivolt Drop |           | Contact Size | Crimp Well Data |                   | Solder Well Data    |                    |
|--------------|---------------------|----------|-------------------------------|------------------------|-----------|--------------|-----------------|-------------------|---------------------|--------------------|
|              | Crimp               | Hermetic |                               | Solder*                | Hermetic* |              | Well Diameter   | Normal Well Depth | Well Diameter       | Nominal Well Depth |
| 22M          | 3                   | 2        | 45                            | 20                     | 60        | 22M          | .028 ± .001     | .141              | .029 +.004<br>-.000 |                    |
| 22D          | 5                   | 3        | 73                            |                        | 85        | 22D          | .0345 ± .0010   | .141              | .036 +.004<br>-.000 | .094               |
| 22           | 5                   | 3        | 73                            | 20                     | 85        | 22           | .0365 ± .0010   | .141              | .036 +.004<br>-.000 | .094               |
| 20           | 7.5                 | 5        | 55                            | 20                     | 60        | 20           | .047 ± .001     | .209              | .044 +.004<br>-.004 | .125               |
| 16           | 13                  | 10       | 49                            | 20                     | 85        | 16           | .067 ± .001     | .209              | .078 +.000<br>-.004 | .141               |
| 12           | 23                  | 17       | 42                            | 20                     | 85        | 12           | .100 ± .002     | .209              | .116 +.004<br>-.002 | .141               |
| 10 (Power)   | 33                  | NA       | 33                            | NA                     | NA        | 10 (Power)   | .137 ± .002     | .355              | NA                  | NA                 |
| 8 (Power)    | 46                  | NA       | 26                            | NA                     | NA        | 8            | .181 ± .002     | .490              | NA                  | NA                 |
| 4            | 80                  | NA       | 23                            | NA                     | NA        | 4            | .281 ± .002     | .490              | NA                  | NA                 |
| 0            | 150                 | NA       | 21                            | NA                     | NA        | 0            | .453 ± .002     | .585              | NA                  | NA                 |

\*When tested using silver plated wire.

## SERVICE RATING\*\*

| Service Rating | Suggested Oper. Voltage (Sea Level) |      | Test Voltage (Sea Level) | Test Voltage 50,000 Ft. | Test Voltage 70,000 Ft. | Test Voltage 110,000 Ft. |
|----------------|-------------------------------------|------|--------------------------|-------------------------|-------------------------|--------------------------|
|                | AC (RMS)                            | DC   |                          |                         |                         |                          |
| M              | 400                                 | 500  | 1300 VRMS                | 550 VRMS                | 350 VRMS                | 200 VRMS                 |
| N              | 300                                 | 450  | 1000 VRMS                | 400 VRMS                | 260 VRMS                | 200 VRMS                 |
| I              | 600                                 | 850  | 1800 VRMS                | 600 VRMS                | 400 VRMS                | 200 VRMS                 |
| II             | 900                                 | 1250 | 2300 VRMS                | 800 VRMS                | 500 VRMS                | 200 VRMS                 |

\*\*Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

## MIL-DTL-38999 Series III STANDARD 500 CYCLE CONTACTS FOR TV AND CTV, P & S

| Contact Size | TV/CTV Pins     |             | TV/CTV Sockets |             |
|--------------|-----------------|-------------|----------------|-------------|
|              | Military No.    | Supersedes  | Military No.   | Supersedes  |
| 8 (Coax)*    | M39029/60-367   | MS27536     | M39029/59-366  | MS27535     |
| 8 (Power)    | Contact Factory | "           | "              | "           |
| 8 (Twinax)   | M39029/90-529** | N/A         | M39029/91-530  | N/A         |
| 10 (Power)   | M39029/58-528   | N/A         | M39029/56-527  | N/A         |
| 12           | M39029/58-365   | MS27493-12  | M39029/56-353  | MS27490-12  |
| 16           | M39029/58-364   | MS27493-16  | M39029/56-352  | MS27490-16  |
| 20           | M39029/58-363   | MS27493-20  | M39029/56-351  | MS27490-20  |
| 22D          | M39029/58-360   | MS27493-22D | M39029/56-348  | MS27490-22D |
| 4            | N/A             | N/A         | N/A            | N/A         |
| 0            | N/A             | N/A         | N/A            | N/A         |

\*\* For use with M17/M176-00002 cable.

† Optional design - see slash sheet MS39029.

For other contact options available for use in Tri-Start connectors, (wire wrap, thermocouple, fiber optic) consult Amphenol. Wire wrap data given on next page.

Above part numbers include standard 500 cycle finish designation - gold plating over suitable underplate in accordance with SAE AS39029. For other finish variations, consult Sidney, NY.

\*For use with RG180B/U and RG195A/U cable. For other size 8 coax or optional sizes 12 and 16 coax contacts available for use in Tri-Start connectors, see High Speed Contact section of this catalog or consult Amphenol, Sidney, NY.

## MIL-DTL-38999 Series III 1500 CYCLE CONTACTS FOR CTV, CLASSES H & J

| Contact Size | CTV Pins       |                |            | CTV Sockets    |                |            |
|--------------|----------------|----------------|------------|----------------|----------------|------------|
|              | Commercial No. | Military No.   | Supersedes | Commercial No. | Military No.   | Supersedes |
| 12           | 10-597072-2X   | M39029/107-623 | -          | 10-597073-2X   | M39029/106-617 | -          |
| 16           | 10-597068-2X   | M39029/107-622 | -          | 10-597069-2X   | M39029/106-616 | -          |
| 20           | 10-597064-2X   | M39029/107-621 | -          | 10-597065-2X   | M39029/106-615 | -          |
| 22D          | 10-597058-3X   | M39029/107-620 | -          | 10-597061-2X   | M39029/106-614 | -          |

## MIL-DTL-38999 Series II JT/ Series I LJT CRIMP CONTACTS

| Contact Size | JT/LJT Pins MS No. | JT Socket MS No. | LJT Sockets MS No. | Contact Size | JT/LJT Pins MS No. | JT Socket MS No. | LJT Sockets MS No. |
|--------------|--------------------|------------------|--------------------|--------------|--------------------|------------------|--------------------|
| 8 (Coax)*    | M39029/60-367      | NA               | M39029/59-366      | 20           | M39029/58-363      | M39029/57-357    | M39029/56-351      |
| 8 (Twinax)   | M39029/90-529**    | NA               | M39029/91-530      | 22           | M39029/58-362      | M39029/57-356    | M39029/56-350      |
| 10 (Power)   | M39029/58-528      | NA               | M39029/56-527      | 22M          | M39029/58-361      | M39029/57-355    | M39029/56-349      |
| 12           | M39029/58-365      | M39029/57-359    | M39029/56-353      | 22D          | M39029/58-360      | M39029/57-354    | M39029/56-348      |
| 16           | M39029/58-364      | M39029/57-358    | M39029/56-352      |              |                    |                  |                    |

III  
II  
I  
SJT  
38999

26482  
Matrix 2

83723 III  
Matrix  
Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

## FINISH DATA MIL-DTL-38999, Tri-Start Series III TV

| Aluminum Shell Components Non-Hermetic |               |            |
|--|---------------|------------|
| Finish                                 | Service Class |            |
|  | Military      | Commercial |
| Anodic Coating (Non-Conductive)        | C             | RX**       |
| Electroless Nickel                     | F (Metal)     | RF         |
|  | M (Composite) |            |
| Olive Drab Cadmium Plate Nickel Base   | W (Metal)     | RW         |
|  | J (Composite) |            |
| Stainless Steel with Nickel Plate      | S             | RS         |
| Stainless Steel                        | K             | RK         |
| Duralon plated                         | T             | DT         |
| Zinc-Nickel Plated                     | Z             | ZN         |

| Hermetic Shell Components         |               |            |
|-----------------------------------|---------------|------------|
| Material/Finish                   | Service Class |            |
|                                   | Military      | Commercial |
| Stainless Steel                   | Y             | Y          |
| Stainless Steel with Nickel Plate | N             | YN         |

\*\*Add Suffix (005) to part number.

## FINISH DATA MIL-DTL-38999, Series I LJT, II JT

| Aluminum Shell Components Non-Hermetic |          |            |                         |   |  |
|--|----------|------------|-------------------------|---|--|
| Finish                                 | Suffix   |            |                         | Indicated Finish Standard for JT Types Listed Below | Indicated Finish Standard for LJT Types Listed Below |
|  | Military | Commercial | Finish Plus "SR" Suffix |   |  |
| Cadmium Plated Nickel Base             | MS (A)   | -          | (SR)                    | JT/JTG/JTL/JTP                                      | LJT/LJTP   |
| Anodic Coating (Alumilite)             | MS (C)   | (005)      | (300)                   | JTS/JTPS/JTLS                                       | LJTPS/LJTS   |
| Chromate Treated (Iridite 14-2)        |          | (011)      | (344)                   | JTN/JTPN/JTLN                                       | LJTN/LJTPN   |
| Olive Drab Cadmium Plate Nickel Base   | MS (B)   | (014)      | (386)                   |   |  |
| Electroless Nickel                     | MS (F)   | (023)      | (424)                   |   |  |
| Nickel-PTFE                            |          | (038)      |                         |   |  |

| Hermetic Connectors  |          |            |   |  |
|--|----------|------------|---|--|
| Finish   | Suffix   |            | Indicated Finish Standard for JT Types Listed Below | Indicated Finish Standard for LJT Types Listed Below |
|  | Military | Commercial |   |  |
| Carbon Steel Shell<br>Tin Plated Shell and Contacts          |          |            | JT( )H / JT( )Y<br>JTL( )H / JTL( )Y                | LJT( )Y<br>LJT( )H                                   |
| Carbon Steel Shell Tin Plated Shell and Gold Plated Contacts | MS (D)   |            |   |  |
| Stainless Steel Shell Gold Plated Contacts                   | MS (E)   | (162)      | JTS( )Y<br>JTLS( )Y                                 | LJTS( )Y   |

38999  
SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

## Features & Benefits



Amphenol® LJT and JT Series subminiature cylindrical connectors are qualified to MIL-DTL-38999\*, Series I and II respectively. These connectors were developed to meet the needs of the aerospace industry, and provided the impetus for development of the MIL-C-38999 specifications, which has been superseded by MIL-DTL-38999. Meeting or exceeding MIL-DTL-38999 requirements, Amphenol® JT/LJT connectors feature:

- **Lightweight, Space Saving Design**
- **Contact Protection** - 100% scoop-proof LJT design prevents bent pins and short circuits during mating
- **Quick Positive Coupling** - 3 point bayonet lock system
- **Mismating Eliminated** - with 5 key/keyway design
- **Error Proof Alternate Positioning** - insured by different key/keyway locations
- **EMI Shielding** - grounding fingers standard in LJT Series; optional in JT Series
- **Nine Shell Sizes and a Variety of Shell Styles**
- **Contact Options** - size 8, 10, 12, 16, 20, 22M and 22D Crimp, Solder, PCB, Wire wrap, Coax, Twinax, Triax, Thermocouple, Fiber Optic and Filter
- **Fixed Solder Contacts** - Amphenol MIL-DTL-38999 Series I LJT and II JT, are available in solder versions as both Commercial and Military qualified to MIL-DTL-27599
- **Hermetic** - air leakage limited to  $1 \times 10^{-7} \text{ cm}^3$  per second optional
- **“Breakaway” Lanyard Release Style** - available in LJT plugs. Provides quick disconnect of the connector plug and receptacle with axial pull on the lanyard. See pages 78-80.
- **Inventory Support Commonality** - uses standard MIL-DTL-38999 contacts, insert arrangements and application tools.
- **RoHS Compliant Product Available** - Consult Amphenol Aerospace Operations.



Where proof of high reliability and lot control is required, MS approved equivalents to most proprietary JT and LJT connectors are available.

\* MIL-DTL-38999 Series I supersedes MIL-C-38999 Series I.  
MIL-DTL-38999 Series II supersedes MIL-C-38999 Series II.

### Components

Shell components are impact extruded or machined bar stock aluminum. Standard plating on shell components is cadmium over nickel. Many finishes are optional (see “Specifications” page 16). Hermetic seal receptacles are available in carbon steel or stainless steel shells. Dependable 5 key/keyway polarization with bayonet lock coupling is incorporated to aid and assure positive mating.

Insert material is a rigid dielectric with excellent electrical characteristics, providing durable protection for molded-in solder type contacts. Contrasting letter or number designations are used on insert faces.

A fluorinated silicone interfacial seal wafer is featured on the mating face of “crimp type pin” inserts. This assures complete electrical isolation of pins when connector halves are mated. In addition, a main joint gasket is installed in the receptacle for moisture sealing between connector halves. Both features are also available for hermetic receptacles.

### Contacts

Maximum design flexibility is built into the JT/LJT Series, with a minimum of 2 to a maximum of 128 circuits per connector in a wide variety of contact arrangements. Contacts are available in sizes 8, 10, 12, 16, 20, 22, 22D and 22M with standard 50 micro inch minimum gold plating (100 micro inches optional). All socket contacts are probe proof. Crimp type rear removable contacts are featured in JT-R and LJT-R connectors. Solder termination contacts are also available, as well as PCB, wire wrap, thermocouple, fiber optic, coaxial, triaxial and twinax contact options.

### Optional Features

High temperature capability of 392°F is available only in JTS or LJTS crimp type connectors. High temperature versions feature gold plated contacts, high temperature shell plating, stainless steel coupling nut spring, and epoxy inserts/fluorinated silicone grommet combination. Standard temperature capability for both solder and crimp is 302°F.

The JTN or LJTN type connectors are available for  $\text{N}_2\text{O}_4$  resistance provided they are mated, and un-grommated rear faces are suitably protected. For complete listing and definition of connector types, shell styles and service classes, see How to Order, page 46. For information on Fail-Safe Lanyard Release style plugs, see pages 78–80.

38999  
I  
SJT

26482  
Matrix 2

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EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

### How to Order (Commercial)

Easy Steps to build a commercial part number... Series I and II  
**Commercial**

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

| Connector Type Series I | Connector Type II | Shell Style | Service Class | Shell Size-Insert Arrangement | Contact Type | Alternate Position | Strain Relief/Finish Variation Suffix |       |
|-------------------------|-------------------|-------------|---------------|-------------------------------|--------------|--------------------|---------------------------------------|-------|
| LJT                     | JT                | 00          | RT            | 9-35                          | P            | B                  | SR                                    | (014) |

### Step 1. Select a Connector Type

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| JT             |             |               |                         |              |                    |                    |

| Series I | Series II | Designates                                       |
|----------|-----------|--|
|          | JT        | Standard Junior Tri-Lock                         |
| LJT      |           | Long Junior Tri-Lock                             |
| LJTS     | JTS       | High temperature connector                       |
| LJTN     | JTN       | Chemical and fuel resistant                      |
|          | JTL       | Miniature mounting dimensions                    |
|          | JTLN      | Miniature mounting dimensions—Chemical resistant |
|          | JTLS      | Miniature mounting dimensions— High temperature  |
| LJTPQ    | JTPQ      | Back panel mounted wall mounting receptacle      |
| LJTP     | JTP       | Back panel mounted box mounting receptacle       |
| LJTPN    | JTPN      | Back panel mounted—Chemical resistant            |
| LJTPS    | JTPS      | Back panel mounted—High temperature              |
|          | JTG       | Plug with grounding fingers*                     |
|          | JTNG      | Plug with grounding fingers* —Chemical resistant |

\*Grounding fingers standard on all LJT plugs

### Step 2. Select a Shell Style... Series I & II

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
|                | 00          |               |                         |              |                    |                    |

Lanyard Release Connector (See pages 78-80 for ordering)

|    | Designates  |
|----|---|
| 00 | Wall mount receptacle   |
| 01 | Line mount receptacle   |
| 02 | Box mount receptacle  |
| 06 | Straight plug   |
| 07 | Jam nut receptacle  |
| 08 | 90 degree plug  |
| I  | Solder mount receptacle- hermetic   |
| 88 | Fail safe lanyard release plug with corrosion resistant olive drab cadmium plate over nickel shells |
| 91 | Fail safe lanyard release plug with electroless nickel plated aluminum shells.                      |

#### Series I LJT

#### Series II JT



Wall Mounting Receptacle



Wall Mounting Receptacle



Line Receptacle



Box Mounting Receptacle



Jam Nut Receptacle



Straight Plug



Straight Plug



Jam Nut Receptacle



Solder Mounting Receptacle



90° Plug



Lanyard Release Plug



Solder Mounting Receptacle



## How to Order (Commercial)

### Step 3. Select a Service Class

| 1.             | 2.          | 3.            | 4.                      | 5.           | 6.                 | 7.                 |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|                |             | <b>RX</b>     |                         |              |                    |                    |

| Commercial    | Solder Contacts/Connectors  |
|---------------|---|
| <b>P</b>      | Potting applications: These connectors are supplied with a potting boot. All shells are designed with integral features to retain potting boots.                            |
| <b>A</b>      | General Applications  |
| <b>A (SR)</b> | Threaded rear design with strain relief†  |
| <b>C</b>      | Pressurized applications  |
| <b>C (SR)</b> | Threaded rear design with strain relief.†   |
| <b>E</b>      | Box mount and thru-bulkhead only with no backend threads.   |
| <b>H</b>      | Hermetic applications- Fused compression glass sealed inserts. Leadage rate less than .01 micron cu. ft./hr. (1 x 10 <sup>-7</sup> cc/sec.) at 15 psi differential.         |
| <b>Y</b>      | Same as "H" with interfacial seal.  |
| <b>T</b>      | MS27599A applications-general duty, pressurized (receptacle only)   |
| Commercial    | Crimp Contacts/Connectors   |
| <b>RP</b>     | Potting crimp applications. Supplied with spacer grommet and potting boot.††  |
| <b>RE</b>     | Environmental crimp applications. Supplied with a grommet and compression nut.† Can be supplied with strain relief integral with compression nut "RE(SR)". (JT Series only) |
| <b>RGF</b>    | Electroless nickel plated ground plane aluminum, 200°C  |
| <b>RGW</b>    | Olive drab cadmium plated ground plane aluminum, 175°C  |
| <b>RT</b>     | Environmental applications. Supplied without rear accessories. Design provides serrations on rear threads of shells.  |

† Not applicable to box mounting style or LJT Series I.  
 †† Not applicable to box mounting style.

### Step 4. Select a Shell Size & Insert Arrangement see page 4-7

Shell Size & Insert Arrangements are on pages 4-7.  
 First number represents Shell Size,  
 second number is the Insert Arrangement.

| 1.             | 2.          | 3.            | 4.                      | 5.           | 6.                 | 7.                 |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|                |             |               | <b>22-2</b>             |              |                    |                    |

### Step 5. Select a Contact Type

| 1.             | 2.          | 3.            | 4.                      | 5.           | 6.                 | 7.                 |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|                |             |               |                         | <b>P</b>     |                    |                    |

|          | Designates      |
|----------|-----------------|
| <b>P</b> | Pin Contacts    |
| <b>S</b> | Socket Contacts |

III  
II  
I  
SJT  
**38999**

Matrix 2  
**26482**

Matrix  
Pyle  
**83723 III**

Crimp Rear  
Release Matrix  
**5015**

**26500**  
Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



38999  
SJT  
I  
II  
III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

|                |             |               |                         |              |                    |                    |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| 1.             | 2.          | 3.            | 4.                      | 5.           | 6.                 | 7.                 |
| Connector Type | Shell Style | Service Class | Shell Size Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|                |             |               |                         |              | A                  |                    |

**Step 6. Select an Alternate Keying Position**

“A” designates Alternate keying connector assembly. Other basic alternate keys are “B”, “C” and “D”. No letter required for normal rotation (no rotation) position.

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The AB angle for a given connector is the same whether it contains pins or sockets. Only the master key/keyway rotates in the shell, and the minor keys are fixed.

AB angles shown are viewed from the front face of the connector, a receptacle is shown below. The angles for the plug are exactly the same except the direction of rotation is opposite of that shown for the receptacle.

The “N” designation is not referenced in part number, it is omitted.



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY (front face of receptacle shown)



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY (front face of receptacle shown)

**JT Key/Keyway Rotation**

| AB ANGLE OF ROTATION (Degrees) |        |     |     |      |      |
|--------------------------------|--------|-----|-----|------|------|
| Shell Size                     | Normal | A   | B   | C    | D    |
| 8                              | 100°   | 82° | -   | -    | 118° |
| 10                             | 100°   | 86° | 72° | 128° | 114° |
| 12                             | 100°   | 80° | 68° | 132° | 120° |
| 14                             | 100°   | 79° | 66° | 134° | 121° |
| 16                             | 100°   | 82° | 70° | 130° | 118° |
| 18                             | 100°   | 82° | 70° | 130° | 118° |
| 20                             | 100°   | 82° | 70° | 130° | 118° |
| 22                             | 100°   | 85° | 74° | 126° | 115° |
| 24                             | 100°   | 85° | 74° | 126° | 115° |

**LJT Key/Keyway Rotation**

| AB ANGLE OF ROTATION (Degrees) |        |     |     |      |      |
|--------------------------------|--------|-----|-----|------|------|
| Shell Size                     | Normal | A   | B   | C    | D    |
| 9                              | 95°    | 77° | -   | -    | 113° |
| 11                             | 95°    | 81° | 67° | 123° | 109° |
| 13                             | 95°    | 75° | 63° | 127° | 115° |
| 15                             | 95°    | 74° | 61° | 129° | 116° |
| 17                             | 95°    | 77° | 65° | 125° | 113° |
| 19                             | 95°    | 77° | 65° | 125° | 113° |
| 21                             | 95°    | 77° | 65° | 125° | 113° |
| 23                             | 95°    | 80° | 69° | 121° | 110° |
| 25                             | 95°    | 80° | 69° | 121° | 110° |

|                |             |               |                         |              |                    |                    |
|----------------|-------------|---------------|-------------------------|--------------|--------------------|--------------------|
| 1.             | 2.          | 3.            | 4.                      | 5.           | 6.                 | 7.                 |
| Connector Type | Shell Style | Service Class | Shell Size-Insert Arrg. | Contact Type | Alternate Position | Special Variations |
|                |             |               |                         |              |                    | ( )                |

**Step 7. Select a Strain Relief Option or Finish Variation Suffix**

Strain Relief Options: “SR” designates a strain relief clamp. Strain reliefs are available only on Service Class “A”, “C” and “RE” (see step 3. Service Class)

Finish Variation Suffix: See finish variations available in table to your right.

| Finish                                      | Military Finish Data | Finish Suffix | Finish Plus “SR” Suffix |
|---|----------------------|---------------|-------------------------|
| Cadmium plated nickel base 175° C           | A                    |               | (SR)                    |
| Olive drab cadmium plate nickel base 175° C | B                    | (014)         | (386)                   |
| Electroless nickel 200° C                   | F                    | (023)         | (424)                   |
| Electroless nickel, space compatible 200° C |                      | (453)         | (467)                   |
| Anodic coating (Alumilite) 200° C           | C                    | (005)         | (300)                   |
| Chromate treated (Iridite 14-2) 125° C      |                      | (011)         | (344)                   |
| Passivated steel 200° C                     | E                    | -             | -                       |
| Nickel-PTFE 175° C                          |                      | (038)         |                         |

## How to Order (Commercial)

### Easy Steps to build a Military part number... Series I and II

### Military

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Keying Position |
|-----------|---------------|------------|--------|--------------------|------------------------|---------------------------|
| MS27473   | E             | 14         | A      | 18                 | P                      | A                         |

#### Step 1. Choose your Military Connector Type

| 1.        | 2.            | 3.         | 4.     | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|--------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
| MS27473   |               |            |        |                    |                        |                    |

#### Series II JT

|         | Designates   |
|---------|--|
| MS27472 | Crimp Wall Mount Receptacle                                    |
| MS27497 | Crimp Wall Mount Receptacle Back Panel Mounting                |
| MS27499 | Crimp Box Mounting Receptacle                                  |
| MS27513 | Crimp Box Mounting Receptacle with grommet and compression nut |
| MS27508 | Crimp Box Mounting Receptacle (Back Panel Mounting)            |
| MS27473 | Crimp Straight Plug  |
| MS27484 | Crimp Straight Plug with Grounding Fingers                     |
| MS27474 | Crimp Jam Nut Receptacle                                       |
| MS27500 | Crimp 90° plug   |
| MS27475 | Hermetic Wall Mounting Receptacle                              |
| MS27476 | Hermetic Box Mounting Receptacle                               |
| MS27477 | Hermetic Jam Nut Receptacle                                    |
| MS27478 | Hermetic Solder Mounting Receptacle                            |
| MS27334 | Solder Wall Mount Receptacle                                   |
| MS27335 | Solder Box Mounting Receptacle                                 |
| MS27336 | Solder Straight Plug   |
| MS27337 | Solder Jam Mounting Receptacle                                 |

#### Series I LJT

|         | Designates  |
|---------|---|
| MS27466 | Crimp Wall Mount Receptacle                         |
| MS27656 | Crimp Wall Mount Receptacle Back Panel Mounting     |
| MS27496 | Crimp Box Mounting Receptacle                       |
| MS27505 | Crimp Box Mounting Receptacle (Back Panel Mounting) |
| MS27467 | Crimp Straight Plug                                 |
| MS27468 | Crimp Jam Nut Receptacle                            |
| MS27469 | Hermetic Wall Mounting Receptacle                   |
| MS27470 | Hermetic Jam Nut Receptacle                         |
| MS27471 | Hermetic Solder Mounting Receptacle                 |
| MS20026 | Solder Wall Mounting Receptacle                     |
| MS20027 | Solder Line Receptacle                              |
| MS20028 | Solder Straight Plug                                |
| MS20029 | Solder Jam Nut Receptacle                           |

#### Step 2. Select a Military Service Class

| 1.        | 2.            | 3.         | 4.     | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|--------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
|           | E             |            |        |                    |                        |                    |

| Military | Service Class   |
|----------|---|
| E        | Environmental crimp applications. Supplied with a grommet and compression nut. † Can be supplied with strain relief integral with compression nut "RE(SR)". (JT Series only). Box Mount versions using spacer grommets are not environmental. |
| P        | Potting crimp applications. Supplied with spacer grommet and potting boot. ††   |
| T        | Environmental applications. Supplied without rear accessories. Design provides serrations on rear threads of shells. (MS27599 applications)- General duty-pressurized (receptacles only)  |
| Y        | Hermetically interfacial seal   |

† Not applicable to box mounting style or LJT Series I.

†† Not applicable to box mounting style.

38999
SJT

26482
Matrix 2

83723
III
Pyle

5015
Crimp Rear Release Matrix

26500
Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

38999  
SJT  
I  
II  
III

26482  
Matrix 2

83723 III  
Matrix  
Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

**Step 3 & 5.** Select a Shell Size and Insert Arrangement from Pages 4-7

| 1.        | 2.            | 3.         | 4.        | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|-----------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | 4. Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
|           |               | 14         |           | 18                 |                        |                    |

Shell Size & Insert Arrangement are on pages 4-7. First number represents Shell Size, second number is the Insert Arrangement. Place Shell Size in box 3 and Insert Arrangement in box 5.

**Step 4.** Select a Military Finish

| 1.        | 2.            | 3.         | 4.     | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|--------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
|           |               |            | A      |                    |                        |                    |

| Finish                                      | Military Finish Data | Finish Suffix | Finish Plus "SR" Suffix |
|---|----------------------|---------------|-------------------------|
| Cadmium plated nickel base 175° C           | A                    |               | (SR)                    |
| Olive drab cadmium plate nickel base 175° C | B                    | (014)         | (386)                   |
| Electroless nickel 200° C                   | F                    | (023)         | (424)                   |
| Electroless nickel, space compatible 200° C |                      | (453)         | (467)                   |
| Anodic coating (Alumilite) 200° C           | C                    | (005)         | (300)                   |
| Chromate treated (Iridite 14-2) 125° C      |                      | (011)         | (344)                   |
| Passivated steel 200° C                     | E                    | -             | -                       |
| Nickel-PTFE 175° C                          |                      | (038)         |                         |

**Step 6.** Select a Military Contact Type

|   | Designates      |
|---|-----------------|
| P | Pin Contacts    |
| S | Socket Contacts |

| 1.        | 2.            | 3.         | 4.     | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|--------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
|           |               |            |        |                    | P                      |                    |

**Step 7.** Select an Alternate Keying Position

See pg 48 for information, No letter required for normal position

| 1.        | 2.            | 3.         | 4.     | 5.                 | 6.                     | 7.                 |
|-----------|---------------|------------|--------|--------------------|------------------------|--------------------|
| MS Number | Service Class | Shell Size | Finish | Insert Arrangement | Contact Style (P or S) | Alternate Position |
|           |               |            |        |                    |                        | A                  |

# Amphenol MIL-DTL-38999, Series I, LJT



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### MIL-DTL-38999 Series I Typical Markets:

- Military & Commercial Aviation
- Military Vehicles
- Missiles & Ordnance
- C4ISR



38999

SJT I

III

26482

Matrix 2

83723 III

Matrix Pyle

5015

Crimp Rear Release Matrix

26500 Pyle

Printed Circuit Board

EMI Filter Transient

Fiber Optics

High Speed Contacts

Options Others

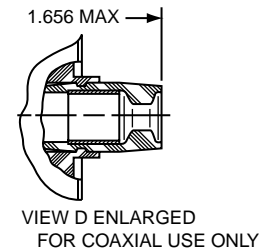
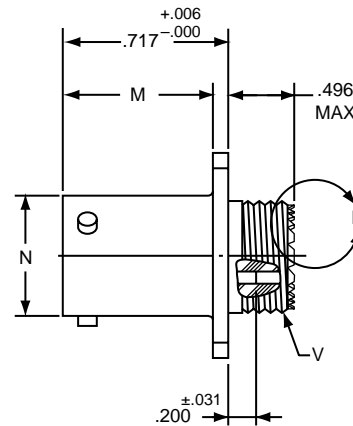
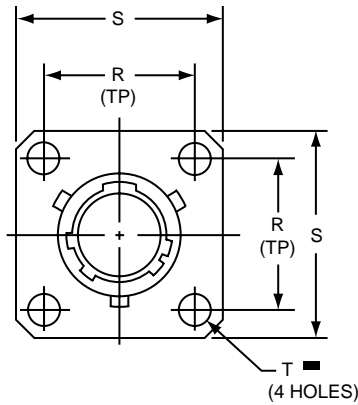
**PART #** Part number reference. To complete, see how to order pages 46-50.

### Commercial

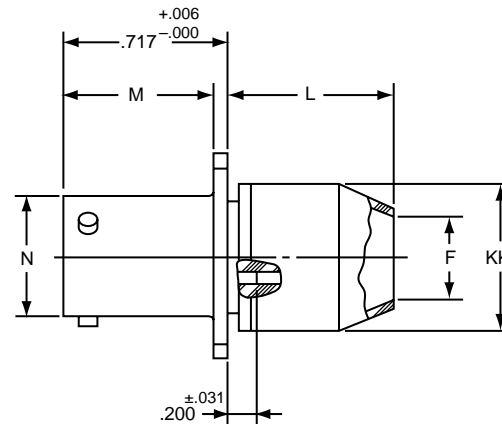
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 00          | RE            | 22-2                     | P            | A                  | (XXX)              |

### Military

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27466   | E             | 14         | A      | 18          | P                      | A                  |



LJT00RE-XX-XXX (MS27466E)  
LJT00RT-XX-XXX (MS27466T)



LJT00RP-XX-XXX (MS27466P)

⊕ .005 DIA ⊖

| Shell Size | F Dia. ±.010 | L Max. | M +.000 - .005 | N +.001 - .005 | R (TP) | S ±.016 | T Dia. ±.005 | V Thread Class 2A (Plated) | KK Dia. Max |
|------------|--------------|--------|----------------|----------------|--------|---------|--------------|----------------------------|-------------|
| 9          | .444         | .813   | .632           | .572           | .719   | .938    | .128         | .4375-28 UNEF              | .608        |
| 11         | .558         | .813   | .632           | .700           | .812   | 1.031   | .128         | .5625-24 UNEF              | .734        |
| 13         | .683         | .813   | .632           | .850           | .906   | 1.125   | .128         | .6875-24 UNEF              | .858        |
| 15         | .808         | .813   | .632           | .975           | .969   | 1.219   | .128         | .8125-20 UNEF              | .984        |
| 17         | .909         | .813   | .632           | 1.100          | 1.062  | 1.312   | .128         | .9375-20 UNEF              | 1.110       |
| 19         | 1.034        | .813   | .632           | 1.207          | 1.156  | 1.438   | .128         | 1.0625-18 UNEF             | 1.234       |
| 21         | 1.159        | .906   | .602           | 1.332          | 1.250  | 1.562   | .128         | 1.1875-18 UNEF             | 1.360       |
| 23         | 1.284        | .906   | .602           | 1.457          | 1.375  | 1.688   | .147         | 1.3125-18 UNEF             | 1.484       |
| 25         | 1.409        | .906   | .602           | 1.582          | 1.500  | 1.812   | .147         | 1.4375-18 UNEF             | 1.610       |

All dimensions for reference only.

# LJTPQ00R (MS27656) Series I – Crimp Wall Mounting Receptacle (Back Panel Mounting)

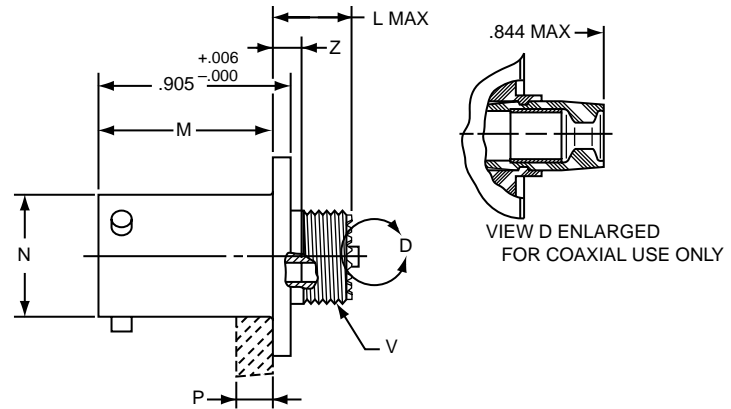


**PART #** Part number reference. To complete, see how to order pages 46-50.  
**Commercial**

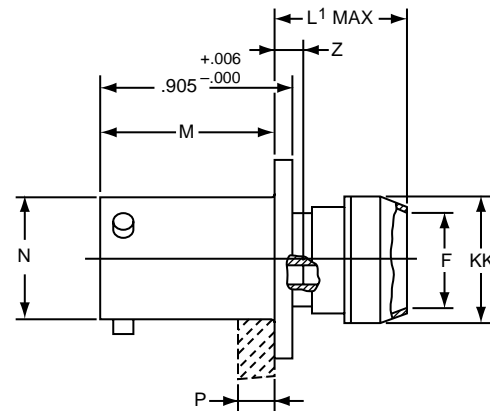
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJTPQ          | 00          | RE            | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27656   | E             | 14         | A      | 18          | P                      | A                  |



LJTPQ00RE-XX-XXX (MS27656E)  
LJTPQ00RT-XX-XXX (MS27656T)



LJTPQ00RP-XX-XXX (MS27656P)

⊕ .005 DIA ⊕

| Shell Size | F Dia. ±.010 | L Max. | L' Max. | M +.000 - .005 | N Dia. | P Max. Panel Thickness | R (TP) | S +.011 - .010 | T Dia. ±.005 | V Thread Class 2A (Plated) | Z Max | KK Dia. Max | SS Dia. +.000 - .016 |
|------------|--------------|--------|---------|----------------|--------|------------------------|--------|----------------|--------------|----------------------------|-------|-------------|----------------------|
| 9          | .444         | .453   | .641    | .820           | .572   | .234                   | .719   | .938           | .128         | .4375-28 UNEF              | .138  | .625        | .662                 |
| 11         | .558         | .453   | .641    | .820           | .700   | .234                   | .812   | 1.031          | .128         | .5625-24 UNEF              | .138  | .750        | .810                 |
| 13         | .683         | .453   | .641    | .820           | .850   | .234                   | .906   | 1.125          | .128         | .6875-24 UNEF              | .138  | .875        | .960                 |
| 15         | .808         | .453   | .641    | .820           | .975   | .234                   | .969   | 1.219          | .128         | .8125-20 UNEF              | .138  | 1.000       | 1.085                |
| 17         | .909         | .453   | .641    | .820           | 1.100  | .234                   | 1.062  | 1.312          | .128         | .9375-20 UNEF              | .138  | 1.125       | 1.210                |
| 19         | 1.034        | .453   | .641    | .820           | 1.207  | .234                   | 1.156  | 1.438          | .128         | 1.0625-18 UNEF             | .138  | 1.250       | 1.317                |
| 21         | 1.159        | .484   | .672    | .790           | 1.332  | .204                   | 1.250  | 1.562          | .128         | 1.1875-18 UNEF             | .168  | 1.375       | 1.442                |
| 23         | 1.284        | .484   | .672    | .790           | 1.457  | .204                   | 1.375  | 1.688          | .147         | 1.3125-18 UNEF             | .168  | 1.500       | 1.567                |
| 25         | 1.409        | .484   | .672    | .790           | 1.582  | .193                   | 1.500  | 1.812          | .147         | 1.4375-18 UNEF             | .168  | 1.625       | 1.692                |

All dimensions for reference only.  
Note: MS27656 superseded MS 27515.

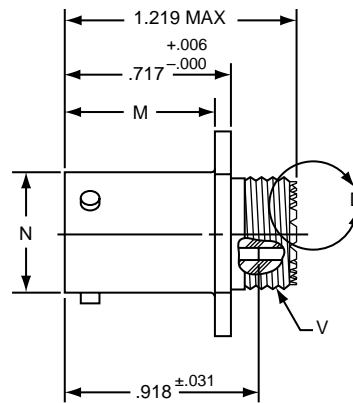
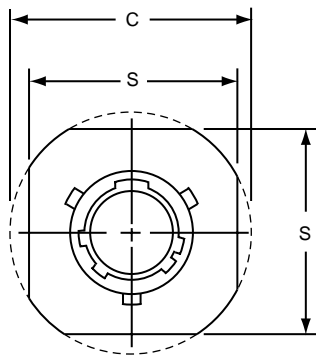
- III 38999
- II 1
- I SJT
- Matrix 2 26482
- Matrix Pyle 83723 III
- Crimp Rear Release Matrix 5015
- 26500 Pyle
- Printed Circuit Board
- EM I Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others



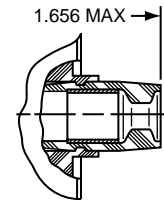
- 38999  
SJT I II III
- 26482  
Matrix 2
- 83723 III  
Matrix Pyle
- 5015  
Crimp Rear Release Matrix
- 26500 Pyle
- Printed  
Circuit Board
- EMI Filter  
Transient
- Fiber Optics
- High Speed  
Contacts
- Options  
Others

**PART #** Part number reference. To complete, see how to order pages 46-50.  
**Commercial**

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 01          | RE            | 22-2                     | P            | A                  | (XXX)              |



LJT01RE-XX-XXX  
LJT01RT-XX-XXX



VIEW D ENLARGED  
FOR COAXIAL USE ONLY

| Shell Size | C Max. | M +.000<br>-.005 | N +.001<br>-.005 | S ±.016 | V Thread Class 2A (Plated) |
|------------|--------|------------------|------------------|---------|----------------------------|
| 9          | 1.094  | .632             | .572             | .938    | .4375-28 UNEF              |
| 11         | 1.188  | .632             | .700             | 1.031   | .5625-24 UNEF              |
| 13         | 1.281  | .632             | .850             | 1.125   | .6875-24 UNEF              |
| 15         | 1.375  | .632             | .975             | 1.219   | .8125-20 UNEF              |
| 17         | 1.469  | .632             | 1.100            | 1.312   | .9375-20 UNEF              |
| 19         | 1.594  | .632             | 1.207            | 1.438   | 1.0625-18 UNEF             |
| 21         | 1.719  | .602             | 1.332            | 1.562   | 1.1875-18 UNEF             |
| 23         | 1.844  | .602             | 1.457            | 1.688   | 1.3125-18 UNEF             |
| 25         | 1.969  | .602             | 1.582            | 1.812   | 1.4375-18 UNEF             |

All dimensions for reference only.

# LJT02R (MS27496) – Crimp (Box Mount Recept.)

# LJTP02R (MS27505) – Crimp

## Box Mounting Receptacle (Back Panel Mounting)

### PART #

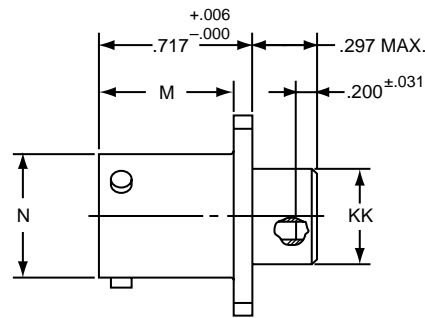
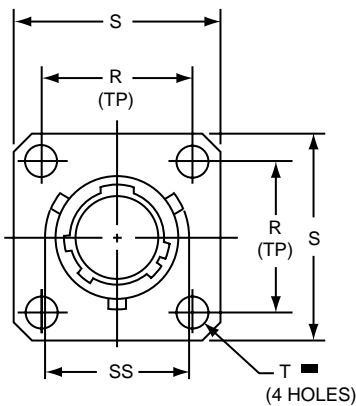
Part number reference. To complete, see how to order pages 46-50.

#### Commercial

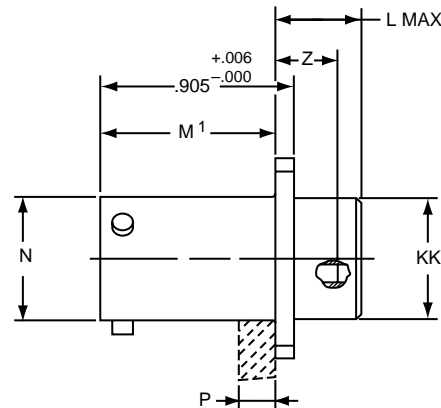
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT/LJTP       | 02          | RE            | 22-2                     | P            | A                  | (XXX)              |

#### Military

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27496   | E             | 14         | A      | 18          | P                      | A                  |
| MS27505   | E             | 14         | A      | 18          | P                      | A                  |



LJT02RE-XX-XXX (MS27496E)



LJTP02RE-XX-XXX (MS27505E)

⊕ .005 DIA ⊗

| Shell Size | L Max. | M +.000<br>-.005 | M' +.001<br>-.005 | N Dia +.001<br>-.005 | P Max. Panel Thickness | R (TP) | S +.011<br>-.010 | T Dia. ±.005 | Z ±.031 | KK Dia. +.006<br>-.005 | SS Dia. +.000<br>-.016 |
|------------|--------|------------------|-------------------|----------------------|------------------------|--------|------------------|--------------|---------|------------------------|------------------------|
| 9          | .203   | .632             | .820              | .572                 | .234                   | .719   | .938             | .128         | .107    | .433                   | .662                   |
| 11         | .203   | .632             | .820              | .700                 | .234                   | .812   | 1.031            | .128         | .107    | .557                   | .810                   |
| 13         | .203   | .632             | .820              | .850                 | .234                   | .906   | 1.125            | .128         | .107    | .676                   | .960                   |
| 15         | .203   | .632             | .820              | .975                 | .234                   | .969   | 1.219            | .128         | .107    | .801                   | 1.085                  |
| 17         | .203   | .632             | .820              | 1.100                | .234                   | 1.062  | 1.312            | .128         | .107    | .926                   | 1.210                  |
| 19         | .203   | .632             | .820              | 1.207                | .234                   | 1.156  | 1.438            | .128         | .107    | 1.032                  | 1.317                  |
| 21         | .234   | .602             | .790              | 1.332                | .204                   | 1.250  | 1.562            | .128         | .137    | 1.157                  | 1.442                  |
| 23         | .234   | .602             | .790              | 1.457                | .204                   | 1.375  | 1.688            | .147         | .137    | 1.282                  | 1.567                  |
| 25         | .234   | .602             | .790              | 1.582                | .193                   | 1.500  | 1.812            | .147         | .137    | 1.407                  | 1.692                  |

All dimensions for reference only.

- III 38999
- II 1
- I SJT
- 26482 Matrix 2
- 83723 III Matrix Pyle
- 5015 Crimp Rear Release Matrix
- 26500 Pyle
- Printed Circuit Board
- EMI Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

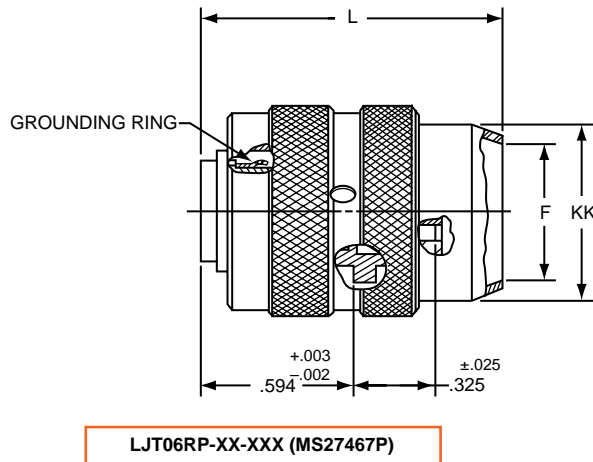
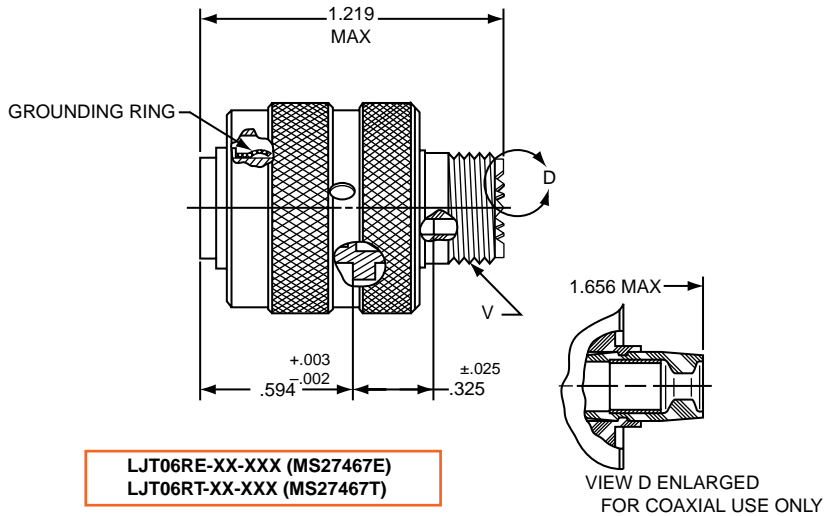
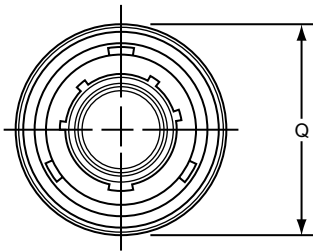
- 38999 III  
SJT I II III
- 26482 Matrix 2
- 83723 III Pyle  
Matrix Pyle
- 5015 Crimp Rear Release Matrix
- 26500 Pyle
- Printed Circuit Board
- EMI Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

**PART #** Part number reference. To complete, see how to order pages 46-50.

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 06          | RE            | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27467   | E             | 14         | A      | 18          | P                      | A                  |



| Shell Size | F Dia. ±.010 | L Max. | Q Max. | V Thread Class 2A (Plated) | KK Dia. Max. |
|------------|--------------|--------|--------|----------------------------|--------------|
| 9          | .444         | 1.531  | .844   | .4375-28 UNEF              | .608         |
| 11         | .528         | 1.531  | .969   | .5625-24 UNEF              | .734         |
| 13         | .683         | 1.531  | 1.141  | .6875-24 UNEF              | .858         |
| 15         | .808         | 1.531  | 1.266  | .8125-20 UNEF              | .984         |
| 17         | .909         | 1.531  | 1.391  | .9375-20 UNEF              | 1.110        |
| 19         | 1.034        | 1.531  | 1.500  | 1.0625-18 UNEF             | 1.234        |
| 21         | 1.159        | 1.625  | 1.625  | 1.1875-18 UNEF             | 1.360        |
| 23         | 1.284        | 1.625  | 1.750  | 1.3125-18 UNEF             | 1.484        |
| 25         | 1.409        | 1.625  | 1.875  | 1.4375-18 UNEF             | 1.610        |

All dimensions for reference only.

# LJT07R (MS27468) Series I – Crimp Jam Nut Receptacle



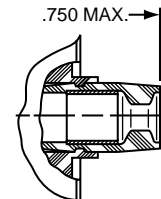
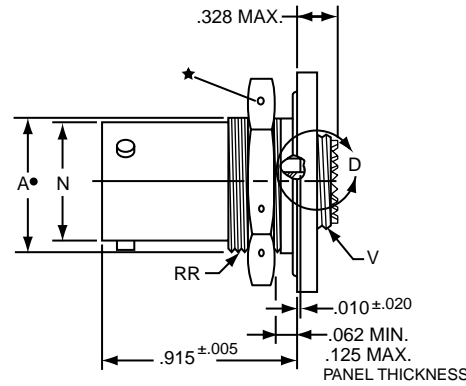
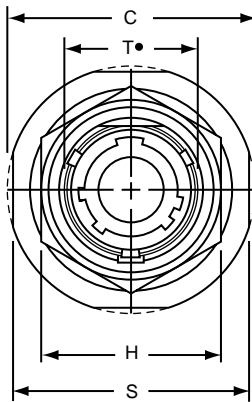
## PART # Commercial

Part number reference. To complete, see how to order pages 46-50.

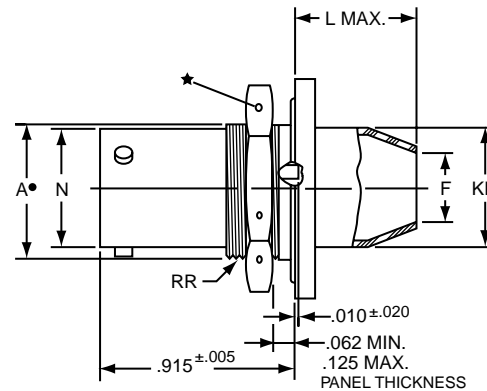
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 07          | RE            | 22-2                     | P            | A                  | (XXX)              |

## Military

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27498   | E             | 14         | A      | 18          | P                      | A                  |



LJT07RE-XX-XXX (MS27468E)  
LJT07RT-XX-XXX (MS27468T)



LJT07RP-XX-XXX (MS27468P)

- ★ .059 Dia. Min. 3 lockwire holes.
- Formed lockwire hole design (6 holes) is optional.
- “D” shaped mounting hole dimensions.

| Shell Size | A*<br>+.000<br>-.010 | C Max. | F Dia.<br>±.010 | H Hex<br>+.017<br>-.016 | L<br>Max. | N<br>+.001<br>-.005 | S ±.016 | T*<br>+.010<br>-.000 | V Thread Class 2A<br>(Plated) | KK Dia.<br>Max. | RR Thread<br>Class 2A (Plated) |
|------------|----------------------|--------|-----------------|-------------------------|-----------|---------------------|---------|----------------------|-------------------------------|-----------------|--------------------------------|
| 9          | .669                 | 1.199  | .444            | .875                    | .625      | .572                | 1.062   | .697                 | .4375-28 UNEF                 | .608            | .6875-24 UNEF                  |
| 11         | .769                 | 1.386  | .558            | 1.000                   | .625      | .700                | 1.250   | .822                 | .5625-24 UNEF                 | .734            | .8125-20 UNEF                  |
| 13         | .955                 | 1.511  | .683            | 1.188                   | .625      | .850                | 1.375   | 1.007                | .6875-24 UNEF                 | .858            | 1.0000-20 UNEF                 |
| 15         | 1.084                | 1.636  | .808            | 1.312                   | .625      | .975                | 1.500   | 1.134                | .8125-20 UNEF                 | .984            | 1.1250-18 UNEF                 |
| 17         | 1.208                | 1.761  | .909            | 1.438                   | .625      | 1.100               | 1.625   | 1.259                | .9375-20 UNEF                 | 1.110           | 1.2500-18 UNEF                 |
| 19         | 1.333                | 1.949  | 1.034           | 1.562                   | .656      | 1.207               | 1.812   | 1.384                | 1.0625-18 UNEF                | 1.234           | 1.3750-18 UNEF                 |
| 21         | 1.459                | 2.073  | 1.159           | 1.688                   | .750      | 1.332               | 1.938   | 1.507                | 1.1875-18 UNEF                | 1.360           | 1.5000-18 UNEF                 |
| 23         | 1.580                | 2.199  | 1.284           | 1.812                   | .750      | 1.457               | 2.062   | 1.634                | 1.3125-18 UNEF                | 1.484           | 1.6250-18 UNEF                 |
| 25         | 1.709                | 2.323  | 1.409           | 2.000                   | .750      | 1.582               | 2.188   | 1.759                | 1.4375-18 UNEF                | 1.610           | 1.7500-18 UNS                  |

All dimensions for reference only.

- III 38999
- II 1 SJT
- Matrix 2 26482
- Matrix Pyle 83723 III
- Release Matrix 5015 Crimp Rear
- 26500 Pyle
- Printed Circuit Board
- EM I Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

38999

SJT I

III

26482

Matrix 2

83723 III

Matrix Pyle

5015

Crimp Rear Release Matrix

26500 Pyle

Printed Circuit Board

EMI Filter Transient

Fiber Optics

High Speed Contacts

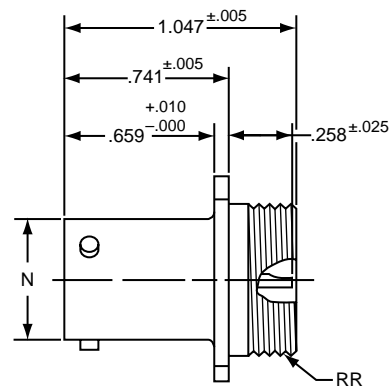
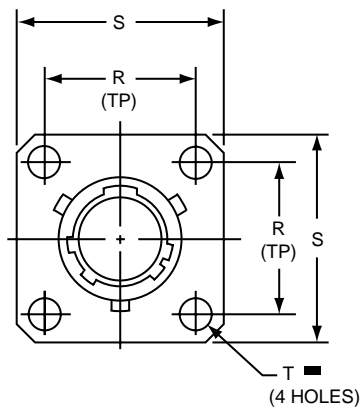
Options Others

**PART #** Part number reference. To complete, see how to order pages 46-50.  
**Commercial**

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT/LJTS       | 00          | Y             | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27469   | Y             | 14         | D      | 18          | P                      | A                  |



- \* LJT00H-XX-XXX
- \*\* LJT00Y-XX-XXX (MS27469YXXD)
- \*\*\* LJTS00Y-XX-XXX (MS27469YXXE)

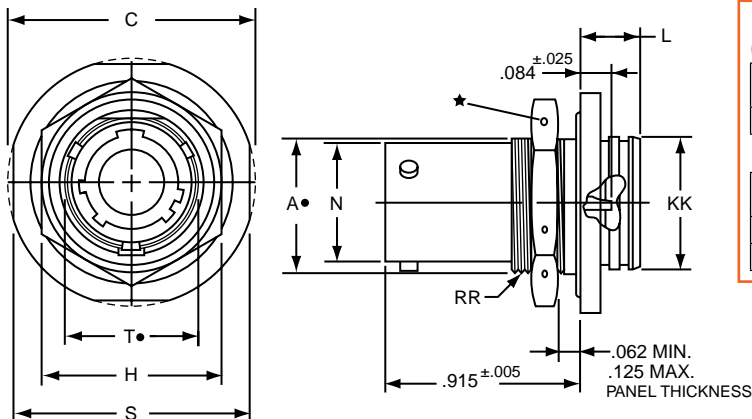
■  $\text{⊕} \text{ } .005 \text{ DIA } \text{Ⓜ}$

- \* Long Junior Tri-Lock
- \*\* Interfacial seal wafer
- \*\*\* High temperature version, interfacial seal wafer with stainless steel shell

| Shell Size | N Dia. +.001<br>-.005 | R (TP) | S ±.016 | T Dia. ±.005 | RR Thread Class 2A |
|------------|-----------------------|--------|---------|--------------|--------------------|
| 9          | .572                  | .719   | .938    | .128         | .6875-24 UNEF      |
| 11         | .700                  | .812   | 1.031   | .128         | .8125-20 UNEF      |
| 13         | .850                  | .906   | 1.125   | .128         | .9375-20 UNEF      |
| 15         | .975                  | .969   | 1.219   | .128         | 1.0625-18 UNEF     |
| 17         | 1.100                 | 1.062  | 1.312   | .128         | 1.1875-18 UNEF     |
| 19         | 1.207                 | 1.156  | 1.438   | .128         | 1.3125-18 UNEF     |
| 21         | 1.332                 | 1.250  | 1.562   | .128         | 1.4375-18 UNEF     |
| 23         | 1.457                 | 1.375  | 1.688   | .147         | 1.5625-18 UNEF     |
| 25         | 1.582                 | 1.500  | 1.812   | .147         | 1.6875-18 UNEF     |

All dimensions for reference only.

# LJT07 (MS27470) Series I – Hermetic Jam Nut Receptacle



**PART #**  
**Commercial**  
 Part number reference. To complete, see how to order pages 46-50.

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT/LJTS       | H           | RE            | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27470   | Y             | 14         | A      | 18          | P                      | A                  |
| MS27471   | Y             | 14         | A      | 18          | P                      | A                  |

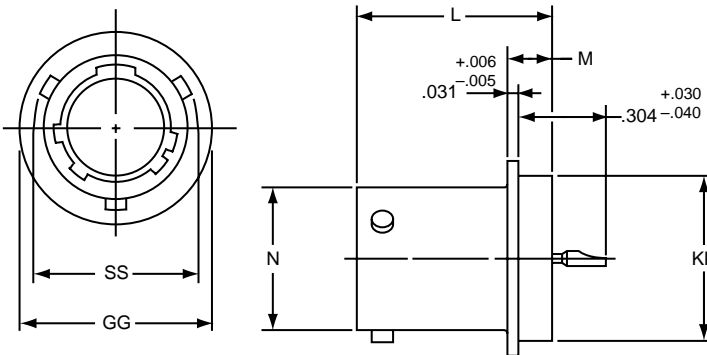
| Shell Size | A*<br>+.000<br>-.010 | C Max. | H Hex<br>+.017<br>-.016 | L Max. | N<br>+.000<br>-.005 | S<br>±.016 | T*<br>+.010<br>-.000 | KK<br>+.011<br>-.000 | RR Thread<br>Class 2A (Plated) |
|------------|----------------------|--------|-------------------------|--------|---------------------|------------|----------------------|----------------------|--------------------------------|
| 9          | .669                 | 1.199  | .875                    | .297   | .572                | 1.062      | .697                 | .642                 | .6875-24 UNEF                  |
| 11         | .769                 | 1.386  | 1.000                   | .297   | .700                | 1.250      | .822                 | .766                 | .8125-20 UNEF                  |
| 13         | .955                 | 1.511  | 1.188                   | .297   | .850                | 1.375      | 1.007                | .892                 | 1.0000-20 UNEF                 |
| 15         | 1.084                | 1.636  | 1.312                   | .297   | .975                | 1.500      | 1.134                | 1.018                | 1.1250-18 UNEF                 |
| 17         | 1.208                | 1.761  | 1.438                   | .297   | 1.100               | 1.625      | 1.259                | 1.142                | 1.2500-18 UNEF                 |
| 19         | 1.333                | 1.949  | 1.562                   | .328   | 1.207               | 1.812      | 1.384                | 1.268                | 1.3750-18 UNEF                 |
| 21         | 1.459                | 2.073  | 1.688                   | .328   | 1.332               | 1.938      | 1.507                | 1.392                | 1.5000-18 UNEF                 |
| 23         | 1.580                | 2.199  | 1.812                   | .328   | 1.457               | 2.062      | 1.634                | 1.518                | 1.6250-18 UNEF                 |
| 25         | 1.709                | 2.328  | 2.000                   | .328   | 1.582               | 2.188      | 1.759                | 1.642                | 1.7500-18 UNS                  |

All dimensions for reference only.

- \* LJT07H-XX-XXX
- \*\* LJT07Y-XX-XXX (MS27470YXXD)
- \*\*\* LJTS07Y-XX-XXX (MS27470YXXE)

- ★ .059 Dia. Min. 3 lockwire holes. Formed lockwire hole design (6 holes) is optional.
- "D" shaped mounting hole dimensions.
- \* \*Long Junior Tri-Lock
- \*\* Interfacial seal wafer
- \*\*\* High temperature version, interfacial seal wafer with stainless steel shell

# LJTI (MS27471) Series I – Hermetic Solder Mounting Receptacle



- \* Long Junior Tri-Lock
- \*\* Interfacial seal wafer
- \*\*\* High temperature version, interfacial seal wafer with stainless steel shell

| Shell Size | N Dia.<br>+.001<br>-.005 | SS Dia.<br>+.000<br>-.016 | L +.011<br>-.000 | M<br>+.006<br>-.005 | GG Dia.<br>+.011<br>-.010 | KK Dia.<br>+.001<br>-.005 |
|------------|--------------------------|---------------------------|------------------|---------------------|---------------------------|---------------------------|
| 9          | .572                     | .662                      | .789             | .125                | .750                      | .672                      |
| 11         | .700                     | .810                      | .789             | .125                | .844                      | .781                      |
| 13         | .850                     | .960                      | .789             | .125                | .969                      | .906                      |
| 15         | .975                     | 1.085                     | .789             | .125                | 1.094                     | 1.031                     |
| 17         | 1.100                    | 1.210                     | .789             | .125                | 1.218                     | 1.156                     |
| 19         | 1.207                    | 1.317                     | .789             | .125                | 1.312                     | 1.250                     |
| 21         | 1.332                    | 1.442                     | .789             | .125                | 1.438                     | 1.375                     |
| 23         | 1.457                    | 1.567                     | .821             | .156                | 1.563                     | 1.500                     |
| 25         | 1.582                    | 1.692                     | .821             | .156                | 1.688                     | 1.625                     |

- \* LJTIH-XX-XXX
- \*\* LJTIY-XX-XXX (MS27471YXXD)
- \*\*\* LJTSIY-XX-XXX (MS27471YXXE)

All dimensions for reference only.  
 Weld mounting hermetic receptacle also available.  
 Consult Amphenol, Sidney, NY for availability and dimensions.

38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



Military qualified to MIL-DTL-27599

**PART #** Part number reference. To complete, see how to order pages 46-50.  
**Commercial**

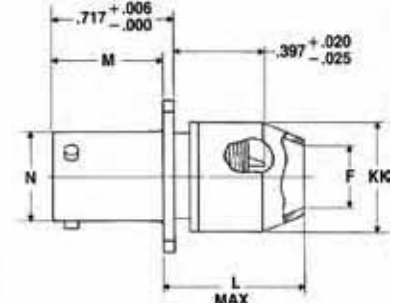
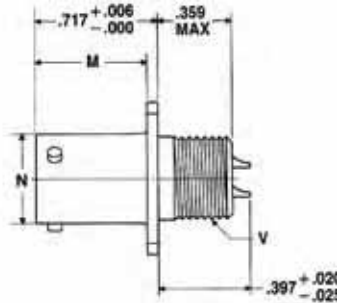
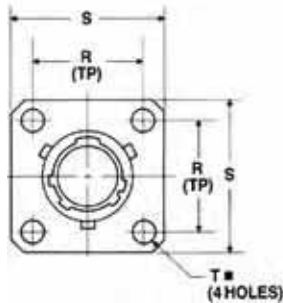
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 00          | P             | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS20026   | T             | 14         | A      | 18          | P                      | A                  |
| MS20027   | T             | 14         | A      | 18          | P                      | A                  |

LJT00T-XX-XXX (MS20026T)

LJT00P-XX-XXX



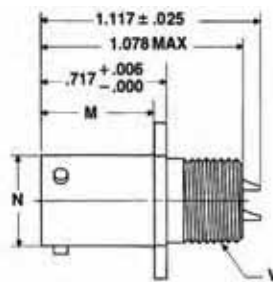
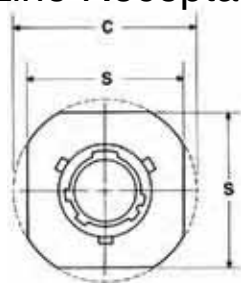
⊕ .005 DIA ⊕

NOTE: For availability of back panel mounting types, CHECK with nearest sales office or call Amphenol, Sidney, NY.

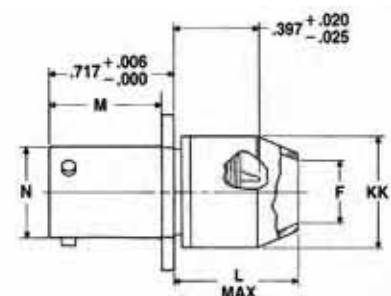
| Shell Size | F Dia. | L Max. | M +.000 / -.005 | N +.001 / -.005 | R (TP) | S ±.016 | T Dia. ±.005 | VThread Class 2A UNEF (Plated) | KK Dia. Max. |
|------------|--------|--------|-----------------|-----------------|--------|---------|--------------|--------------------------------|--------------|
| 9          | .327   | .625   | .632            | .572            | .719   | .938    | .128         | .4375-28                       | .608         |
| 11         | .444   | .625   | .632            | .700            | .812   | 1.031   | .128         | .5625-24                       | .734         |
| 13         | .558   | .625   | .632            | .850            | .906   | 1.125   | .128         | .6875-24                       | .858         |
| 15         | .683   | .625   | .632            | .975            | .969   | 1.219   | .128         | .8125-20                       | .984         |
| 17         | .808   | .625   | .632            | 1.100           | 1.062  | 1.312   | .128         | .9375-20                       | 1.110        |
| 19         | .909   | .625   | .632            | 1.207           | 1.156  | 1.438   | .128         | 1.0625-18                      | 1.234        |
| 21         | 1.034  | .703   | .602            | 1.332           | 1.250  | 1.562   | .128         | 1.1875-18                      | 1.360        |
| 23         | 1.159  | .703   | .602            | 1.457           | 1.375  | 1.688   | .147         | 1.3125-18                      | 1.484        |
| 25         | 1.284  | .703   | .602            | 1.582           | 1.500  | 1.812   | .147         | 1.4375-18                      | 1.610        |

## LJT01 (MS20027) Series I – Solder Line Receptacle

Military qualified to MIL-DTL-27599



LJT01T-XX-XXX (MS20027T)



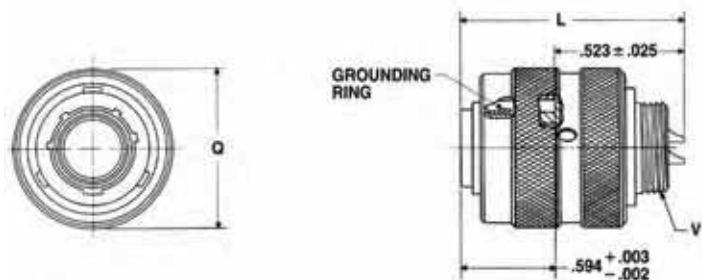
LJT01P-XX-XXX

| Shell Size | C Max. | F Dia. | L Max. | M +.000 / -.005 | N +.001 / -.005 | S ±.016 | VThread Class 2A UNEF (Plated) | KK Dia. Max. |
|------------|--------|--------|--------|-----------------|-----------------|---------|--------------------------------|--------------|
| 9          | 1.094  | .327   | .625   | .632            | .572            | .938    | .4375-28                       | .608         |
| 11         | 1.188  | .444   | .625   | .632            | .700            | 1.031   | .5625-24                       | .734         |
| 13         | 1.281  | .558   | .625   | .632            | .850            | 1.125   | .6875-24                       | .858         |
| 15         | 1.375  | .683   | .625   | .632            | .975            | 1.219   | .8125-20                       | .984         |
| 17         | 1.469  | .808   | .625   | .632            | 1.100           | 1.312   | .9375-20                       | 1.110        |
| 19         | 1.594  | .909   | .625   | .632            | 1.207           | 1.438   | 1.0625-18                      | 1.234        |
| 21         | 1.719  | 1.034  | .703   | .602            | 1.332           | 1.562   | 1.1875-18                      | 1.360        |
| 23         | 1.844  | 1.159  | .703   | .602            | 1.457           | 1.688   | 1.3125-18                      | 1.484        |
| 25         | 1.969  | 1.284  | .703   | .602            | 1.582           | 1.812   | 1.4375-18                      | 1.610        |

All dimensions for reference only.

# LJT06 (MS20028) Series I – Solder Straight Plug

**Military qualified to MIL-DTL-27599**



**PART #** Part number reference. To complete, see how to order pages 46-50.

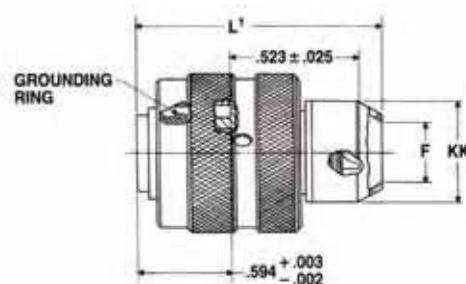
| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| LJT            | 06          | T             | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS20028   | T             | 14         | A      | 18          | P                      | A                  |
| MS20029   | T             | 14         | A      | 18          | P                      | A                  |

**LJT06T-XX-XXX (MS20028T)**

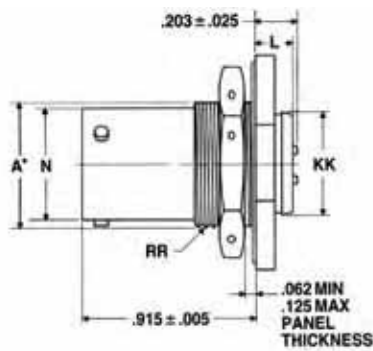
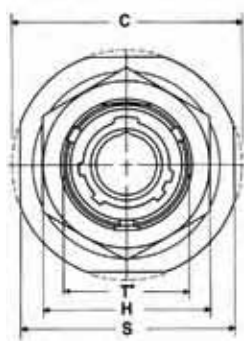
| Shell Size | F Dia. | L Max. | L' Max. | Q Max. | VThread Class 2A UNEF (Plated) | KK Dia. Max. |
|------------|--------|--------|---------|--------|--------------------------------|--------------|
| 9          | .327   | 1.128  | 1.488   | .844   | .4375-28                       | .608         |
| 11         | .444   | 1.128  | 1.488   | .969   | .5625-24                       | .734         |
| 13         | .558   | 1.128  | 1.488   | 1.141  | .6875-24                       | .858         |
| 15         | .683   | 1.128  | 1.488   | 1.266  | .8125-20                       | .984         |
| 17         | .808   | 1.128  | 1.488   | 1.391  | .9375-20                       | 1.110        |
| 19         | .909   | 1.128  | 1.488   | 1.500  | 1.0625-18                      | 1.234        |
| 21         | 1.034  | 1.128  | 1.566   | 1.625  | 1.1875-18                      | 1.360        |
| 23         | 1.159  | 1.128  | 1.566   | 1.750  | 1.3125-18                      | 1.484        |
| 25         | 1.284  | 1.191  | 1.644   | 1.875  | 1.4375-18                      | 1.610        |



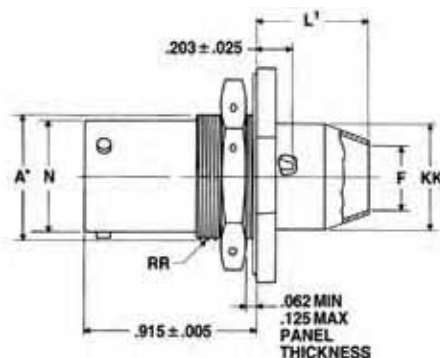
**LJT06P-XX-XXX**

# LJT07 (MS20029) Series I – Solder Jam Nut Receptacle

**Military qualified to MIL-DTL-27599**



**LJT07T-XX-XXX (MS20029T)**



**LJT07P-XX-XXX (MS20029P)**

• "D" shaped mounting hole dimensions

| Shell Size | A* +.000 / -.010 | C Max. | F Dia. | H Hex +.017 / -.016 | L Max. | L' Max. | N +.001 / -.005 | S ±.016 | T* +.010 / -.000 | KK +.011 / -.000 | KK' Dia. Max. | RR Thread Class 2A (Plated) |
|------------|------------------|--------|--------|---------------------|--------|---------|-----------------|---------|------------------|------------------|---------------|-----------------------------|
| 9          | .669             | 1.199  | .327   | .875                | .234   | .625    | .572            | 1.062   | .697             | .516             | .608          | .6875-24UNEF                |
| 11         | .769             | 1.386  | .444   | 1.000               | .234   | .625    | .700            | 1.250   | .822             | .642             | .734          | .8125-20UNEF                |
| 13         | .955             | 1.511  | .558   | 1.188               | .234   | .625    | .850            | 1.375   | 1.007            | .766             | .858          | 1.0000-20UNEF               |
| 15         | 1.084            | 1.636  | .683   | 1.312               | .234   | .625    | .975            | 1.500   | 1.134            | .892             | .984          | 1.1250-18UNEF               |
| 17         | 1.208            | 1.761  | .808   | 1.438               | .234   | .625    | 1.100           | 1.625   | 1.259            | 1.018            | 1.110         | 1.2500-18UNEF               |
| 19         | 1.333            | 1.949  | .909   | 1.562               | .266   | .625    | 1.207           | 1.812   | 1.384            | 1.142            | 1.234         | 1.3750-18UNEF               |
| 21         | 1.459            | 2.073  | 1.034  | 1.688               | .266   | .656    | 1.332           | 1.938   | 1.507            | 1.268            | 1.360         | 1.5000-18UNEF               |
| 23         | 1.580            | 2.199  | 1.159  | 1.812               | .266   | .750    | 1.457           | 2.062   | 1.634            | 1.392            | 1.484         | 1.6250-18UNEF               |
| 25         | 1.709            | 2.323  | 1.284  | 2.000               | .266   | .750    | 1.582           | 2.188   | 1.759            | 1.518            | 1.610         | 1.7500-18UNS                |

All dimensions for reference only.

38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

## INSERT AVAILABILITY

| Shell Size / Insert Arrangement | Service Rating | Total Contacts | Contact Size |    |    |    |         |         |          |   |
|---------------------------------|----------------|----------------|--------------|----|----|----|---------|---------|----------|---|
|                                 |                |                | 22D          | 20 | 16 | 12 | 12 Coax | 8 Coax* | 8 Twinax |   |
| 11-2                            | I              | 2              |              |    | 2  |    |         |         |          |   |
| 11-35                           | M              | 13             | 13           |    |    |    |         |         |          |   |
| 11-98                           | I              | 6              |              | 6  |    |    |         |         |          |   |
| 13-4                            | I              | 4              |              |    | 4  |    |         |         |          |   |
| 13-8                            | I              | 8              |              | 8  |    |    |         |         |          |   |
| 13-35                           | M              | 22             | 22           |    |    |    |         |         |          |   |
| 13-98                           | I              | 10             |              | 10 |    |    |         |         |          |   |
| 15-5                            | II             | 5              |              |    | 5  |    |         |         |          |   |
| 15-15                           | I              | 15             |              | 14 | 1  |    |         |         |          |   |
| 15-18                           | I              | 18             |              | 18 |    |    |         |         |          |   |
| 15-19                           | I              | 19             |              | 19 |    |    |         |         |          |   |
| 15-35                           | M              | 37             | 37           |    |    |    |         |         |          |   |
| 15-97                           | I              | 12             |              | 8  | 4  |    |         |         |          |   |
| 17-6                            | I              | 6              |              |    |    | 6  |         |         |          |   |
| 17-8                            | II             | 8              |              |    | 8  |    |         |         |          |   |
| 17-26                           | I              | 26             |              | 26 |    |    |         |         |          |   |
| 17-35                           | M              | 55             | 55           |    |    |    |         |         |          |   |
| 17-99                           | I              | 23             |              | 21 | 2  |    |         |         |          |   |
| 19-11                           | II             | 11             |              |    | 11 |    |         |         |          |   |
| 19-32                           | I              | 32             |              | 32 |    |    |         |         |          |   |
| 19-35                           | M              | 66             | 66           |    |    |    |         |         |          |   |
| 21-11                           | I              | 11             |              |    |    | 11 |         |         |          |   |
| 21-16                           | II             | 16             |              |    | 16 |    |         |         |          |   |
| 21-35                           | M              | 79             | 79           |    |    |    |         |         |          |   |
| 21-39                           | I              | 39             |              | 37 | 2  |    |         |         |          |   |
| 21-41                           | I              | 41             |              | 41 |    |    |         |         |          |   |
| 23-21                           | II             | 21             |              |    | 21 |    |         |         |          |   |
| 23-35                           | M              | 100            | 100          |    |    |    |         |         |          |   |
| 23-53                           | I              | 53             |              | 53 |    |    |         |         |          |   |
| 23-54                           | M              | 53             | 40           |    | 9  | 4  |         |         |          |   |
| 23-55                           | I              | 55             |              | 55 |    |    |         |         |          |   |
| 25-4                            | I              | 56             |              | 48 | 8  |    |         |         |          |   |
| 25-19                           | I              | 19             |              |    |    | 19 |         |         |          |   |
| 25-20                           | N              | 30             |              | 10 | 13 |    | 4       |         |          | 3 |
| 25-24                           | I              | 24             |              |    | 12 | 12 |         |         |          |   |
| 25-29                           | I              | 29             |              |    | 29 |    |         |         |          |   |
| 25-35                           | M              | 128            | 128          |    |    |    |         |         |          |   |
| 25-43                           | I              | 43             |              | 23 | 20 |    |         |         |          |   |
| 25-46                           | I              | 46             |              | 40 | 4  |    |         | 2*      |          |   |
| 25-61                           | I              | 61             |              | 61 |    |    |         |         |          |   |

### LJT Lanyard Separation Forces

| Shell Size                 | Straight Plug (lbs. max.) | 15 Degree Pull (lbs. Max.) |
|----------------------------|---------------------------|----------------------------|
| 11<br>13<br>15             | 45                        | 55                         |
| 17<br>19<br>21<br>23<br>25 | 90                        | 100                        |

\* For RG 180/U and RG 195/U cables only. (Check Amphenol Aerospace, Sidney, NY for other cable applications). For availability of other insert arrangements and accessories consult Amphenol Aerospace.

## TABLE I INSERT ARRANGEMENT CODE

| Basic Part Number | MIL-DTL-38999 Insert Arrangement |
|-------------------|----------------------------------|
| 88/91-538808      | 11-2                             |
| 06                | 11-35                            |
| 07                | 11-98                            |
| 10                | 13-4                             |
| 11                | 13-8                             |
| 13                | 13-98                            |
| 14                | 13-35                            |
| 18                | 15-5                             |
| 23                | 15-15                            |
| 22                | 15-18                            |
| 19                | 15-19                            |
| 20                | 15-35                            |
| 27                | 17-6                             |
| 28                | 17-8                             |
| 29                | 17-26                            |
| 30                | 17-35                            |
| 31                | 17-99                            |
| 37                | 19-11                            |
| 39                | 19-32                            |
| 40                | 19-35                            |
| 47                | 21-11                            |
| 48                | 21-16                            |
| 49                | 21-35                            |
| 50                | 21-41                            |
| 51                | 21-39                            |
| 57                | 23-21                            |
| 58                | 23-35                            |
| 59                | 23-53                            |
| 61                | 23-54                            |
| 60                | 23-55                            |
| 66                | 25-19                            |
| 74                | 25-20                            |
| 67                | 25-29                            |
| 68                | 25-35                            |
| 69                | 25-43                            |
| 70                | 25-61                            |
| 71                | 25-46                            |
| 72                | 25-2                             |
| 74                | 25-4                             |

## TABLE II LANYARD LENGTH CODES

| Lanyard Length (in.) ±.250 | MS     | Commercial Code |
|----------------------------|--------|-----------------|
| 4.000                      |        | 40              |
| 4.250                      |        | 41              |
| 4.500                      |        | 42              |
| 4.750                      |        | 43              |
| 5.000                      |        | 50              |
| 5.250                      |        | 51              |
| 5.500                      |        | 52              |
| 5.750                      |        | 53              |
| 6.000                      | No     | 60              |
| 6.250                      | Code   | 61              |
| 6.500                      |        | 62              |
| 6.750                      | Std.   | 63              |
| 7.000                      | Length | 70              |
| 7.250                      | 6.250  | 71              |
| 7.500                      |        | 72              |
| 7.750                      |        | 73              |
| 8.000                      |        | 80              |
| 8.250                      |        | 81              |
| 8.500                      |        | 82              |
| 8.750                      |        | 83              |
| 9.000                      |        | 90              |
| 9.250                      |        | 91              |
| 9.500                      |        | 92              |
| 9.750                      |        | 93              |

# Series I, LJT Breakaway Fail Safe Lanyard Release Plug How to Order, cont.

III 38999  
II 1 SJT  
I 26482 Matrix 2  
83723 III Matrix Pyle  
5015 Crimp Rear Release Matrix  
26500 Pyle  
Printed Circuit Board  
EMI Filter Transient  
Fiber Optics  
High Speed Contacts  
Options Others

## HOW TO ORDER - BY MILITARY PART NUMBER FAIL SAFE MS27661

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

| MS Number | Service Class | Shell Size | Finish | Insert Arrg. | Contact Style | Alternate Position |
|-----------|---------------|------------|--------|--------------|---------------|--------------------|
| MS27661   | T             | 17         | B      | 35           | P             | A                  |

### 1. MS27661 Number

MS Number designates MIL-DTL-38999, Series I LJT Lanyard Release Plug

### 2. Select a Service Class

|          |   |
|----------|---|
| <b>E</b> | For environmental crimp applications (inactive for new design)                |
| <b>T</b> | For environmental crimp applications with serrations on rear threads of shell |

### 3. Select a Shell Size

MIL-DTL-38999, sizes 11 through 25, see chart on page 78.

### 4. Select a Finish

|          |   |
|----------|---|
| <b>B</b> | Designates corrosion resistant olive drab cadmium plated aluminum, 500 hour extended salt spray, EMI shielding effectiveness -50dB @ 10 GHz specification min., 175°C |
| <b>F</b> | Designates electroless nickel plated aluminum, 48 hour salt spray, EMI shielding effectiveness -65dB @ 10 GHz 500 specification min., 200°C                           |

These are standard finishes. Consult Amphenol Aerospace for variations.

### 5. Select an Insert Arrangement

MIL-DTL-38999, see insert identification chart on page 78.

### 6. Select a Contact Style

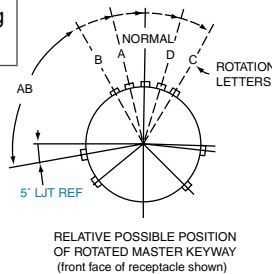
|          |  |
|----------|--|
| <b>P</b> | Designates Lanyard Release plug with pin contacts    |
| <b>S</b> | Designates Lanyard Release plug with socket contacts |

### 7. Alternate Keying Position

For alternate Position of connector (to prevent cross-mating) see LJT key/keyway rotation below. (No letter is required for normal)

#### LJT Key/Keyway Rotation

| Shell Size | AB ANGLE OF ROTATION (Degrees) |     |     |      |      |
|------------|--------------------------------|-----|-----|------|------|
|            | Normal                         | A   | B   | C    | D    |
| 9          | 95°                            | 77° | -   | -    | 113° |
| 11         | 95°                            | 81° | 67° | 123° | 109° |
| 13         | 95°                            | 75° | 63° | 127° | 115° |
| 15         | 95°                            | 74° | 61° | 129° | 116° |
| 17         | 95°                            | 77° | 65° | 125° | 113° |
| 19         | 95°                            | 77° | 65° | 125° | 113° |
| 21         | 95°                            | 77° | 65° | 125° | 113° |
| 23         | 95°                            | 80° | 69° | 121° | 110° |
| 25         | 95°                            | 80° | 69° | 121° | 110° |



## HOW TO ORDER - BY COMMERCIAL PART NUMBER FAIL SAFE 88-5388 OR 91-5388

- 1.
- 2.
- 3.
- 4.
- 5.

| Finish | Connector Type Identification | Shell Size & Insert Arrangement | Lanyard Length Code | Contact Type Alternate Rotation of Insert |
|--------|-------------------------------|---------------------------------|---------------------|---|
| 88     | 5388                          | 29                              | 40                  | P   |

### 1. Select a Finish

|           |   |
|-----------|---|
| <b>88</b> | Designates corrosion resistant olive drab cadmium plate over nickel, 500 hour extended salt spray, EMI -50dB @ 10 GHz specification min., 175°C |
| <b>91</b> | Designates electroless nickel plated aluminum, optimum EMI shielding effectiveness -65dB @ 10 GHz specification min., 48 hour salt spray, 200°C |

These are standard finishes. Consult Amphenol Aerospace, Sidney, NY for variations.

### 2. Connector Type Identification

|             |   |
|-------------|---|
| <b>5388</b> | Designates MIL-DTL-38999, Series I LJT Lanyard Release Plug |
|-------------|---|

### 3. Select a Shell Size and Insert Arrangement

Shell sizes are MIL-DTL-38999, Series III from sizes 11 thru 25. The basic part number selected specifies the insert arrangement. See Table I (page 78) for coded part number that correlates to insert arrangement.

### 4. Select a Lanyard Length Code

See Table II (page 78) for lanyard length code number.

### 5. Select a Contact Type/Alternate Rotation of Insert

|          |  |
|----------|--|
| <b>P</b> | Designates Lanyard Release plug with pin contacts    |
| <b>S</b> | Designates Lanyard Release plug with socket contacts |

When an alternate position of the connector is required to prevent cross-mating, a different letter (other than P or S) is used. See alternate positioning for LJT (to your left), then convert to Amphenol commercial coding by the following chart below.

| Pin Contacts |                 | Socket Contacts |                 |
|--------------|-----------------|-----------------|-----------------|
| MS Letter    | Amphenol Letter | MS Letter       | Amphenol Letter |
| P            | P (normal)      | S               | S (normal)      |
| PA           | E               | SA              | F               |
| PB           | R               | SB              | T               |
| PC           | W               | SC              | X               |
| PD           | Y               | SD              | Z               |

Amphenol LJT Breakaway Fail Safe Connectors provide unequaled performance in environments requiring instant disengagement.

Designed to provide quick disconnect of a connector plug and receptacle with an axial pull on the lanyard, the "Breakaway" Fail Safe connector family offers a wide range of electrical and mechanical features:

- Instant decoupling and damage free separation
- Completely intermateable with standard LJT receptacles
- Inventory support commonality through the use of standard insert arrangements and contacts

Breakaway un-mating is initiated by applying a pull force to the lanyard which causes the operating sleeve on the plug to move away from the receptacle. Coupling segments on the plug then move away from the mating receptacle while expanding, thus releasing the receptacle. After completion of the un-mating sequence, spring compression returns the sleeve and segments to their original positions. Un-mating of the plug may also be accomplished by normal rotation of the coupling ring without affecting the breakaway capability.

The LJT Breakaway Fail Safe connector features which provide EMI EMP shielding in excess of MIL-DTL-38999 Series I requirements:

- Solid metal-to-metal coupling
- EMI grounding fingers
- Conductive finishes

Contact Amphenol Aerospace for more information on breakaway, quick-disconnect connectors. Other Amphenol cylindrical families (MIL-DTL-38999 Series III, MIL-DTL-26482, MIL-DTL-83723) also offer breakaway quick-disconnect connectors.

**PART #** Part number reference. To complete, see how to order pages 79.

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Position | Special Variations |
|----------------|-------------|---------------|--------------------------|--------------|--------------------|--------------------|
| 88/91          | 5388        | T             | 22-2                     | P            | A                  | (XXX)              |

**Military**

| MS Number | Service Class | Shell Size | Finish | Insert Arrg | Contact Style (P or S) | Alternate Position |
|-----------|---------------|------------|--------|-------------|------------------------|--------------------|
| MS27661   | T             | 14         | A      | 18          | P                      | A                  |

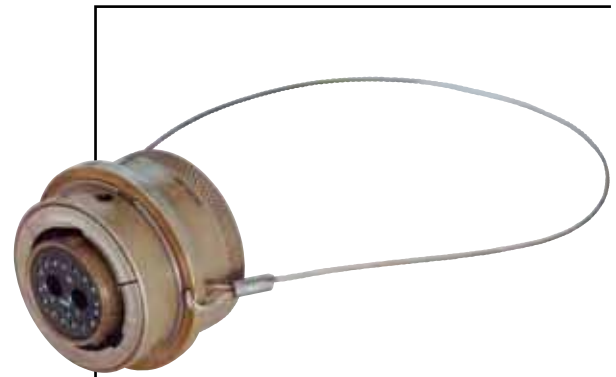
### LJT Fail Safe 88-5388/91-5388 (MS27661)

#### Lanyard Release Plug

\* To complete order number see page 79.

| Shell Size | A Dia. Max. | B Max. | D Max. Accessory Dia. | L Max. | V Thread UNEF Class 2A (Plated) |
|------------|-------------|--------|-----------------------|--------|---------------------------------|
| 11         | 1.393       | 1.797  | .740                  | 1.703  | .5625-24                        |
| 13         | 1.558       | 1.969  | .926                  | 1.703  | .6875-24                        |
| 15         | 1.669       | 2.078  | 1.051                 | 1.703  | .8125-20                        |
| 17         | 1.797       | 2.203  | 1.176                 | 1.703  | .9375-20                        |
| 19         | 1.926       | 2.323  | 1.300                 | 1.703  | 1.0625-18                       |
| 21         | 2.054       | 2.469  | 1.426                 | 1.703  | 1.1875-18                       |
| 23         | 2.183       | 2.594  | 1.551                 | 1.703  | 1.3125-18                       |
| 25         | 2.293       | 2.703  | 1.676                 | 1.766  | 1.4375-18                       |

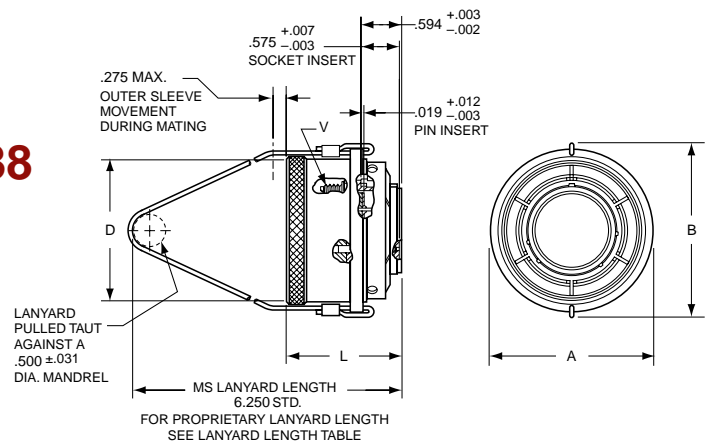
All dimensions for reference only.



### LJT Breakaway Fail Safe

In addition to standard Breakaway connectors, Amphenol also manufactures custom breakaway connectors including those with:

- Increased pull-force capability
- Custom lanyard lengths and backshells
- Low force separation capabilities
- Low insertion/separation force contacts
- Non-cadmium finishes
- Custom JT Series Breakaway designs have been developed for special applications; however the LJT Series is recommended over the JT Series for the quick-disconnect breakaway style.





Amphenol has become the leader in interconnection products through its long history of engineering expertise for product solution solving. New and innovative solutions are under development every day within our highly skilled engineering departments who are teamed with marketing product managers and production specialists. They are always striving to meet new customer requirements in ever changing markets. The teams have a customer-driven approach to produce the end result: quality interconnect products that meet or exceed customer demands.



**New/Featured**  
**Breakaway Hybrid, Low Profile Lanyard Release Plug**  
 Page 42

New Hybrid Lanyard Breakaway Fail Safe Connector with a composite thermoplastic outer operating sleeve for greater durability.

Solution: Navy F-18 program needed a break away plug that would have greater durability in weapons release application.



**New/Featured**  
**New HD38999 (High Density, Crimp) Plugs and receptacles**  
 Page 43, 44

The HD38999 family of connectors was designed to work with existing Mil-specified 38999 shells. The HD38999 has 30% more contacts, it still performs to minimum electrical requirements of standard 38999 connectors.

Solution: 30% more contact density in 38999 Series III Shells



**New/Featured**  
**Matrix MIL-DTL-5015 with RADSOK® Contacts**  
 Page 193

A special design of the Matrix MIL-DTL-5015, Series II connectors has added high amperage with the RADSOK® contacts in the plug instead of standard rear release crimp contacts.

Solution: Higher amperage capability in Matrix MIL-DTL-5015



**New/Featured**  
**Filter Connector with High Density Patterns**  
 Page 289

New High Density Patterns are available in Filter 38999 connectors in standard Mil-Spec or filter length shells. They provide 30% more contact than standard insert arrangement patterns. See page 43 for ordering information.

Solution: Higher contact density and custom stand-off shell designs



**New/Featured**  
**ARINC 801 Connectors**  
 Page 356

Designed for use in Amphenol ARINC 801 fiber optic connectors - manufactured to comply with ARINC 801. Genderless terminus allows for use on both sides of a connector.

Solution: Fiber Optic Termini & Connector that meet ARINC specifications



**New/Featured**  
**MT Ferrule Connectors**  
 Page 359

Amphenol offers a multi-channel circular connector with high density MT fiber optics. High fiber density in a relatively small circular connector package with all the advantages of the MIL-DTL-38999 series III connector.

Solution: Higher Density Fiber Optics in MIL-DTL-38999

|     |                           |
|-----|---------------------------|
| III | 38999                     |
| II  | 26482                     |
| I   | Matrix 2                  |
| SJT | 83723 III                 |
|     | Matrix Pyle               |
|     | 5015                      |
|     | Crimp Rear Release Matrix |
|     | 26500 Pyle                |
|     | Printed Circuit Board     |
|     | EMI Filter Transient      |
|     | Fiber Optics              |
|     | High Speed Contacts       |
|     | Options Others            |



Series III TV

Series II JT

Series I LJT

SJT

Amphenol Aerospace is the leader in Interconnect solutions and provides companies with a product portfolio of connectors, accessories, cable assemblies and system integration for most applications across various industries. With connectors conforming to Military, Aerospace and Industrial standards in US, Europe and Asia, Amphenol assumes the leadership in meeting the interconnect needs of these market segments.



### MIL-DTL-38999 Series III TV Tri-Start

- Backshells Accessories
- Dummy Contacts
- Wire Combs
- Receptacle Protection Cap
- Plug Protection Cap
- Dummy Receptacle
- Cable Clamps
- Contacts-Printed Circuit Board Wire Wrap
- Header Assembly

#### Application Tools

- Crimp Tools
- Insertion Tools
- Removal Tools

### MIL-DTL-38999 Series II JT

- Receptacle Protection Cap
- Plug Protection Cap
- Strain Relief (Solder/Crimp Type)
- Contacts-Printed Circuit Board Wire Wrap
- Header Assembly

#### Application Tools

- Crimp Tools
- Insertion Tools
- Removal Tools

### SJT

- Receptacle Protection Cap
- Plug Protection Cap
- Dummy Receptacle
- Cable Clamps

#### Application Tools

- Crimp Tools
- Insertion Tools
- Removal Tools

### MIL-DTL-38999 Series I LJT

- Receptacle Protection Cap
- Plug Protection Cap
- Dummy Receptacle
- Cable Clamps
- Contacts-Printed Circuit Board Wire Wrap
- Header Assembly

#### Application Tools

- Crimp Tools
- Insertion Tools
- Removal Tools



III  
II  
I  
SJT  
**38999**

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

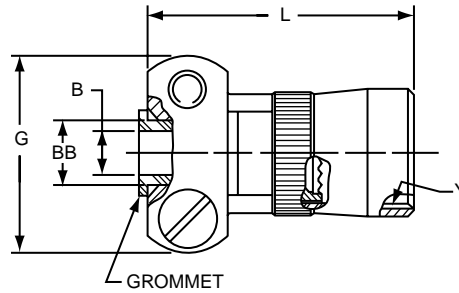
High Speed  
Contacts

Options  
Others

Strain relief (crimp type)

Series II JT

Series I LJT



\* 10-405982-XXX (MS27506XXX-2 reference M85049/49)

For MS stamping identification, accessories must be ordered by MS part number.

If ordered by 10-part number, they will be stamped with said number.

\*To complete order number, add shell size and suffix number.

| Finish                           | 10-Number Suffix | MS27506 Suffix | M85049/49 Suffix |
|----------------------------------|------------------|----------------|------------------|
| Chromate treat                   | -XX0             |                | NA               |
| Anodic coating                   | -XX5             | CXX-2          | (-2-XXA)         |
| Cadmium plate nickel base        | -XX7             | AXX-2          | NA               |
| Olive drab, cadmium, nickel base | -XX9             | BXX-2          | (-2-XXW)         |
| Electroless nickel               | -XXG             | FXX-2          | (-2-XXN)         |

For example: Shell size 10 with cadmium plate, nickel base would be

10-405982-107 or M85049/49-2-10W

| Shell Size | B Dia. +.010-.025 | G Max. | L Max. | Y Thread (Modified) |                     | BB Dia. +.000 -.011 | Screw Size |
|------------|-------------------|--------|--------|---------------------|---------------------|---------------------|------------|
|            |                   |        |        | Size Class 2B       | Modified Minor Dia. |                     |            |
| 8          | .125              | .775   | .984   | .4375-28UNEF        | .399 - .405         | .250                | 6-32UNC    |
| 10         | .188              | .837   | .984   | .5625-24UNEF        | .524 - .529         | .312                | 6-32UNC    |
| 12         | .312              | .963   | .984   | .6875-24UNEF        | .649 - .654         | .438                | 6-32UNC    |
| 14         | .375              | 1.087  | 1.234  | .8125-20UNEF        | .766 - .771         | .562                | 6-32UNC    |
| 16         | .500              | 1.150  | 1.234  | .9375-20UNEF        | .891 - .896         | .625                | 6-32UNC    |
| 18         | .625              | 1.400  | 1.234  | 1.0625-18UNEF       | 1.002 - 1.007       | .750                | 8-32UNC    |
| 20         | .625              | 1.400  | 1.234  | 1.1875-18UNEF       | 1.135 - 1.140       | .750                | 8-32UNC    |
| 22         | .750              | 1.587  | 1.359  | 1.3125-18UNEF       | 1.252 - 1.257       | .938                | 8-32UNC    |
| 24         | .800              | 1.681  | 1.281  | 1.4375-18UNEF       | 1.377 - 1.382       | 1.000               | 8-32UNC    |

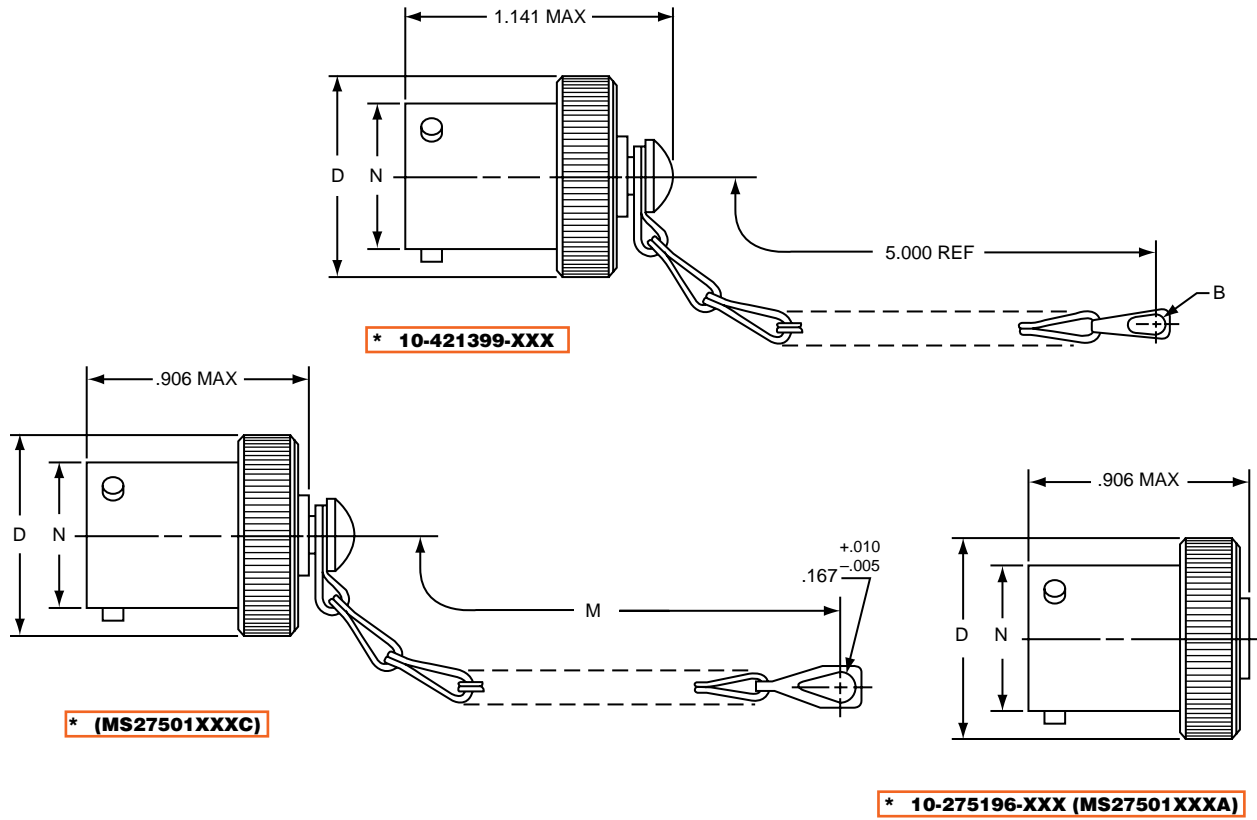
All dimensions for reference only.

Note: For solder type cable clamp 10-241055-XXX (M85049/49) consult Amphenol, Sidney, NY.

- 38999 SJT I II III
- 26482 Matrix 2
- 83723 III Pyle Matrix
- 5015 Crimp Rear Release Matrix
- 26500 Pyle
- Printed Circuit Board
- EMI Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

# MIL-DTL-38999, Series I LJT Plug Protection Cap

Series I LJT



- III 38999 I SJT
- Matrix 2 26482
- Matrix Pyle 83723 III
- Crimp Rear Release Matrix 5015
- Pyle 26500
- Printed Circuit Board
- EMI Filter Transient
- Fiber Optics
- High Speed Contacts
- Options Others

\*To complete order number, add shell size and suffix number.

For example, shell size 11 with cadmium plate, nickel base would be [10-421399-117, MS27501A11C, MS27501A11A.](#)

| Shell Size | B Dia. Ref | D Dia. Max. | M $\pm .250$ | N Dia. $\begin{matrix} +.001 \\ -.005 \end{matrix}$ |
|------------|------------|-------------|--------------|---|
| 9          | .180       | .812        | 3.000        | .572  |
| 11         | .180       | .938        | 3.000        | .700  |
| 13         | .180       | 1.062       | 3.500        | .850  |
| 15         | .180       | 1.188       | 3.500        | .975  |
| 17         | .180       | 1.312       | 3.500        | 1.100   |
| 19         | .209       | 1.438       | 3.500        | 1.207   |
| 21         | .209       | 1.562       | 4.000        | 1.332   |
| 23         | .209       | 1.688       | 4.000        | 1.457   |
| 25         | .209       | 1.812       | 4.000        | 1.582   |

| Finish                           | 10- Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|----------------------------------|-------------------|-----------------------------|--------------------------------|
| Chromate treat                   | -XX0              |                             |                                |
| Anodic coating                   | -XX5              |                             |                                |
| Cadmium Plate Nickel base        | -XX7              | AXXC                        | AXXA                           |
| Olive Drab, Cadmium, Nickel base | -XX9              | BXXC                        | BXXA                           |
| Electroless nickel               | -XXG              | FXXC                        | FXXA                           |

All dimensions for reference only.

**Series I LJT**

38999  
SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

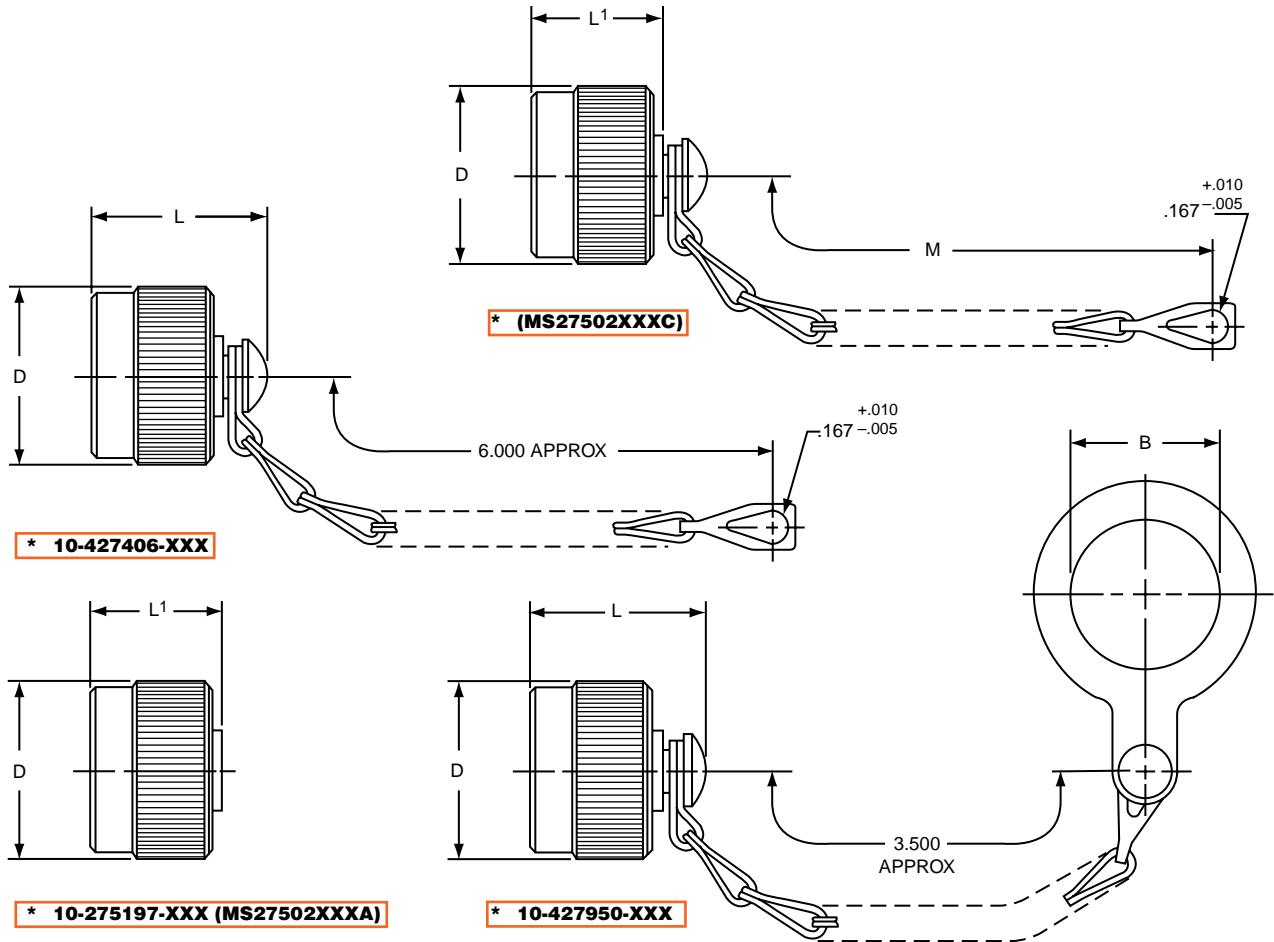
Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



For MS stamping identification, accessories must be ordered by MS part number.  
If ordered by 10- part number, they will be stamped with said number.

\*To complete order number, add shell size and suffix number.

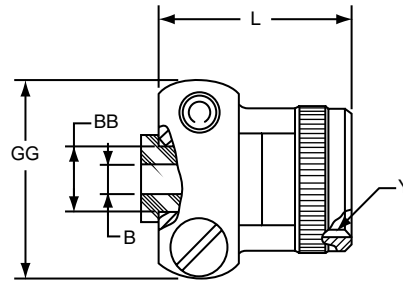
For example, shell size 11 with cadmium plate, nickel base would be 10-427406-117, MS27502A11C, MS27502A11A.

| Shell Size | B Dia. $+0.010$ $-0.000$ | D Dia. Max. | L Max. | L' Max | M $\pm 0.250$ | Finish                           | 10-Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|------------|--------------------------|-------------|--------|--------|---------------|----------------------------------|------------------|-----------------------------|--------------------------------|
| 9          | .703                     | .844        | 1.070  | .844   | 3.000         | Chromate treat                   | -XX0             |                             |                                |
| 11         | .844                     | .969        | 1.070  | .844   | 3.000         | Anodic coating                   | -XX5             | CXXC                        | CXXA                           |
| 13         | 1.016                    | 1.125       | 1.070  | .844   | 3.500         | Cadmium Plate Nickel base        | -XX7             | AXXC                        | AXXA                           |
| 15         | 1.141                    | 1.250       | 1.070  | .844   | 3.500         | Olive Drab, Cadmium, Nickel base | -XX9             | BXXC                        | BXXA                           |
| 17         | 1.266                    | 1.406       | 1.070  | .844   | 3.500         | Electroless Nickel               | -XXG             | FXXC                        | FXXA                           |
| 19         | 1.391                    | 1.500       | 1.070  | .844   | 3.500         |                                  |                  |                             |                                |
| 21         | 1.516                    | 1.625       | 1.070  | .844   | 4.000         |                                  |                  |                             |                                |
| 23         | 1.641                    | 1.750       | 1.070  | .844   | 4.000         |                                  |                  |                             |                                |
| 25         | 1.766                    | 1.875       | 1.089  | .875   | 4.000         |                                  |                  |                             |                                |

All dimensions for reference only.

# MIL-DTL-38999, Series I LJT Strain Relief (Solder Type)

Series I LJT



\* 10-436792-XXX

For military type cable clamp see MS27506 or M85049/49 on page 98.

\*To complete order number, add shell size and suffix number.

| Finish                           | 10-Number Suffix |
|----------------------------------|------------------|
| Chromate treat                   | -XX0             |
| Anodic coating                   | -XX5             |
| Cadmium Plate Nickel base        | -XX7             |
| Olive Drab, Cadmium, Nickel base | -XX9             |
| Electroless Nickel               | -XXG             |

For example: Shell size 11 with cadmium plate, nickel base would be 10-436792-117.

| Shell Size | B Dia. +.010 - .025 | L Max. | Y Thread Class 2B (Plated) | GG Max. | BB Dia. +.000 - .011 |
|------------|---------------------|--------|----------------------------|---------|----------------------|
| 9          | .125                | .859   | .4375-28 UNEF              | .775    | .250                 |
| 11         | .188                | .859   | .5625-24 UNEF              | .837    | .312                 |
| 13         | .312                | .859   | .6875-24 UNEF              | .963    | .438                 |
| 15         | .375                | 1.109  | .8125-20 UNEF              | 1.087   | .562                 |
| 17         | .500                | 1.109  | .9375-20 UNEF              | 1.150   | .625                 |
| 19         | .625                | 1.109  | 1.0625-18 UNEF             | 1.400   | .750                 |
| 21         | .625                | 1.109  | 1.1875-18 UNEF             | 1.400   | .750                 |
| 23         | .750                | 1.234  | 1.3125-18 UNEF             | 1.587   | .938                 |
| 25         | .800                | 1.234  | 1.4375-18 UNEF             | 1.681   | 1.000                |

All dimensions for reference only.

III  
II  
I  
SJT

38999  
26482  
Matrix 2

83723 III  
Matrix  
Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

**Series II JT**

**Series I LJT**

**JT/LJT Crimp Contacts**

| Contact Size | Pins (JT/LJT) MS No. | JT Sockets MS. No | LJT Sockets MS. No |
|--------------|----------------------|-------------------|--------------------|
| 8 (Coax)*    | M39029/60-367        | NA                | M39029/59-366      |
| 8 (Twinax)   | M39029/90-529***     | NA                | M39029/91-530      |
| 10 (Power)   | M39029/58-528        | NA                | M39029/56-527      |
| 12           | M39029/58-365        | M39029/57-359     | M39029/56-353      |
| 16           | M39029/58-364        | M39029/57-358     | M39029/56-352      |
| 20           | M39029/58-363        | M39029/57-357     | M39029/56-351      |
| 22           | M39029/58-362        | M39029/57-356     | M39029/56-350      |
| 22M          | M39029/58-361        | M39029/57-355     | M39029/56-349      |
| 22D          | M39029/58-360        | M39029/57-354     | M39029/56-348      |

**THERMOCOUPLE CONTACTS**

| Contact Size | Material   | JT/LJT Pins   | JT Sockets    | LJT Sockets   |
|--------------|------------|---------------|---------------|---------------|
| 20           | Chromel    | 10-407862-310 | 10-407863-310 | 10-407236-310 |
|              | Alumel     | 10-407862-320 | 10-407863-320 | 10-407865-320 |
|              | Iron       | 10-407862-335 | 10-407863-335 | 10-407865-335 |
|              | Constantan | 10-407862-342 | 10-407863-342 | 10-407865-342 |

Partial Listing. If you do not see the contact for your application, consult Amphenol Aerospace, Sidney, N.Y.

**THERMOCOUPLE CONTACTS PYLE VERSION**

| Contact Size | Pins (JT/LJT) |             | Sockets (LJT) |             | Material |
|--------------|---------------|-------------|---------------|-------------|----------|
|              | Spec Number   | Pyle Number | Spec Number   | Pyle Number |          |
| 22D          | M39029/87-472 | T3-4022-10P | M39029/88-484 | T3-4122-10P | CHROMEL  |
| 22D          | M39029/87-471 | T3-4022-10R | M39029/88-483 | T3-4122-10R | ALUMEL   |
| 20           | M39029/87-476 | T3-4020-10P | M39029/88-488 | TS-4120-10P | CHROMEL  |
| 20           | M39029/87-475 | T3-4020-10R | M39029/88-487 | T3-4120-10R | ALUMEL   |
| 16           | M39029/87-480 | T3-4016-10P | M39029/88-492 | T3-4116-10P | CHROMEL  |
| 16           | M39029/87-479 | T3-4016-10R | M39029/88-491 | T3-4116-10R | ALUMEL   |

**PLASTIC PROTECTION CAPS**

| Shell Size | Plug         | Receptacle   |
|------------|--------------|--------------|
| 8          | 10-70500-10  | 10-70506-10S |
| 9          | 10-70506-14  | 10-70500-10  |
| 10         | 10-70506-14  | 10-70506-12  |
| 11         | 10-70506-16  | 10-70500-12  |
| 12         | 10-70506-16  | 10-70506-14  |
| 13         | 10-70506-18  | 10-70500-14  |
| 14         | 10-70506-18  | 10-70506-16  |
| 15         | 10-70506-20  | 10-70500-16  |
| 16         | 10-70506-20  | 10-70506-18  |
| 17         | 10-70506-22  | 10-70500-18  |
| 18         | 10-70506-22  | 10-70506-20  |
| 19         | 10-70506-24  | 10-70500-20  |
| 20         | 10-70506-24  | 10-70506-22  |
| 21         | 10-70576-24  | 10-70500-22  |
| 22         | 10-70576-24  | 10-70506-24  |
| 23         | 10-70506-28  | 10-70500-24  |
| 24         | 10-70506-28  | 10-70576-24  |
| 25         | 10-558651-25 | 10-70506-28  |

**SEALING PLUGS**

| Contact Size | Commercial No. | Military No. |
|--------------|----------------|--------------|
| 8 (Coax)     | 10-482099-8    | MS27488-8    |
| 8 (Twinax)   | T3-4008-59P    | N/A          |
| 10 (Power)   | 10-576225      | N/A          |
| 12           | 10-405996-12   | MS27488-12   |
| 16           | 10-405996-16   | MS27488-16   |
| 20           | 10-405996-20   | MS27488-20   |
| 22           | 10-405996-22   | MS27488-22   |
| 22M          | 10-405996-22   | MS27488-22   |
| 22D          | 10-405996-22   | MS27488-22   |

38999  
SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



for Flex Print or PC Board

Series III TV

Series II JT

Series I LJT

**Mounts to all MIL-DTL-38999 and  
\*MIL-DTL-26482 Connectors**

Termination of PC tail connectors to a flex print or a printed circuit board represents a major cost in the manufacturing process for users. When adding flex or printed circuit board assemblies to an expensive filter or filter/transient protection connector, the total cost of a failed solder joint, a bent pin, or an unanticipated electrical failure becomes prohibitive. The universal header assembly from Amphenol provides for easy separation of the connector from the board on these occasions. The header assembly is comprised of a short pin/socket contact. The tail end of the contact is soldered to the through hole of the flex or printed circuit board. The socket is embedded in the insulator, making electrical contact with the printed circuit tail of the connector.



**Headers provide easy separation of the connector from the PC board.**

**Header Assemblies Provide Cost Savings**

Incorporation of the header assembly provides the user with time and cost saving potentials. These header assemblies can be vapor phase or wave soldered to flex or printed circuit boards prior to the receipt of the EMI/EMP connector. Headers can be installed to standard connectors, allowing for electrical testing that would adversely affect the sensitive diodes, MOV's or capacitors in the EMI/EMP connectors. Expensive connector assemblies can be easily removed from and reattached to the header assembly as the manufacturing process dictates.

**Mounting Applications**

Shell modifications are recommended, but are not necessary. The header assembly can be attached to connectors with standard flange placement or directly to the circuit board. The ideal application would involve either a single flange moved all the way to the rear of the connector or a double flange. Cinch nuts can be installed in either flange to allow easier mounting to the panel or the header assembly. The forward flange would mount the connector to the panel; the rear flange would be used to mount the header assembly. Various types of captivated or loose attaching screws can be utilized for unique applications.

Amphenol universal headers are slotted to allow mounting to all series of MIL-DTL-38999 or MIL-DTL-26482\* connectors without special alterations. They are of similar dimension as the flange of the mounting connector and are approximately .185 inches (4.70 mm) thick.

\* For information on Header Assemblies for MIL-DTL-26482 connector consult Amphenol, Sidney NY.

**Cylindrical Configuration**

- 3 PCB stickout dimensions are available.
- Size 22 contacts use .175 thick headers
- Size 16 to 20 contacts use .195 thick headers
- Consult Amphenol, Sidney NY for additional configurations.
- Headers for cylindrical connectors accommodate up to 128 pins. For MIL-DTL-38999 insert arrangements chart see pages 4-7 and insert drawings on pages 8-14.

**Mounting to Rectangular ARINC Connectors**

- Headers for ARINC connector arrangements accommodate up to 150 pins
- Consult Amphenol, Sidney, NY for ARINC configurations and detailed dimensions.

**Materials**

- Body is molded or machined from FR-4.
- Electrical engagement areas of the header contact are plated with .00003 inches minimum of gold over .00005 inches minimum of nickel.

See drawing of standard header on next page.

38999  
SJT

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

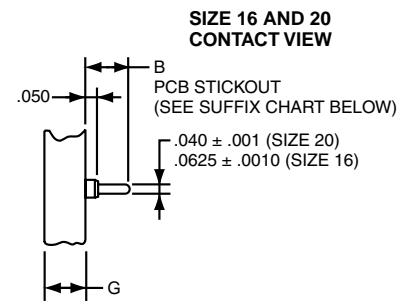
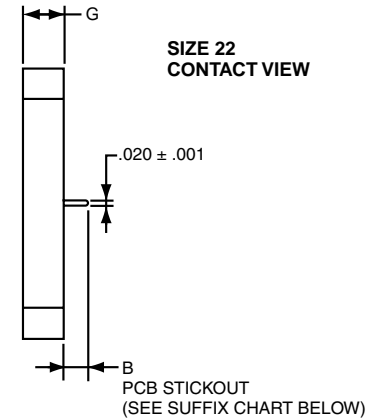
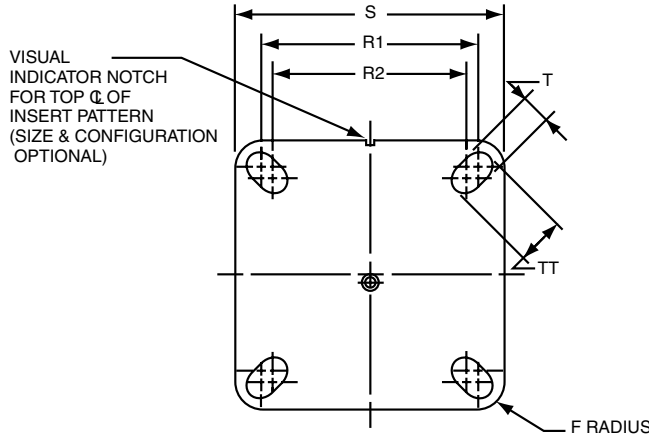
Options  
Others

# MIL-DTL-38999, Series III TV, II JT, I LJT

## Universal "Header Assembly" for Flex Print or PC Board Connectors



The drawing below shows the standard header assembly for use with MIL-DTL-38999 connectors. Consult Amphenol Aerospace, Sidney NY for drawings of headers for ARINC configurations.



| Assembly Part Number | Shell Size | F Radius | G ± .005 | S ± .005 | T + .008 - .006 | R1 TP† | R2 TP† | TT + .008 - .006 |
|----------------------|------------|----------|----------|----------|-----------------|--------|--------|------------------|
| 21-904008-XX()       | 8/9        | .094     |          | .938     | .128            | .719   | .594   | .216             |
| 21-904010-XX()       | 10/11      | .094     |          | 1.031    | .128            | .812   | .719   | .194             |
| 21-904012-XX()       | 12/13      | .094     |          | 1.125    | .128            | .906   | .812   | .194             |
| 21-904014-XX()       | 14/15      | .125     |          | 1.219    | .128            | .969   | .906   | .173             |
| 21-904016-XX()       | 16/17      | .125     |          | 1.312    | .128            | 1.062  | .969   | .194             |
| 21-904018-XX()       | 18/19      | .125     |          | 1.438    | .128            | 1.156  | 1.062  | .194             |
| 21-904020-XX()       | 20/21      | .125     |          | 1.562    | .128            | 1.250  | 1.156  | .194             |
| 21-904022-XX()       | 22/23      | .125     |          | 1.688    | .154            | 1.375  | 1.250  | .242             |
| 21-904024-XX()       | 24/25      | .125     |          | 1.812    | .154            | 1.500  | 1.375  | .242             |

See Suffix Chart

Assemblies containing Size 22 contacts only: .175  
Assemblies containing Size 16 or 20 contacts: .195

† TP designates true position dimensioning.

NOTE:  
Size 22 accepts .018 to .022 dia. PCB tails.  
Size 16 accepts .048 to .064 dia. PCB tails.  
Size 20 accepts .037 to .043 dia. PCB tails.

### HOW TO ORDER INFORMATION

#### For Header Assembly with MIL-DTL-38999 Connectors

Use coded number as follows:

**21-9040 XX - XX X**

Designates Amphenol Header Assembly \_\_\_\_\_  
Shell size designation for MIL-DTL-38999 Series I, II, III and IV see Suffix chart. \_\_\_\_\_  
Arrangement number - See MIL-STD-1560 or MIL-STD-1669. See insert availability charts on pages 4-7. \_\_\_\_\_  
Contact PCB Stickout designation See Suffix chart. \_\_\_\_\_

For how to order information on adapters to be used with ARINC connectors, consult Amphenol, Sidney NY.

### ASSEMBLY NUMBER SUFFIX CHART

| Shell Size Designation* | Arrangement Number Suffix***                                | Contact PCB Stickout** |                   |
|-------------------------|---|------------------------|-------------------|
|                         |   | Suffix                 | B ± .015 Stickout |
| 08                      | Insert Arrangement Suffix from MIL-STD-1560 or MIL-STD-1669 | 1                      | .120              |
| 10                      |   | 2                      | .185              |
| 12                      |   | 3                      | .270              |
| 14                      |   |                        |                   |
| 16                      |   |                        |                   |
| 18                      |   |                        |                   |
| 20                      |   |                        |                   |
| 24                      |   |                        |                   |

\*Shell size designation for MIL-DTL-38999 Series I, II, III and IV and MIL-DTL-26482 Series 1 and 2.

Examples: Shell size 9 use 08. Shell size 25 use 24.

\*\* Size 22 contacts available in all 3 stickout lengths. Size 16 and 20 contacts available only in .185 and .270 lengths.

\*\*\* Insert arrangement 14-97 and 15-97 are not available at this time. Consult Amphenol, Sidney NY for information.



|               |              |              |     |
|---------------|--------------|--------------|-----|
| Series III TV | Series II JT | Series I LJT | SJT |
|---------------|--------------|--------------|-----|

The following data includes information pertaining to the application tools which have been established for crimping, inserting, and removing contacts incorporated in the TV, CTV and MIL-DTL-38999 Series III connectors. For additional information on coax, twinax and triax contact tools see High Speed Contact section of this catalog. All crimping tools included are the "full cycling" type and when

used as specified in the installation instructions (L-624 and L-844) covering the TV, CTV and MS series connectors, will provide reliable crimped wire to contact terminations. There is a possibility of additional crimping tools other than those included being available at present or in the future for this specific application.

### CRIMPING TOOLS

| Contact Size/Type                        | Crimping Tool                             | Turret Die or Positioner                  |
|--|---|---|
| 12 Pin and Socket                        | M22520/1-01                               | M22520/1-04                               |
| 16 Pin and Socket                        | M22520/1-01<br>M22520/7-01                | M22520/1-04<br>M22520/7-04                |
| 20 Pin and Socket                        | M22520/1-01<br>M22520/2-01<br>M22520/7-01 | M22520/1-04<br>M22520/2-10<br>M22520/7-08 |
| 22, 22D, 22M Pin                         | M22520/2-01<br>M22520/7-01                | M22520/2-09<br>M22520/7-07                |
| 22, 22D, 22M Socket Series I, III        | M22520/2-01<br>M22520/7-01                | M22520/2-07<br>M22520/7-05                |
| 22D Socket Series II                     | M22520/2-01<br>M22520/7-01                | M22520/2-06<br>M22520/7-06                |
| 8 Twinax Center Pin and Socket           | M22520/2-01                               | M22520/2-37                               |
| 8 Twinax Intermediate Outer Pin & Socket | M22520/5-01                               | M22520/5-200                              |

| Contact Size/Type               | Crimping Tool | Turret Die or Positioner   |
|---------------------------------|---------------|----------------------------|
| 8 Coaxial Inner Pin and Socket  | M22520/2-01   | M22520/2-31                |
| 8 Coaxial Outer Pin and Socket  | M22520/5-01   | M22520/5-05 Die Closure B  |
|                                 | M22520/5-01   | M22520/5-41 Die Closure B  |
|                                 | M22520/10-01  | M22520/10-07 Die Closure B |
| 16 Coaxial Inner Pin and Socket | M22520/2-01   | M22520/2-35                |
| 16 Coaxial Outer Pin and Socket | M22520/4-01   | M22520/4-02                |
| 12 Coaxial Inner Pin and Socket | M22520/2-01   | M22520/2-34                |
| 12 Coaxial Outer Pin and Socket | M22520/31-01  | M22520/31-02               |
| 10 (Power)                      | TP-201423     |                            |

Where 2 or 3 tools are listed for a contact size, only one tool and its die or positioner are required to crimp the contact. The above crimping tools and positioners are available from the approved tool manufacturer.

### INSERTION TOOLS

| Use with Contact Size | Plastic Tools  |                  | Metal Tools    |                     |                                   |        |
|-----------------------|----------------|------------------|----------------|---------------------|-----------------------------------|--------|
|                       | MS Part Number | Color            | Angle Type     |                     | Straight Type Commercial Part No. | Color  |
|                       |                |                  | MS Part No.    | Commercial Part No. |                                   |        |
| 10 (Power)            | M81969/14-05*  | Gray / (White)   | M81969/8-11    | †                   | †                                 | Green  |
| 12                    | M81969/14-04*  | Yellow / (White) | M81969/8-09    | 11-8674-12          | 11-8794-12                        | Yellow |
| 16                    | M81969/14-03*  | Blue / (White)   | M81969/8-07    | 11-8674-16          | 11-8794-16                        | Blue   |
| 20                    | M81969/14-10*  | Red / (Orange)   | M81969/8-05    | 11-8674-20          | 11-8794-20                        | Red    |
| 22                    | M81969/14-09   | Brown/White      | M81969/8-03    | 11-8674-22          | 11-8794-22                        | Brown  |
| 22D, 22M              | M81969/14-01*  | Green / (White)  | M81969/8-01    | 11-8674-24          | 11-8794-24                        | Black  |
| 8 Coaxial             | None Required  |                  |                |                     |                                   |        |
| 8 Twinax              | None           |                  | M81969/46-06** | None                |                                   | Red    |

### REMOVAL TOOLS

| Use with Contact Size | Plastic Tools  |                  | Metal Tools                              |                |                     |                                   |                |
|-----------------------|----------------|------------------|--|----------------|---------------------|-----------------------------------|----------------|
|                       | MS Part Number | Color            | For Unwired Contacts Commercial Part No. | Angle Type     |                     | Straight Type Commercial Part No. | Color          |
|                       |                |                  |  | MS Part No.    | Commercial Part No. |                                   |                |
| 10 (Power)            | M81969/14-05*  | (Gray) / White   | †  | M81969/8-12    | †                   | †                                 | Green / White  |
| 12                    | M81969/14-04*  | (Yellow) / White | 11-10050-11                              | M81969/8-10    | 11-8675-12          | 11-8795-12                        | Yellow / White |
| 16                    | M81969/14-03*  | (Blue) / White   | 11-10050-10                              | M81969/8-08    | 11-8675-16          | 11-8795-16                        | Blue / White   |
| 20                    | M81969/14-10*  | (Orange) / Red   | 11-10050-9                               | M81969/8-06    | 11-8675-20          | 11-8795-20                        | Red / Orange   |
| 22                    | M81969/14-09*  | (Brown)/White    | 11-10050-8                               | M81969/8-04    | 11-8675-22          | 11-8795-22                        | Brown/White    |
| 22D, 22M              | M81969/14-01*  | (Green) / White  | 11-10050-7                               | M81969/8-02    | 11-8675-24          | 11-8795-24                        | Green / White  |
| 8 Coaxial             | M81969/14-12   | Green            | None                                     | None           | 11-9170             | DRK264-8††                        | N/A            |
| 8 Twinax              | M81969/14-12   | Green            | None                                     | M81969/46-12** | 11-9170             | N/A                               | N/A            |

The M81969/8, 11-8674, 11-8675, and 11-8794 metal contact insertion and removal tools will accommodate wires having the maximum outside diameter as follows: Contact size 12: dia. is .155, size 16: dia. is .109, size 20: dia. is .077, size 22D: dia. is .050. When wire diameters exceed those specified, the plastic tools must be used.

\* Double end insertion/removal tool.

\*\* Twinax insertion tools are available only in a straight type, metal version.

† To be determined.

†† Contact Daniels Manufacturing Co. for availability.

38999 III II I SJT  
 26482 Matrix 2  
 83723 III Pyle Matrix  
 5015 Crimp Rear Release Matrix  
 26500 Pyle  
 Printed Circuit Board  
 EMI Filter Transient  
 Fiber Optics  
 High Speed Contacts  
 Options Others

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