

Amphenol LJT MIL-DTL-38999 Series I



100% SCOOP-PROOF DESIGN WITH QUICK, POSITIVE BAYONET COUPLING

Amphenol's MIL-DTL-38999 series I LJT miniature connectors offer high-density contact arrangements and are suitable for extremely high-reliability connections, including use in military and commercial aviation. They are environmentally-sealed and have a wide operating temperature range.

- Meets requirements of HE308
- Intermateable with ITT Cannon, Deutsch, Souriau, Matrix® and all MIL-DTL-38999 series I connectors
- Formerly MIL-C-38999

APPLICATIONS

- High-performance military aircraft
- Commercial airlines
- Communications equipment
- Armored personnel carriers & tanks
- Missiles
- Shipboard
- Medical instrumentation
- High-reliability test equipment

FEATURES

QUICK-MATING

A three-point bayonet coupling system makes the LJT's quick-mating and provides an audible and tactile "click," along with visual verification of mated connectors via a sighting hole and high-visibility, bright blue bayonet pins.

SHIELDED INTERCONNECT

LJT plugs feature high-quality grounding springs that provide 360-degrees of EMI/RFI shielding protection. These springs ground the barrel of the LJT plugs to the inside wall of the LJT receptacles with a wiping action that offers effective protection from reception or transmission of electronic noise.

MANY CONTACT LAYOUTS AND STYLES

LJT connectors come in a wide variety of contact sizes and layouts, up to 128 contacts. Printed circuit board, fibre optic, thermocouple, and coax-style contacts are available for special applications.

UTILIZES HIGH-QUALITY MILITARY CONTACTS

For standard applications, LJT's come with crimp-style military contacts design to resist bending and provide reliable performance under the most rigorous conditions.

CORROSION-RESISTANT

LJT's are available with cadmium over nickel plating that has met and passed the 500-hour military salt spray corrosion tests.

TECHNICAL
SPECIFICATIONS

MATERIALS AND FINISHES

| | |
|-------------------|---|
| Shell | Aluminum alloy |
| Bayonet Pins | Passivated stainless steel per QQ-S-763 |
| Plating | A - Clear chromate over cadmium over electroless nickel per QQ-P-416 B - Olive drab chromate over cadmium over electroless nickel per QQ-P-416 F - Electroless nickel per QQ-N-290 C - Hard, anodic, non-conductive in accordance with MIL-A-862 W52 - Olive drab zinc cobalt |
| Contacts | Copper alloy |
| Plating | Gold-plated, 50 microinches per MIL-G-45204 type II, grade C, class I |
| Insulator | Hard dielectric wafer which contains metal retention tines for high-reliability retention of crimp contacts |
| Grommet & Seals | Silicone-based elastomer |
| Grounding Springs | Beryllium copper |

ELECTRICAL DATA

| Operating Voltage & Test Voltage (Unmated Condition) | SERVICE RATING | | | | |
|--|----------------|------|------|------|----|
| | TEST VOLTAGES | N | M | I | II |
| Sea Level | 1000 | 1300 | 1800 | 2300 | |
| 100,000 Feet | 200 | 200 | 200 | 200 | |

Current Rating by Contact Size & Wire Accommodation (Test Amps)

| WIRE SIZE | 22D | 22M* | 22* | 20 | 16 | 12 | 8 |
|-----------|-----|------|-----|-----|------|------|----|
| 28 | 1.5 | 1.5 | - | - | - | - | - |
| 26 | 2.0 | 2.0 | 2.0 | - | - | - | - |
| 24 | 3.0 | 3.0 | 3.0 | 3.0 | - | - | - |
| 22 | 5.0 | - | 5.0 | 5.0 | - | - | - |
| 20 | - | - | - | 7.5 | 7.5 | - | - |
| 18 | - | - | - | - | 10.0 | - | - |
| 16 | - | - | - | - | 13.0 | - | - |
| 14 | - | - | - | - | - | 17.0 | - |
| 12 | - | - | - | - | - | 23.0 | - |
| 8 (Power) | - | - | - | - | - | - | 46 |

Contact resistance of Mated Contacts End-to-End

| CONTACT SIZE | MAX. MILLIVOLT DROP |
|--------------|---------------------|
| 22D | 73 |
| 22M* | 45 |
| 22* | 73 |
| 20 | 55 |
| 16 | 49 |
| 12 | 42 |
| 8 (Power) | 26 |

Insulation Resistance 5,000 megohms minimum

MECHANICAL

| | |
|-----------------------|---|
| Operating Temperature | A - Plating -65°C to 150°C (-85°F to 302°F) B - Plating -65°C to 175°C (-85°F to 347°F) F - Plating -65°C to 200°C (-85°F to 392°F) C - Anodic (non-conductive) -65°C to 200°C (-85°F to 392°F) W52 - Plating -65°C to 150°C (-85°F to 302°F) |
| Sealing | Against sand, dust per MIL-STD-202 & ice resistance |

| Wire Sealing Range | CONTACT SIZE | MINIMUM IN | MAXIMUM IN | MINIMUM MM | MAXIMUM MM |
|--------------------|--------------|------------|------------|------------|------------|
| | 22D | 0.030 | 0.054 | 0.76 | 1.37 |
| | 22M* | 0.030 | 0.050 | 0.76 | 1.27 |
| | 22* | 0.034 | 0.060 | 0.86 | 1.52 |
| | 20 | 0.040 | 0.083 | 1.02 | 2.11 |
| | 16 | 0.065 | 0.109 | 1.65 | 2.77 |
| | 12 | 0.097 | 0.142 | 2.46 | 3.61 |
| | 10 | 0.135 | 0.162 | 3.42 | 4.12 |
| | 8 (Power) | 0.135 | 0.155 | 3.43 | 3.94 |
| | 8 (Coax) | 0.135 | 0.155 | 3.43 | 3.94 |
| | 8 (Twinax) | 0.124 | 0.134 | 3.15 | 3.40 |

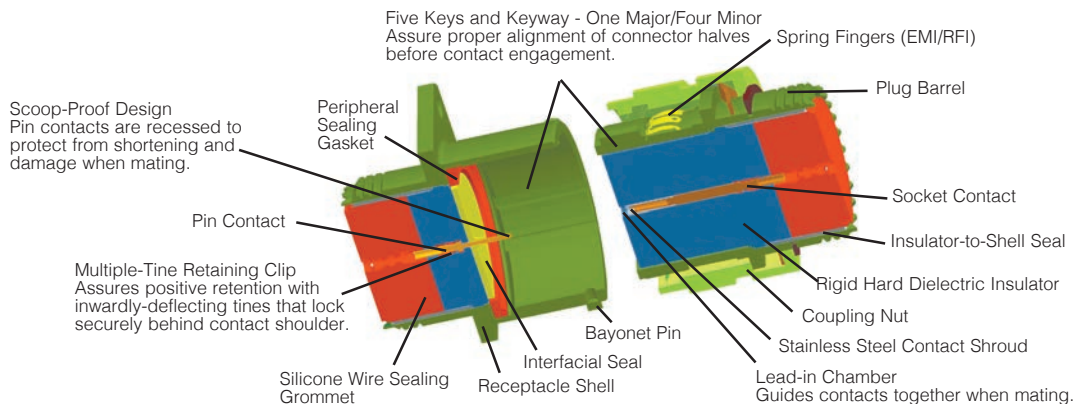
INSULATION STRIP LENGTH

| CONTACT SIZE | STRIP LENGTH |
|------------------|--------------|
| 22*, 22D or 22M* | .125 (3.18) |
| 20 | .188 (4.77) |
| 16 | .188 (4.77) |
| 12 | .188 (4.77) |
| 8 (Power) | .470 (11.94) |

| Mating Life | 500 cycles minimum | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|------------------------|-------------------------|------------------------|----------------|----|----|----|----|----|----|-----|----|----|-----|----|-------------------------|-----|----|
| Salt Spray | Finish A: 48-hour per MIL-STD-1344A method 1001 condition B Finish B: 500-hour per MIL-STD 1344A method 1001 condition C Finish F: 48-hour per MIL-STD-1344A method 1001 condition B Finish C: 500-hour per MIL-STD 1344A method 1001 condition C Finish W52: 48-hour | | | | | | | | | | | | | | | | | | |
| Heat | Finish A: 150°C (302°F) Finish B: 175°C (347°F) Finish F: 200°C (392°F) 1000-hour to MIL-STD-1344 method 1005 Finish C: 200°C (392°F) Finish W52: 175°C (347°F) | | | | | | | | | | | | | | | | | | |
| Chemical Resistance | Lubricating oils, hydraulic fluids, coolants, deicing fluids per MIL-STD-1344A Method 1016 condition A-1 | | | | | | | | | | | | | | | | | | |
| Sine Vibration | 30g at ambient temperature with simulated accessory load | | | | | | | | | | | | | | | | | | |
| Random Vibration | 49.5 grms at ambient temperatures | | | | | | | | | | | | | | | | | | |
| Shock | 300g ±15% half-sine wave magnitude for 3 ±1 milliseconds | | | | | | | | | | | | | | | | | | |
| EMI-Shielding Effectiveness | 100 MHz to 10 GHz - minimum attenuation of 50dB | | | | | | | | | | | | | | | | | | |
| Contact Type | Crimp, fibre optic, coax, twinax, or printed circuit | | | | | | | | | | | | | | | | | | |
| Number of Circuits | 2 to 128 | | | | | | | | | | | | | | | | | | |
| Contact Insertion | Rear-insertion/rear-extraction with simple plastic or high-quality metal hand tools. | | | | | | | | | | | | | | | | | | |
| Contact Retention | Per MIL-DTL-38999L tested to MIL-STD-1344A method 2007 <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>CONTACT</th> <th>AXIAL LOAD NEWTONS ±10%</th> <th>AXIAL LOAD POUNDS ±10%</th> </tr> </thead> <tbody> <tr> <td>22*, 22D, 22M*</td> <td>44</td> <td>10</td> </tr> <tr> <td>20</td> <td>67</td> <td>15</td> </tr> <tr> <td>16</td> <td>111</td> <td>25</td> </tr> <tr> <td>12</td> <td>111</td> <td>25</td> </tr> <tr> <td>8 (Coax, Twinax, Power)</td> <td>111</td> <td>25</td> </tr> </tbody> </table> | CONTACT | AXIAL LOAD NEWTONS ±10% | AXIAL LOAD POUNDS ±10% | 22*, 22D, 22M* | 44 | 10 | 20 | 67 | 15 | 16 | 111 | 25 | 12 | 111 | 25 | 8 (Coax, Twinax, Power) | 111 | 25 |
| CONTACT | AXIAL LOAD NEWTONS ±10% | AXIAL LOAD POUNDS ±10% | | | | | | | | | | | | | | | | | |
| 22*, 22D, 22M* | 44 | 10 | | | | | | | | | | | | | | | | | |
| 20 | 67 | 15 | | | | | | | | | | | | | | | | | |
| 16 | 111 | 25 | | | | | | | | | | | | | | | | | |
| 12 | 111 | 25 | | | | | | | | | | | | | | | | | |
| 8 (Coax, Twinax, Power) | 111 | 25 | | | | | | | | | | | | | | | | | |
| Polarization | Three-point bayonet coupling, five keyways with optional master keyway rotations, note insert and four fixed minor keyways. | | | | | | | | | | | | | | | | | | |
| Approvals | MIL-DTL-38999L | | | | | | | | | | | | | | | | | | |

* Inactive for new designs

CROSS-SECTION



CREATE YOUR PART NUMBER

| | | | | | | | |
|--------------------|--------------|-------------|----------------|---------------|----------------|--|-----------------|
| 1 | 2 | 3A | 4 | 3B | 5 | 6 | 7 |
| MS27468 | T | 25 | F | 35 | P | A | -LC |
| SHELL STYLE | CLASS | SIZE | PLATING | LAYOUT | CONTACT | POLARIZATION (OMIT FOR NORMAL) | MODIFIER |

(military part number example) *Note: Out of sequence

WHEN CHOOSING LAYOUT
First Number = Step 3A – Shell Size, Dash = Step 4 – Plating, Second Number = 3B – Layout

| | | | | | | |
|--------------------|--------------|---------------|----------------|--|-----------------|-----------------|
| 1 | 2 | 3 | 5 | 6 | 4* | 7 |
| LJT07 | RE- | 25-35 | P | A | -014 | -LC |
| SHELL STYLE | CLASS | LAYOUT | CONTACT | POLARIZATION (OMIT FOR NORMAL) | PLATING* | MODIFIER |

(Commercial part number example)

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

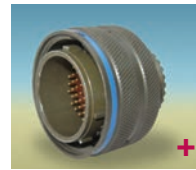
RECEPTACLES ← Mates with → PLUGS



MS27466 (LJT00R)
Front Mount with Rear Accessory Threads.



MS27656 (LJTPQ00R)
Rear Mount with Rear Accessory Threads.



MS27467 (LJT06)

Available with PC pins. Contact us for details.



MS27496E (LJT02RE)
Front Mount without Rear Accessory Threads.



MS27505E (LJTP02RE)
Rear Mount without Rear Accessory Threads.



MS27468 (LJT07R)
Jam Nut with Rear Accessory Threads.



(LJT01R)
In-line with Accessory Threads.

STEP 2: SELECT CLASS



- E^o** = No rear accessories
- P^o** = Potting ring & cup
- T^o** = No rear accessories, NOT used on MS27505E & MS27496E
- RE** = No rear accessories
- RP** = Potting ring & cup
- RT** = No rear accessories, NOT used on LJT02RE & LJTP02RE
- RGF** = Electroless nickel-plated ground-plane aluminum 200°C
- RGW** = Olive drab cadmium-plated ground-plane aluminum

^o Military + Most Popular

STEP 3: SELECT LAYOUT

| Layout | Service Rating | Contacts | | | | | | | | | | | Specials | | | | |
|---------------|----------------|----------|-----|-----|-----|----|----|----|---|---|-----|-----|----------|----|-----|--|--------------|
| | | Total | 22D | 22M | 22 | 20 | 16 | 12 | 8 | 4 | 2/0 | 12* | 10 | 8* | 8** | | |
| 9-6 | M | 6 | | 6 | | | | | | | | | | | | | |
| 9-35 | M | 6 | 6 | | | | | | | | | | | | | | |
| 9-45 | M | 4 | | | 4 | | | | | | | | | | | | |
| 9-98 | I | 3 | | | | 3 | | | | | | | | | | | |
| 11-2G | I | 2 | | | | | 2 | | | | | | | | | | |
| 11-4♦ | I | 4 | | | | 4 | | | | | | | | | | | |
| 11-5♦ | I | 5 | | | | 5 | | | | | | | | | | | |
| 11-12(11-01) | | 1 | | | | | | 1 | | | | | | | | | |
| 11-13 | M | 13 | | 13 | | | | | | | | | | | | | |
| 11-35 | M | 13 | 13 | | | | | | | | | | | | | | |
| 11-98 | I | 6 | | | | 6 | | | | | | | | | | | |
| 11-99 | I | 7 | | | | 7 | | | | | | | | | | | |
| 13-3P♦ | II | 3 | | | | | 3 | | | | | | | | | | |
| 13-4G | I | 4 | | | | | 4 | | | | | | | | | | |
| 13-8 | I | 8 | | | | 8 | | | | | | | | | | | |
| 13-22 | M | 22 | | 22 | | | | | | | | | | | | | |
| 13-26 | M | 8 | 6 | | | | | 2 | | | | | | | | | |
| 13-35 | M | 22 | 22 | | | | | | | | | | | | | | |
| 13-98 | I | 10 | | | | 10 | | | | | | | | | | | |
| 15-4♦ | I | 4 | | | | | | 4 | | | | | | | | | |
| 15-5G | II | 5 | | | | | 5 | | | | | | | | | | |
| 15-15 | I | 15 | | | | 14 | 1 | | | | | | | | | | |
| 15-18 | I | 18 | | | | 18 | | | | | | | | | | | |
| 15-19♦ | I | 19 | | | | 19 | | | | | | | | | | | |
| 15-35 | M | 37 | 37 | | | | | | | | | | | | | | |
| 15-37 | M | 37 | | 37 | | | | | | | | | | | | | |
| 15-68♦ | I | 8 | | | | | 8 | | | | | | | | | | |
| 15-97 | I | 12 | | | | 8 | 4 | | | | | | | | | | |
| 17-2♦ | M | 39 | 38 | | | | | | | | | | | | | | 1 |
| 17-6 | I | 6 | | | | | | 6 | | | | | | | | | |
| 17-8G | II | 8 | | | | | 8 | | | | | | | | | | |
| 17-13♦ | I | 13 | | | | | 13 | | | | | | | | | | |
| 17-22♦ | COAX | 4 | | | | | | | | 2 | | | 2 | | | | |
| 17-25♦ | M | 24 | 22 | | | | | | | | | | 2 | | | | |
| 17-26 | I | 26 | | | | 26 | | | | | | | | | | | |
| 17-35 | M | 55 | 55 | | | | | | | | | | | | | | |
| 17-42♦ | M | 42 | | | 42 | | | | | | | | | | | | |
| 17-55 | M | 55 | | 55 | | | | | | | | | | | | | |
| 17-75 | I | 2 | | | | | | | | | | | | | | | 2 |
| 17-99 | I | 23 | | | | 21 | 2 | | | | | | | | | | |
| 19-11G | II | 11 | | | | | 11 | | | | | | | | | | |
| 19-18♦ | M | 18 | 14 | | | | | | | | | | | | | | 4 |
| 19-28 | | 28 | | | | 26 | 2 | | | | | | | | | | |
| 19-30P♦ | I | 30 | | | | 29 | 1 | | | | | | | | | | |
| 19-32 | I | 32 | | | | 32 | | | | | | | | | | | |
| 19-35 | M | 66 | 66 | | | | | | | | | | | | | | |
| 19-53P♦ | M | 53 | | | 53 | | | | | | | | | | | | |
| 19-66 | M | 66 | | 66 | | | | | | | | | | | | | |
| 19-67♦♦P | M | 67 | | 67 | | | | | | | | | | | | | |
| 19-68♦♦P | I | 18 | | | | 18 | | | | | | | | | | | |
| 21-1 | M | 79 | | 79 | | | | | | | | | | | | | |
| 21-2♦ | M | 65 | | | 65 | | | | | | | | | | | | |
| 21-11♦G | I | 11 | | | | | | 11 | | | | | | | | | |
| 21-16G | II | 16 | | | | | 16 | | | | | | | | | | |
| 21-35 | M | 79 | | 79 | | | | | | | | | | | | | |
| 21-39 | I | 39 | | | | 37 | 2 | | | | | | | | | | |
| 21-41 | I | 41 | | | | 41 | | | | | | | | | | | |
| 21-48 | | 4 | | | | | | 4 | | | | | | | | | |
| 21-75♦G | N | 4 | | | | | | | | | | | | | | | (See Note 4) |
| 21-79♦ | II | 19 | 17 | | | | | | | | | | | | | | (See Note 5) |
| 23-1 | M | 100 | | 100 | | | | | | | | | | | | | |
| 23-2 | M | 85 | | | 85 | | | | | | | | | | | | |
| 23-6P♦G | M | 6 | | | | | | | | | | | | | | | 6 |
| 23-14♦ | I | 14 | | | | | | 14 | | | | | | | | | |
| 23-21G | II | 21 | | | | | 21 | | | | | | | | | | |
| 23-32P♦ | I | 32 | | | | 32 | | | | | | | | | | | |
| 23-35 | M | 100 | 100 | | | | | | | | | | | | | | |
| 23-53 | I | 53 | | | | 53 | | | | | | | | | | | |
| 23-55♦ | I | 55 | | | | 55 | | | | | | | | | | | |
| 23-P1(23-01) | | 1 | | | | | | | | 1 | | | | | | | |
| 25-1 | M | 128 | | 128 | | | | | | | | | | | | | |
| 25-2 | M | 100 | | | 100 | | | | | | | | | | | | |
| 25-4 | I | 56 | | | | 48 | 8 | | | | | | | | | | |
| 25-7♦ | M | 99 | 97 | | | | | | | | | | | | | | 2 |
| 25-11S♦ | N | 11 | | | | 2 | | | | | | 9 | | | | | |
| 25-19♦G | I | 19 | | | | | | 19 | | | | | | | | | |
| 25-20♦ | N | 30 | | | | 10 | 13 | | | 4 | | | | | | | 3 |
| 25-24G | I | 24 | | | | | 12 | 12 | | | | | | | | | |
| 25-29G | I | 29 | | | | | 29 | | | | | | | | | | |
| 25-35 | M | 128 | 128 | | | | | | | | | | | | | | |
| 25-37♦♦G | I | 37 | | | | | 37 | | | | | | | | | | |
| 25-43♦ | I | 43 | | | | 23 | 20 | | | | | | | | | | |
| 25-46♦ | I | 46 | | | | 40 | 4 | | | | | | | | | | (See Note 6) |
| 25-61 | I | 61 | | | | 61 | | | | | | | | | | | |
| 25-1AC(24-44) | M | 8 | | | | | | 4 | | | | 4 | | | | | |

For listing by # of contacts, ⇨ see pages 178-181.

STEP 4: SELECT PLATING

| Finish | Military | Commercial | Commercial +SR |
|---------------------------------------|----------|------------|----------------|
| Cadmium-plated nickel base | A | - | SR |
| Olive drab cadmium-plated nickel base | B | 014 | 386 |
| Electroless nickel | F | 023 | 424 |
| Electroless nickel space-compatible | - | 453 | 467 |
| Anodic coating (Alumilite) | C | 005 | 300 |
| Chromate-tested (Iridite 14-2) | - | 011 | 344 |
| Passivated steel (Hermetic only) | E | - | - |
| Stainless steel | - | 155 | - |
| Olive drab zinc cobalt | - | W52 | - |

SR = Strain Relief

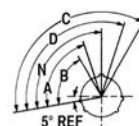
STEP 5: SELECT CONTACT

P = Pin
S = Socket
H = 1500 Mating Cycles Pin
J = 1500 Mating Cycles Socket
A = Less Pin Contacts
B = Less Socket Contact

STEP 6: SELECT POLARIZATION

N = Normal Standard (Omit for normal)
A = Highly-Popular
B = Limited Availability
C = Check for Availability
D = Check for Availability

| Shell Size | N | 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 |



Mating Face of Receptacle

STEP 7: SELECT MODIFIER

Note: LC is not marked on part

Omit for standard contacts
LC = less contacts, wire hole fillers and plastic insertion/extraction tool.
 (Purchase Order must state Less Contacts)

(4) MS Connector 21-75 is supplied with four size-8 twinax contacts. Proprietary connector 21-75 is supplied with four size-8 coax contacts.
 (5) MS connector 21-79 has provision for two size-8 coax contacts. Coax contacts are not supplied unless specified by customer.
 (6) 25-46 is supplied two size-8 coax contacts for RG180/U & RG195/U cable.

• NOT QPL'D ♦ Not Toolled for RP or 02RE P = Pin Insert Only
 * Coax ** Twinax S = Socket Insert Only
 G = Grounded

HOW TO ORDER HE308 SERIES CONNECTORS

| | | | | | | | | |
|---------------|--------------------|--------------|---------------|----------------|---------------------|---------------|-------------------------|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| HE308 | 07 | T | 1535 | P | N | 7 | M | L |
| PREFIX | SHELL STYLE | CLASS | LAYOUT | CONTACT | POLARIZATION | FINISH | MANDATORY SUFFIX | MODIFIER |

(military part number example)

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

RECEPTACLES ← Mates with → **PLUGS**



STEP 2: SELECT CLASS

T = Environmental with accessory thread

STEP 3: SELECT LAYOUT

For listing by # of contacts, ⇨ see pages 178-181.

| LAYOUT NUMBER | SERVICE RATING | CONTACTS | | | | | | | | | | SPECIALS | | | | | | |
|---------------|----------------|----------|-----|-----|----|----|----|----|-----|----|----|----------|--------------|---|----|--|--|---|
| | | TOTAL | 22D | 22M | 22 | 20 | 16 | 12 | 12* | 10 | 8* | 8** | 8 POWER | 4 | 00 | | | |
| 9-22 | I | 2 | | | | 2 | | | | | | | | | | | | |
| 9-35 | M | 6 | 6 | | | | | | | | | | | | | | | |
| 9-98 | I | 3 | | | | 3 | | | | | | | | | | | | |
| 11-02 | I | 2 | | | | | 2 | | | | | | | | | | | |
| 11-04 | I | 4 | | | | 4 | | | | | | | | | | | | |
| 11-05 | I | 5 | | | | 5 | | | | | | | | | | | | |
| 11-01 | - | 1 | | | | | | | 1 | | | | | | | | | |
| 11-35 | M | 13 | 13 | | | | | | | | | | | | | | | |
| 11-98 | I | 6 | | | | 6 | | | | | | | | | | | | |
| 11-99 | I | 7 | | | | 7 | | | | | | | | | | | | |
| 13-04 | I | 4 | | | | | 4 | | | | | | | | | | | |
| 13-08 | I | 8 | | | | 8 | | | | | | | | | | | | |
| 13-26 | M | 8 | 6 | | | | | 2 | | | | | | | | | | |
| 13-35 | M | 22 | 22 | | | | | | | | | | | | | | | |
| 13-98 | I | 10 | | | | 10 | | | | | | | | | | | | |
| 15-04 | I | 4 | | | | | | 4 | | | | | | | | | | |
| 15-05 | 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 | | | | | | | | | | | |
| 17-02 | M | 39 | 38 | | | | | | | | | | 1 | | | | | |
| 17-06 | I | 6 | | | | | | 6 | | | | | | | | | | |
| 17-08 | II | 8 | | | | 8 | | | | | | | | | | | | |
| 17-25 | M | 24 | 22 | | | | | | | 2 | | | | | | | | |
| 17-26 | I | 26 | | | | 26 | | | | | | | | | | | | |
| 17-35 | M | 55 | 55 | | | | | | | | | | | | | | | |
| 17-75 | I | 2 | | | | | | | | | | | 2 | | | | | |
| 17-99 | I | 23 | | | | 21 | 2 | | | | | | | | | | | |
| 19-11 | II | 11 | | | | | 11 | | | | | | | | | | | |
| 19-18 | M | 18 | 14 | | | | | | | | | | 4 | | | | | |
| 19-28 | I | 28 | | | | 26 | 2 | | | | | | | | | | | |
| 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 | | | | | | | | | | | | |
| 21-48 | - | 4 | | | | | | | | | | | | | 4 | | | |
| 21-75 | N | 4 | | | | | | | | | | | (See Note 4) | | | | | |
| 21-79 | II | 19 | 17 | | | | | | | | | | (See Note 5) | | | | | |
| 23-01 | M | - | 1 | | | | | | | | | | | | | | | 1 |
| 23-21 | II | 21 | | | | | 21 | | | | | | | | | | | |
| 23-35 | M | 100 | 100 | | | | | | | | | | | | | | | |
| 23-53 | I | 53 | | | | 53 | | | | | | | | | | | | |
| 23-55 | I | 55 | | | | 55 | | | | | | | | | | | | |
| 25-04 | I | 56 | | | | 48 | 8 | | | | | | | | | | | |
| 25-07 | M | 99 | 97 | | | | | | | | | | 2 | | | | | |
| 25-19 | I | 19 | | | | | | 19 | | | | | | | | | | |
| 25-24 | I | 24 | | | | | 12 | 12 | | | | | | | | | | |
| 25-29 | I | 29 | | | | | 29 | | | | | | | | | | | |
| 25-35 | M | 128 | 128 | | | | | | | | | | | | | | | |
| 25-37 | I | 37 | | | | | 37 | | | | | | | | | | | |
| 25-43 | I | 43 | | | | 23 | 20 | | | | | | | | | | | |
| 25-46 | I | 46 | | | | 40 | 4 | | | | | 2 | | | | | | |
| 25-61 | I | 61 | | | | 61 | | | | | | | | | | | | |
| 25-44 | M | 8 | | | | | 4 | | | | | | | | | | | 4 |

* COAX ** TWINAX

(4) MS Connector 21-75 is supplied with four size-8 twinax contacts. Proprietary connector 21-75 is supplied with four size-8 coax contacts.

(5) MS connector 21-79 has provision for two size-8 coax contacts. Coax contacts are not supplied unless specified by customer.

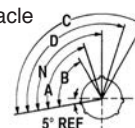
STEP 4: SELECT CONTACT

P = Pin S = Socket

STEP 5: SELECT POLARIZATION

- N = Normal Standard
- A = Highly-Popular
- B = Limited Availability
- C = Check for Availability
- D = Check for Availability

Mating Face of Receptacle



| Shell Size | N | 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 |

STEP 6: SELECT SHELL FINISH

- 7 = Olive drab cadmium-plated
- 6 = Electroless nickel-plated

STEP 7: MANDATORY SUFFIX

M = Mandatory Suffix

STEP 8: MODIFIER

Leave blank for connector delivered WITH contacts

L = Connector delivered WITHOUT contacts

LAYOUTS BY NUMBER OF CONTACTS

View of Mating-Face of Pin Insert



Drawing not to scale; mating face view of pin insert shown (socket view is opposite)

CONTACTS 1 2 3 4

| | | | | |
|----------------|--------------|----------------------|--------------|---------------|
| | | | | |
| LAYOUT | 11-12 | 23-P1 (23-01) | 9-22 | 11-2♦G |
| # OF CONTACTS | 1-#12 | 1-#00 | 2-#20 | 2-#16 |
| SERVICE RATING | - | - | I | I |
| | | | 17-75 | 9-98 |
| | | | 2-#8** | 3-#20 |
| | | | I | II |
| | | | | 13-3P• |
| | | | | 3-#16 |
| | | | | II |
| | | | | 9-44 |
| | | | | 4-#22 |
| | | | | M |
| | | | | 11-4♦ |
| | | | | 4-#20 |
| | | | | I |

CONTACTS 4 5

| | | |
|----------------|--------------|----------------------|
| | | |
| LAYOUT | 13-4G | 15-4♦♦ |
| # OF CONTACTS | 4-#16 | 4-#12 |
| SERVICE RATING | I | I |
| | | 17-22♦♦ |
| | | 2-#12* 2-#8* COAX |
| | | 21-48 |
| | | 4-#8 Power |
| | | - |
| | | 21-75♦G |
| | | 4-#8** |
| | | N |
| | | 11-5♦ |
| | | 5-#20 |
| | | I |
| | | 15-5G |
| | | 5-#16 |
| | | II |

CONTACTS 6 7 8

| | | | |
|----------------|------------|-------------|----------------|
| | | | |
| LAYOUT | 9-6 | 9-35 | 11-98 |
| # OF CONTACTS | 6-#22M | 6-#22D | 6-#20 |
| SERVICE RATING | M | M | I |
| | | | 17-6 |
| | | | 6-#12 |
| | | | I |
| | | | 23-6P•G |
| | | | 6-#8** |
| | | | M |
| | | | 11-99 |
| | | | 7-#20 |
| | | | I |
| | | | 13-8 |
| | | | 8-#20 |
| | | | I |
| | | | 13-26 |
| | | | 6-#22D, 2-#12 |
| | | | M |

CONTACTS 8 10 11

| | | | |
|----------------|----------------|--------------|----------------------|
| | | | |
| LAYOUT | 15-68♦♦ | 17-8G | 25-1A (24-44) |
| # OF CONTACTS | 8-#16 | 8-#16 | 4-#16, 4-#4 |
| SERVICE RATING | I | II | M |
| | | | 13-98 |
| | | | 10-#20 |
| | | | I |
| | | | 19-11G |
| | | | 11-#16 |
| | | | II |

*Coax **Twinax • NOT QPL'D ♦ Not Tooled for RP or 02RE P = Pin Insert Only S = Socket Insert Only G = Grounded Contact us for more information.

LAYOUTS BY NUMBER OF CONTACTS

View of Mating-Face of Pin Insert



Drawing not to scale; mating face view of pin insert shown (socket view is opposite)

| CONTACTS | 11 | 12 | | | 13 | | |
|--|--|---|--|--|--|-------------------------------|--|
| LAYOUT # OF CONTACTS SERVICE RATING | 21-11 ♦ G 11-#12 I | 25-11 S ♦ 2-#20, 9-#10* N | 15-97 8-#20, 4-#16 I | 11-13 13-#22M M | 11-35 13-#22D M | 17-13 ♦ 13-#16 I | |
| CONTACTS | 14 | 15 | 16 | 18 | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 23-14 ♦ 14-#12 I | 15-15 14-#20, 1-#16 I | 21-16 G 16-#16 II | 15-18 18-#20 I | 19-18 ♦ 14-#22D, 4-#8** M | | |
| CONTACTS | 18 | 19 | | | 21 | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 19-68 P ♦ 18-#16 I | 15-19 ♦ 19-#20 I | 21-79 ♦ 17-#22D, 2-#8* II | 25-19 ♦ G 19-#12 I | 23-21 G 21-#16 II | | |
| CONTACTS | 22 | 23 | 24 | | | 26 | |
| LAYOUT # OF CONTACTS SERVICE RATING | 13-22 22-#22M M | 13-35 22-#22D M | 17-99 21-#20, 2-#16 I | 17-25 ♦♦* 22-#22D, 2-#8 M | 25-24 G 12-#16, 12-#12 I | 17-26 26-#20 I | |

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LAYOUTS BY NUMBER OF CONTACTS

View of Mating-Face of Pin Insert



Drawing not to scale; mating face view of pin insert shown (socket view is opposite)

| CONTACTS | 28 | 29 | 30 | |
|--|---------------------------------------|--|-------------------------------------|---|
| | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 19-28 26-#20, 2-#16 I | 25-29G 29-#16 I | 19-30P 29-#20, 1-#16 I | 25-20 ♦ 10-#20, 13-#16, 4-#12*, 3-#8** I |
| CONTACTS | 32 | 36 | 37 | |
| | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 19-32 32-#20 I | 23-32P ♦ 32-#20 I | 23-36 ♦ 36-#20 I | 15-35 37-#22D M |
| CONTACTS | 37 | 39 | 41 | 42 |
| | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 25-37 ♦ G 37-#16 I | 17-2 ♦ 38-#22D, 1-#8** M | 21-39 37-#20, 2-#16 I | 21-41 41-#20 I |
| CONTACTS | 43 | 46 | 53 | |
| | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 25-43 ♦ 23-#20, 20-#16 I | 25-46 ♦ 40-#20, 4-#16, 2-#8** I | 19-53P ♦ 53-#22 M | 23-53 53-#20 I |

*Coax **Twinax • NOT QPL'D ♦ Not Tooled for RP or 02RE P = Pin Insert Only S = Socket Insert Only G = Grounded Contact us for more information.

LAYOUTS BY NUMBER OF CONTACTS

View of Mating-Face of Pin Insert



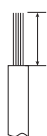
Drawing not to scale; mating face view of pin insert shown (socket view is opposite)

| CONTACTS | 55 | | 56 | | 61 | | | | | | | | | | | |
|--|-------------------------------|------------------------------|-------------------------------|-----------------------------------|---------------------------------------|--|----------------------------------|--|------------------------------|--|--|--|-------------------------------|--|--|--|
| | | | | | | | | | | | | | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 17-35 55-#22D M | 17-55 55-#22M M | 23-55 ♦ 55-#20 I | 25-4 48-#20, 8-#16 I | 25-61 61-#20 I | | | | | | | | | | | |
| CONTACTS | 65 | | 66 | | 67 | | 79 | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 21-2 ♦ 65-#22 M | | 19-35 66-#22D M | | 19-66 66-#22M M | | 19-67 P ♦ 67-#22M M | | 21-1 79-#22M M | | | | | | | |
| CONTACTS | 79 | | 85 | | 99 | | 100 | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 21-35 79-#22D M | | 23-2 85-#22 M | | 25-7 ♦ 97-#22D, 2-#8** M | | 23-1 100-#22M M | | | | | | | | | |
| CONTACTS | 100 | | | | 128 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| LAYOUT # OF CONTACTS SERVICE RATING | 23-35 100-#22D M | | | | 25-2 100-#22 M | | | | 25-1 128-#22M M | | | | 25-35 128-#22D M | | | |

*Coax **Twinax • NOT QPL'D ♦ Not Tooled for RP or 02RE P = Pin Insert Only S = Socket Insert Only G = Grounded Contact us for more information.

CONTACTS

PINS

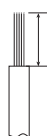


Insert head first.
Trim excess

| CONTACT SIZE | WIRE SIZE AWG | PIN CONTACT PART NUMBER | COLOR BANDS | | | WIRE STRIP LENGTHS | WIRE RANGE | | WIRE HOLE FILLER | COLOR |
|--------------|-------------------------------|-------------------------|-------------|------|--------|--|-------------|-------------|------------------|--------|
| | | | 1 | 2 | 3 | | MIN. | MAX. | | |
| 22 | 22,24,26 & 28 | M39029/58-360 | Orange | Blue | Black | .125 (3.18) | .030 (0.76) | .054 (1.37) | MS27488-22-2 | Black |
| | | M39029/107-620# | Blue | Red | Black | | | | | |
| 22M◇ | 24,26 & 28 | M39029/58-361 | Orange | Blue | Brown | .125 (3.18) | .030 (0.76) | .050 (1.27) | MS27488-22-2 | Black |
| 22◇ | 22,24,& 26 | M39029/58-362 | Orange | Blue | Red | .125 (3.18) | .034 (0.86) | .060 (1.52) | MS27488-22-2 | Black |
| 20 | 20, 22 & 24 | M39029/58-363 | Orange | Blue | Orange | .188 (4.77) | .040 (1.02) | .083 (2.11) | MS27488-20-2 | Red |
| | | M39029/107-621# | Blue | Red | Brown | | | | | |
| 16 | 16,18 & 20 | M39029/58-364 | Orange | Blue | Yellow | .188 (4.77) | .065 (1.65) | .109 (2.77) | MS27488-16-2 | Blue |
| | | M39029/107-622# | Blue | Red | Red | | | | | |
| 12 | 12 & 14 | M39029/58-365 | Orange | Blue | Green | .188 (4.77) | .097 (2.46) | .142 (3.61) | MS27488-12-2 | Yellow |
| | | M39029/107-623# | Blue | Red | Orange | | | | | |
| 10 | 10 & 12 | M39029/58-528 | Green | Red | Gray | .355 (8.51) | .135 (3.42) | .162 (4.12) | M85049/81-10 | Green |
| 8 | Coax* RG180B/U RG195A/U | M39029/60-367 | Orange | Blue | Violet | Detailed Instructions included with contacts | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |
| 8 | Twinax** M17/M176-0002 | M39029/90-529 | Green | Red | White | | .124 (3.15) | .134 (3.40) | MS27488-8-3 | Red |
| 8 Power | 8 | 10-497448-075 | - | - | - | .470 (11.94) | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |
| 8 Power | 10 | 10-497448-095 | - | - | - | .470 (11.94) | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |

#1500 Mating Cycle Contacts *Coax **Twinax, contact us for details. ◇Inactive for new design For fibre optic contacts, please contact us.

SOCKETS

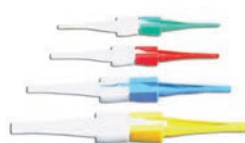


Insert head first.
Trim excess

| CONTACT SIZE | WIRE SIZE AWG | PIN CONTACT PART NUMBER | COLOR BANDS | | | WIRE STRIP LENGTHS | WIRE RANGE | | WIRE HOLE FILLER | COLOR |
|--------------|-------------------------------|-------------------------|-------------|--------|--------|--|-------------|-------------|------------------|--------|
| | | | 1 | 2 | 3 | | MIN. | MAX. | | |
| 22D | 22,24,26 & 28 | M39029/56-348 | Orange | Yellow | Gray | .125 (3.18) | .030 (0.76) | .054 (1.37) | MS27488-22-2 | Black |
| | | M39029/106-614# | Blue | Brown | Yellow | | | | | |
| 20 | 20, 22 & 24 | M39029/56-351 | Orange | Green | Brown | .188 (4.77) | .040 (1.02) | .083 (2.11) | MS27488-20-2 | Red |
| | | M39029/106-615# | Blue | Brown | Green | | | | | |
| 16 | 16,18 & 20 | M39029/56-352 | Orange | Green | Red | .188 (4.77) | .065 (1.65) | .109 (2.77) | MS27488-16-2 | Blue |
| | | M39029/106-616# | Blue | Brown | Blue | | | | | |
| 12 | 12 & 14 | M39029/56-353 | Orange | Green | Orange | .188 (4.77) | .097 (2.46) | .142 (3.61) | MS27488-12-2 | Yellow |
| | | M39029/106-617# | Blue | Brown | Violet | | | | | |
| 10 | 10 & 12 | M39029/56-527 | Green | Red | Violet | .355 (8.51) | .135 (3.42) | .162 (4.12) | M85049/81-10 | Green |
| 8 | Coax* RG180B/U RG195A/U | M39029/59-366 | Orange | Blue | Blue | Detailed Instructions included with contacts | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |
| 8 | Twinax** M17/M176-0002 | M39029/91-530 | Green | Orange | Black | | .124 (3.15) | .134 (3.40) | MS27488-8-3 | Red |
| 8 Power | 8 | 10-497446-075 | - | - | - | .470 (11.94) | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |
| 8 Power | 10 | 10-497446-095 | - | - | - | .470 (11.94) | .135 (3.42) | .162 (4.12) | MS27488-8-3 | Red |

#1500 Mating Cycle Contacts *Coax **Twinax, contact us for details. ◇Inactive for new design For fibre optic contacts, please contact us.

PINS



| CONTACT SIZE | HAND-CRIMP TOOL | POWER-CRIMP TOOL | TURRET HEADS | USE LOCATOR COLOR | PLASTIC INSERTION/ EXRTACTION TOOL | INSERTION TIP COLOR | EXTRACTION TIP COLOR | METAL INSERTION TOOL | COLOR BAND | METAL EXTRACTION TOOL | COLOR BAND | |
|--------------|----------------------------|------------------|--|-------------------|------------------------------------|---------------------|----------------------|----------------------|------------|-----------------------|------------|-------|
| | | | | | | | | | | | 1 | 2 |
| 22D | M22520/2-01 | WA22†† | M22520/2-09 | - | M81969/14-01 | Green | White | MS27495A22M | Black | MS27495R22M | Black | White |
| 22M◇ | M22520/2-01 | WA22†† | M22520/2-09 | - | M81969/14-01 | Green | White | MS27495A22M | Black | MS27495R22M | Black | White |
| 22◇ | M22520/2-01 | WA22†† | M22520/2-09 | - | M81969/14-01 | Green | White | MS27495A22 | Black | MS27495R22M | Black | White |
| 20 | M22520/1-01 | WA27F†† | M22520/1-04 | Red | M81969/14-10 | Red | Orange | MS27495A20 | Blue | MS27495R16 | Blue | White |
| 16 | M22520/1-01 | WA27F†† | M22520/1-04 | Blue | M81969/14-03 | Blue | White | MS27495A16 | Green | M81969/8-12 | Green | White |
| 12 | M22520/1-01 | WA27F†† | M22520/1-04 | Yellow | M81969/14-04 | Yellow | White | DAK95-12B | -- | DRK95-12B | - | - |
| 10 | TP-201423 or 1716P-1 | - | - | - | M81969/14-05 | Gray | White | M81969/8-11 | Green | M81969/8-12 | Green | White |
| 8 Coax | M22520/2-01 M22520/5-01 | WA22†† HX23 | M22520/2-31 (inner) M22520/5-05 (outer) | | M81969/14-12 | Green | | - | - | DRK264-8 | - | - |
| 8 Twinax | M22520/2-01 M22520/5-01 | WA22†† HX23 | K709 (inner) Y631 (outer) | | M81969/14-12 | Green | | M81969/46-06 | Red | M81969/46-12 | - | - |
| 8 Power | - | 400B-1 | 414DA-8N(Die) 4691 (positioner) | - | M81969/14-12 (extraction only) | - | Green | - | - | DRK264-8 | - | - |
| 8 Power | M3SP-6 | 400B-1 | 414DA-10N(Die) 4691 (positioner) | - | M81969/14-12 (extraction only) | - | Green | - | - | DRK264-8 | - | - |

†† Contact us for more tool accessories.

SOCKETS



| CONTACT SIZE | HAND-CRIMP TOOL | POWER-CRIMP TOOL | TURRET HEADS | USE LOCATOR COLOR | PLASTIC INSERTION/ EXRTACTION TOOL | INSERTION TIP COLOR | EXTRACTION TIP COLOR | METAL INSERTION TOOL | COLOR BAND | METAL EXTRACTION TOOL | COLOR BAND | |
|--------------|----------------------------|------------------|--|-------------------|------------------------------------|---------------------|----------------------|----------------------|------------|-----------------------|------------|-------|
| | | | | | | | | | | | 1 | 2 |
| 22D | M22520/2-01 | WA22†† | M22520/2-09 | - | M81969/14-01 | Green | White | MS27495A22M | Black | MS27495R22M | Black | White |
| 20 | M22520/1-01 | WA27F†† | M22520/1-04 | Red | M81969/14-10 | Red | Orange | MS27495A20 | Blue | MS27495R16 | Blue | White |
| 16 | M22520/1-01 | WA27F†† | M22520/1-04 | Blue | M81969/14-03 | Blue | White | MS27495A16 | Green | M81969/8-12 | Green | White |
| 12 | M22520/1-01 | WA27F†† | M22520/1-04 | Yellow | M81969/14-04 | Yellow | White | DAK95-12B | -- | DRK95-12B | - | - |
| 10 | TP-201423 or 1716P-1 | - | - | - | M81969/14-05 | Gray | White | M81969/8-11 | Green | M81969/8-12 | Green | White |
| 8 Coax | M22520/2-01 M22520/5-01 | WA22†† HX23 | M22520/2-31 (inner) M22520/5-05 (outer) | | M81969/14-12 | Green | | - | - | DRK264-8 | - | - |
| 8 Twinax | M22520/2-01 M22520/5-01 | WA22†† HX23 | K709 (inner) Y631 (outer) | | M81969/14-12 | Green | | M81969/46-06 | Red | M81969/46-12 | - | - |
| 8 Power | - | 400B-1 | 414DA-8N(Die) 4691 (positioner) | - | M81969/14-12 (extraction only) | - | Green | - | - | DRK264-8 | - | - |
| 8 Power | M3SP-6 | 400B-1 | 414DA-10N(Die) 4691 (positioner) | - | M81969/14-12 (extraction only) | - | Green | - | - | DRK264-8 | - | - |

†† Contact us for more tool accessories.

COAX CONTACTS



M22520/5-01

Crimp Dies

| COAX CONTACT SIZE | CABLE TYPE | CONTACT PART NUMBER | | CRIMPING TOOLS | |
|-------------------|---|----------------------------------|----------------------------------|---|--|
| | | PIN | SOCKET | INNER CONTACT | CRIMP FERRULE |
| 16 | RG-178B/U, RG-196A/U | 21-033122-564 (M39029/76-425) | 21-033123-564 (M39029/77-429) | M22520/2-01 w/ Positioner M22520/2-35 or w/ Daniels Positioner K532 | M22520/4-01 w/ Positioner M22520/4-02 |
| | RG-174A/U, RG-188A/U, RG-161/U, RG-187A/U, RG-316/U, RG-179B/U | 21-033122-563 (M39029/76-424) | 21-033123-563 (M39029/77-428) | | |
| 12 | RG-180B/U, RG-195A/U | 21-033122-546 (M39029/28-211) | 21-033123-546 (M39029/75-416) | M22520/2-01 w/ Positioner M22520/2-34 or w/ Daniels Positioner K323 | M22520/31-01 w/ Positioner M22520/31-02 or Daniels GS-200 Tool w/ Positioner G2P330 |
| | RG-187A/U, RG-179B/U, RG-174A/U, RG-188A/U, RG-316/U, RG-161/U | 21-033122-541 (M39029/28-409) | 21-033123-541 (M39029/75-417) | | |
| 8 | RG-187A/U, RG-179B/U, RG-174A/U, RG-188A/U, RG-316/U, RG-161/U | 21-033102-023 | 21-033101-023 | M22520/2-01 w/ Positioner M22520/2-31 or Solder | M22520/5-01 w/ die set M22520/5-03 (A) or M22520/5-08 (A) M22520/5-35 (B) or M22520/10-01 w/ die set M22520/10-05 (A) |
| | RG-142B/U, RG-223/U | 21-033102-024 | 21-033101-024 | Solder | M22520/5-01 w/ die set M22520/5-05 (A) or M22520/5-19 (B) or M22520/10-01 w/ die set M22520/10-07 (A) |
| | RG-180B/U, RG-195A/U | 21-033102-021 (M39029/60-367) | 21-033101-021 (M39029/59-366) | M22520/2-01 w/ Positioner M22520/2-31 or Solder | M22520/5-01 w/ die set M22520/5-05 (B) or M22520/5-41 (B) or M22520/10-01 w/ die set M22520/10-07 (B) |
| | RG-400 | 21-033102-027 | 21-033101-027 | M22520/2-01 w/ Positioner M22520/2-10 | M22520/5-01 w/ die set M22520/5-45 (A) |
| | RG-58 (M17/155-00001) | 21-033102-029 | 21-033101-029 | Solder | M22520/5-01 w/ die set M22520/5-05 (B) |

PRINTED CIRCUIT BOARD CONTACTS - PIN

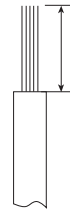
| PCB PIN CONTACTS | SIZE | TAIL DIAMETER +/- .001 | CONTACT STICKOUT MAX./MIN. | | | | | | |
|------------------|------|------------------------|----------------------------|-------------------|-----------------|------------------|-----------------|-----------------|-------------|
| | | | MS27466 LJT00RT | MS27656 LJTPQ00RT | MS27496 LJT02RE | MS27505 LJTP02RE | MS27467 LJT06RE | MS27468 LJT07RE | |
| | | | | | | | | (9-17) | (19-25) |
| 10-407552-015 | 22M | 0.019 | .372 / .317 | .357 / .302 | .576 / .521 | .576 / .520 | .372 / .317 | .351 / .296 | .329 / .279 |
| 10-407552-055 | 22M | 0.019 | .261 / .206 | .246 / .191 | .465 / .410 | .465 / .409 | .261 / .206 | .240 / .185 | .218 / .168 |
| 10-407552-085 | 22M | 0.019 | .097 / .047 | .082 / .032 | .301 / .251 | .301 / .250 | .097 / .047 | .076 / .026 | .054 / .009 |
| 10-407552-115 | 22M | 0.019 | .035 / NS | .020 / NS | .239 / .189 | .239 / .188 | .035 / NS | .014 / NS | NS |
| 10-497640-015 | 20 | 0.019 | .385 / .335 | .370 / .320 | .589 / .539 | .589 / .538 | .385 / .335 | .364 / .314 | .342 / .297 |
| 10-497640-025 | 20 | 0.019 | .250 / .200 | .235 / .185 | .454 / .404 | .454 / .403 | .250 / .200 | .229 / .179 | .207 / .162 |
| 10-497640-045 | 20 | 0.019 | NS | NS | .191 / .141 | .191 / .141 | NS | NS | NS |
| 10-497596-015 | 20 | 0.025 | .095 / .049 | .080 / .034 | .299 / .253 | .299 / .252 | .095 / .049 | .074 / .028 | .052 / .011 |
| 10-497596-025 | 20 | 0.025 | .185 / .139 | .170 / .124 | .389 / .343 | .389 / .342 | .185 / .139 | .164 / .118 | .142 / .101 |
| 10-497596-035 | 20 | 0.025 | .266 / .220 | .251 / .205 | .470 / .424 | .470 / .423 | .266 / .220 | .245 / .199 | .223 / .182 |
| 10-497596-055 | 20 | 0.025 | .383 / .337 | .368 / .322 | .587 / .541 | .587 / .540 | .383 / .337 | .362 / .316 | .340 / .299 |
| 10-497695-015 | 16 | 0.040 | .292 / .242 | .277 / .227 | .496 / .446 | .496 / .445 | .292 / .242 | .271 / .221 | .249 / .204 |
| 10-497630-035 | 16 | 0.062 | .097 / .047 | .082 / .032 | .301 / .251 | .301 / .250 | .385 / .335 | .076 / .026 | .054 / .009 |
| 10-497630-055 | 16 | 0.062 | .296 / .250 | .281 / .235 | .454 / .401 | .454 / .401 | .232 / .182 | .229 / .175 | .207 / .158 |
| 10-597502-015 | 12 | 0.081 | .265 / .215 | .250 / .200 | .469 / .410 | .469 / .418 | .265 / .215 | .244 / .194 | .222 / .177 |

☐ = Standard PC tail used

WIRE HOLE FILLER



WIRE STRIP LENGTH



WIRE SEALING RANGE



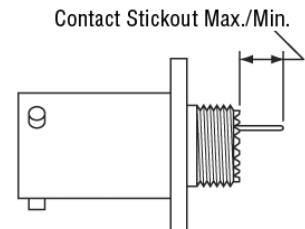
| INSTALLATION TOOLS | | WIRE STRIP LENGTHS | WIRE SEALING RANGE | |
|-----------------------------|-------------------------------------|------------------------|--------------------|-------------|
| INSERTION | REMOVAL | | MIN. | MAX. |
| M81969/8-07 or M81969/14-03 | M81969/8-08 or M81969/14-03 | Contact us for details | .065 (1.65) | .109 (2.77) |
| M81969/8-09 or M81969/14-04 | M81969/8-10 or M81969/14-04 | Contact us for details | .097 (2.46) | .142 (3.61) |
| Hand insertion | M81969/14-12 or DRK264-8 or 11-9170 | Contact us for details | .135 (3.43) | .155 (3.94) |

All dimensions in inches (millimeters in parenthesis)

PRINTED CIRCUIT BOARD CONTACTS - SOCKET

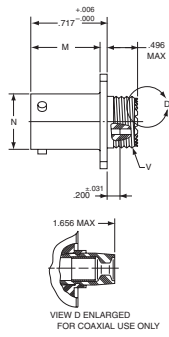
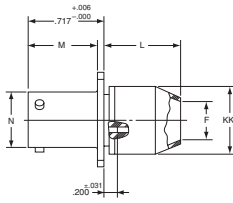
| PCB SOCKET CONTACTS | SIZE | TAIL DIAMETER +/- .001 | CONTACT STICKOUT MAX./MIN. | | | | | | |
|---------------------|------|------------------------|----------------------------|-------------------|-----------------|------------------|-----------------|-----------------|-------------|
| | | | MS27466 LJT00RT | MS27656 LJTPQ00RT | MS27496 LJT02RE | MS27505 LJTP02RE | MS27467 LJT06RE | MS27468 LJT07RE | |
| | | | | | | | | (9-17) | (19-25) |
| 10-497623-015 | 22M | 0.019 | .328 / .263 | .313 / .248 | .532 / .467 | .532 / .466 | .328 / .263 | .307 / .424 | .285 / .225 |
| 10-497623-335 | 22M | 0.019 | .264 / .199 | .249 / .188 | .468 / .406 | .468 / .405 | .264 / .199 | .243 / .182 | .221 / .165 |
| 10-497623-025 | 22M | 0.019 | .905 / .840 | .890 / .825 | 1.109 / 1.044 | 1.109 / 1.043 | .905 / .840 | .884 / .819 | .862 / .802 |
| 10-497623-035 | 22M | 0.019 | .385 / .320 | .370 / .305 | .589 / .524 | .589 / .523 | .385 / .320 | .364 / .299 | .342 / .282 |
| 10-497623-045 | 22M | 0.019 | .245 / .180 | .230 / .165 | .449 / .384 | .449 / .383 | .245 / .180 | .224 / .159 | .202 / .142 |
| 10-497623-075 | 22M | 0.019 | .183 / .118 | .168 / .103 | .387 / .322 | .387 / .321 | .183 / .118 | .162 / .097 | .140 / .080 |
| 10-497623-145 | 22M | 0.019 | .646 / .576 | .631 / .561 | .850 / .780 | .850 / .779 | .646 / .576 | .625 / .555 | .603 / .538 |
| 10-497623-155 | 22M | 0.019 | .460 / .395 | .445 / .380 | .664 / .599 | .664 / .598 | .460 / .395 | .439 / .374 | .417 / .357 |
| 10-497643-015 | 20 | 0.019 | .385 / .339 | .370 / .316 | .589 / .535 | .589 / .536 | .385 / .331 | .364 / .310 | .342 / .293 |
| 10-497643-025 | 20 | 0.019 | .250 / .204 | .235 / .181 | .454 / .400 | .454 / .401 | .250 / .196 | .229 / .175 | .207 / .15 |
| 10-497643-035 | 20 | 0.019 | .592 / .546 | .577 / .523 | .796 / .742 | .796 / .743 | .592 / .538 | .571 / .517 | .549 / .500 |
| 10-497650-015 | 16 | 0.040 | .292 / .246 | .277 / .223 | .496 / .442 | .496 / .443 | .292 / .238 | .271 / .217 | .249 / .200 |
| 10-597503-015 | 12 | 0.081 | .221 / .175 | .206 / .152 | .425 / .371 | .425 / .372 | .221 / .167 | .200 / .146 | .178 / .129 |

Standard PC tail used

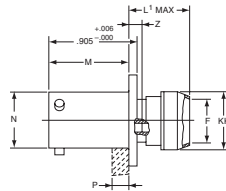
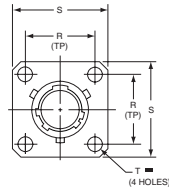


RECEPTACLES

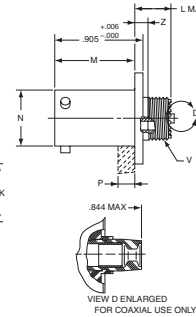
**LJT00RP
(MS27466P)**



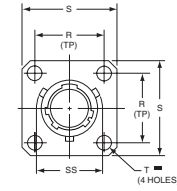
**LJT00RE (MS27466E)
LJT00RT (MS27466T) HE30800T**



**LJTPQ00RP
(MS27656P)**

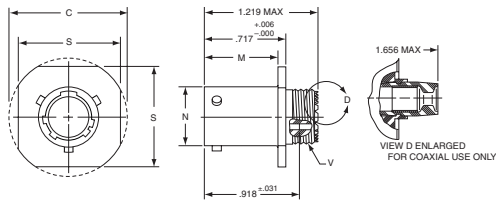


**LJTPQ00RE (MS27656E)
LJTPQ00RT (MS27656T)**

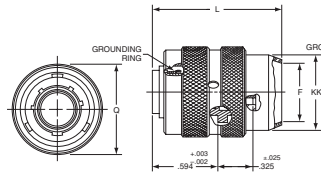


| SHELL SIZE | F ±.010 | L MAX. | | L ¹ MAX. | M +.000 / -.005 | | N DIA. +.001 / -.005 | R (TP) | S DIMENSION | | T DIA. ±.005 (±127) | KK DIMENSION MAX. | | V THREAD CLASS 2A (PLATED) | Z MAX. | SS DIA. |
|------------|--------------|-------------------|-------------------|---------------------|-------------------|-------------------|----------------------|--------------|-------------------------|------------------------------|---------------------|-------------------|-------------------|----------------------------|-------------|--------------|
| | | MS27466/ LJTPQ00R | MS27656/ LJTPQ00R | MS27656/ LJTPQ00R | MS27466/ LJTPQ00R | MS27656/ LJTPQ00R | | | MS27466/ LJTPQ00R ±.016 | MS27656/ LJTPQ00R +.011/-010 | | MS27466/ LJTPQ00R | MS27656/ LJTPQ00R | | | |
| 9 | 0.444 (11.3) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 0.572 (14.5) | 0.719 (18.3) | 0.938 (23.8) | 0.938 (23.8) | 0.128 (3.3) | 0.608 (15.4) | 0.625 (15.9) | .4375-28 UNEF (3.5) | 0.138 (3.5) | 0.662 (16.8) |
| 11 | 0.558 (14.2) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 0.700 (17.8) | 0.812 (20.6) | 1.031 (26.2) | 1.031 (26.2) | 0.128 (3.3) | 0.734 (18.6) | 0.750 (19.1) | .5625-24 UNEF (3.5) | 0.138 (3.5) | 0.810 (20.6) |
| 13 | 0.683 (17.3) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 0.850 (21.6) | 0.906 (23.0) | 1.125 (28.6) | 1.125 (28.6) | 0.128 (3.3) | 0.858 (21.8) | 0.875 (22.2) | .6875-24 UNEF (3.5) | 0.138 (3.5) | 0.960 (24.4) |
| 15 | 0.808 (20.5) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 0.975 (24.8) | 0.969 (24.6) | 1.219 (31.0) | 1.219 (31.0) | 0.128 (3.3) | 0.984 (25.0) | 1.000 (25.4) | .8125-20 UNEF (3.5) | 0.138 (3.5) | 1.085 (27.6) |
| 17 | 0.909 (23.1) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 1.100 (27.9) | 1.062 (27.0) | 1.312 (33.3) | 1.312 (33.3) | 0.128 (3.3) | 1.110 (28.2) | 1.125 (28.6) | .9375-20 UNEF (3.5) | 0.138 (3.5) | 1.210 (30.7) |
| 19 | 1.034 (26.3) | 0.813 (20.7) | 0.453 (11.5) | 0.641 (16.3) | 0.632 (16.1) | 0.820 (20.8) | 1.207 (30.7) | 1.156 (29.4) | 1.438 (36.5) | 1.438 (36.5) | 0.128 (3.3) | 1.234 (31.3) | 1.250 (31.8) | 1.0625-18 UNEF (3.5) | 0.138 (3.5) | 1.317 (33.5) |
| 21 | 1.159 (29.4) | 0.906 (23.0) | 0.484 (12.3) | 0.672 (17.1) | 0.602 (15.3) | 0.790 (20.1) | 1.332 (33.8) | 1.250 (31.8) | 1.562 (39.7) | 1.562 (39.7) | 0.128 (3.3) | 1.360 (34.5) | 1.375 (34.9) | 1.1875-18 UNEF (4.3) | 0.168 (4.3) | 1.442 (36.6) |
| 23 | 1.284 (32.6) | 0.906 (23.0) | 0.484 (12.3) | 0.672 (17.1) | 0.602 (15.3) | 0.790 (20.1) | 1.457 (37.0) | 1.375 (34.9) | 1.688 (42.9) | 1.688 (42.9) | 0.147 (3.7) | 1.484 (37.7) | 1.500 (38.1) | 1.3125-18 UNEF (4.3) | 0.168 (4.3) | 1.567 (39.8) |
| 25 | 1.409 (35.8) | 0.906 (23.0) | 0.484 (12.3) | 0.672 (17.1) | 0.602 (15.3) | 0.790 (20.1) | 1.582 (40.2) | 1.500 (38.1) | 1.812 (46.0) | 1.812 (46.0) | 0.147 (3.7) | 1.610 (40.9) | 1.625 (41.3) | 1.4375-18 UNEF (4.3) | 0.168 (4.3) | 1.692 (43.0) |

LJT01RE/LJT01RT/HE30801T

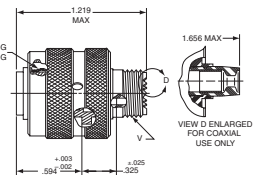


LJT06RP (MS27467P)



LJT06RE (MS27467E)

LJT06RT (MS27467T) HE30806T



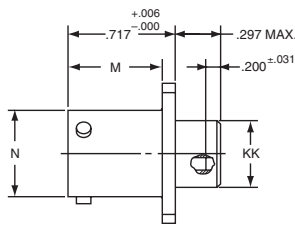
| SHELL SIZE | C MAX. | M +.000/-005 (+.000/-127) | N +.000/-005 (+.000/-127) | S ±.016 (±.406) | V THREAD CLASS 2A (PLATED) |
|------------|--------------|---------------------------|---------------------------|-----------------|----------------------------|
| 9 | 1.094 (27.8) | 0.632 (16.1) | 0.572 (14.5) | 0.938 (23.8) | .4375-28 UNEF |
| 11 | 1.188 (30.2) | 0.632 (16.1) | 0.700 (17.8) | 1.031 (26.2) | .5625-24 UNEF |
| 13 | 1.281 (32.5) | 0.632 (16.1) | 0.850 (21.6) | 1.125 (28.6) | .6875-24 UNEF |
| 15 | 1.375 (34.9) | 0.632 (16.1) | 0.975 (24.8) | 1.219 (31.0) | .8125-20 UNEF |
| 17 | 1.469 (37.3) | 0.632 (16.1) | 1.100 (27.9) | 1.312 (33.3) | .9375-20 UNEF |
| 19 | 1.594 (40.5) | 0.632 (16.1) | 1.207 (30.7) | 1.438 (36.5) | 1.0625-18 UNEF |
| 21 | 1.719 (43.7) | 0.602 (15.3) | 1.332 (33.8) | 1.562 (39.7) | 1.1875-18 UNEF |
| 23 | 1.844 (46.8) | 0.602 (15.3) | 1.457 (37.0) | 1.688 (42.9) | 1.3125-18 UNEF |
| 25 | 1.969 (50.0) | 0.602 (15.3) | 1.582 (40.2) | 1.812 (46.0) | 1.4375-18 UNEF |

| SHELL SIZE | F ±.010 | L MAX. | Q MAX. | KK DIAMETER MAX. | V THREAD CLASS 2A (PLATED) |
|------------|--------------|--------------|--------------|------------------|----------------------------|
| 9 | 0.444 (11.3) | 1.531 (38.9) | 0.844 (21.4) | 0.608 (15.4) | .4375-28 UNEF |
| 11 | 0.558 (14.2) | 1.531 (38.9) | 0.969 (24.6) | 0.734 (18.6) | .5625-24 UNEF |
| 13 | 0.683 (17.3) | 1.531 (38.9) | 1.141 (29.0) | 0.858 (21.8) | .6875-24 UNEF |
| 15 | 0.808 (20.5) | 1.531 (38.9) | 1.266 (32.2) | 0.984 (25.0) | .8125-20 UNEF |
| 17 | 0.909 (23.1) | 1.531 (38.9) | 1.391 (35.3) | 1.110 (28.2) | .9375-20 UNEF |
| 19 | 1.034 (26.3) | 1.531 (38.9) | 1.500 (38.1) | 1.234 (31.3) | 1.0625-18 UNEF |
| 21 | 1.159 (29.4) | 1.625 (41.3) | 1.625 (41.3) | 1.360 (34.5) | 1.1875-18 UNEF |
| 23 | 1.284 (32.6) | 1.625 (41.3) | 1.750 (44.5) | 1.484 (37.7) | 1.3125-18 UNEF |
| 25 | 1.409 (35.8) | 1.625 (41.3) | 1.875 (47.6) | 1.610 (40.9) | 1.4375-18 UNEF |

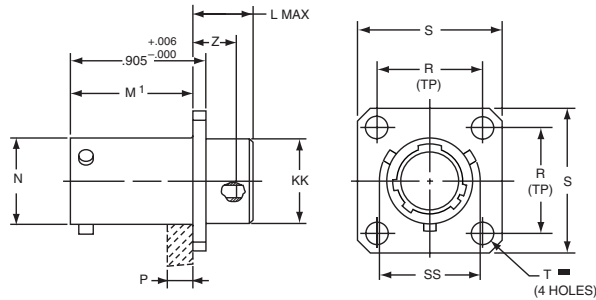
All dimensions in inches (millimeters in parenthesis)

RECEPTACLES

LJT02RE (MS27496E)

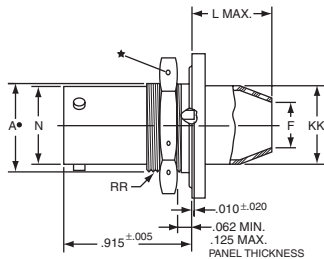
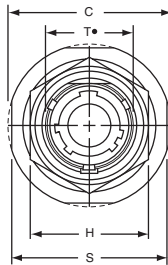


LJTP02RE (MS27505E)



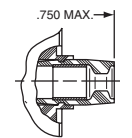
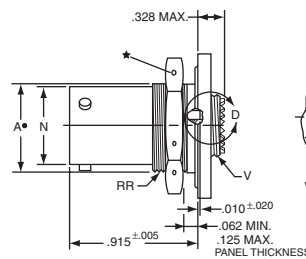
| SHELL SIZE | L MAX. | M +.000/-0.005 (+.000/-127) | M1 +.001/-0.005 (+.000/-127) | N DIAMETER +.001/-0.005 (+.025/-127) | P MAX. PANEL THICKNESS | R (TP) | S +.011/-0.010 (+.279/-254) | T DIAMETER ±0.005 (±127) | Z ±0.031 (±787) | KK DIAMETER +.006/-0.005 (+.152/-127) | SS DIAMETER +.000/-0.016 (+.000/-406) |
|------------|----------------|-----------------------------------|------------------------------------|--|------------------------|-----------------|-----------------------------------|-----------------------------|-----------------------|---|---|
| 9 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 0.572 (14.5) | 0.234 (5.9) | 0.719 (18.3) | 0.938 (23.8) | 0.128 (3.3) | 0.107 (2.7) | 0.433 (11.0) | 0.662 (16.8) |
| 11 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 0.700 (17.8) | 0.234 (5.9) | 0.812 (20.6) | 1.031 (26.2) | 0.128 (3.3) | 0.107 (2.7) | 0.557 (14.1) | 0.810 (20.6) |
| 13 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 0.850 (21.6) | 0.234 (5.9) | 0.906 (23.0) | 1.125 (28.6) | 0.128 (3.3) | 0.107 (2.7) | 0.676 (17.2) | 0.960 (24.4) |
| 15 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 0.975 (24.8) | 0.234 (5.9) | 0.969 (24.6) | 1.219 (31.0) | 0.128 (3.3) | 0.107 (2.7) | 0.801 (20.3) | 1.085 (27.6) |
| 17 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 1.100 (27.9) | 0.234 (5.9) | 1.062 (27.0) | 1.312 (33.3) | 0.128 (3.3) | 0.107 (2.7) | 0.926 (23.5) | 1.210 (30.7) |
| 19 | 0.203 (5.2) | 0.632 (16.1) | 0.820 (20.8) | 1.207 (30.7) | 0.234 (5.9) | 1.156 (29.4) | 1.438 (36.5) | 0.128 (3.3) | 0.107 (2.7) | 1.032 (26.2) | 1.317 (33.5) |
| 21 | 0.234 (5.9) | 0.602 (15.3) | 0.790 (20.1) | 1.332 (33.8) | 0.204 (5.2) | 1.250 (31.8) | 1.562 (39.7) | 0.128 (3.3) | 0.137 (3.5) | 1.157 (29.4) | 1.442 (36.6) |
| 23 | 0.234 (5.9) | 0.602 (15.3) | 0.790 (20.1) | 1.457 (37.0) | 0.204 (5.2) | 1.375 (34.9) | 1.688 (42.9) | 0.147 (3.7) | 0.137 (3.5) | 1.282 (32.6) | 1.567 (39.8) |
| 25 | 0.234 (5.9) | 0.602 (15.3) | 0.790 (20.1) | 1.582 (40.2) | 0.193 (4.9) | 1.500 (38.1) | 1.812 (46.0) | 0.147 (3.7) | 0.137 (3.5) | 1.407 (35.7) | 1.692 (43.0) |

LJT07RP (MS27468P)



LJT07RE (MS27468E)

LJT07RT (MS27468T) HE30807T



| SHELL SIZE | A* +.000/-0.010 (+.000/-254) | C MAX. | F ±.010 | H HEX. +.017/-0.016 (+.432/-406) | L MAX. | N +.001/-0.005 (+.025/-127) | S ±0.016 (±406) | T* +.010/-0.000 (+.254/-000) | V THREAD CLASS 2A (PLATED) | KK DIAMETER MAX. | RR THREAD CLASS 2A (PLATED) |
|------------|------------------------------------|-----------------|-----------------|--|-----------------|-----------------------------------|-----------------------|------------------------------------|----------------------------|---------------------|-----------------------------|
| 9 | 0.669 (17.0) | 1.199 (30.5) | 0.444 (11.3) | 0.875 (22.2) | 0.625 (15.9) | 0.572 (14.5) | 1.062 (27.0) | 0.697 (17.7) | .4375-28 UNEF | 0.608 (15.4) | .6875-24 UNEF |
| 11 | 0.769 (19.5) | 1.386 (35.2) | 0.558 (14.2) | 1.000 (25.4) | 0.625 (15.9) | 0.700 (17.8) | 1.250 (31.8) | 0.822 (20.9) | .5625-24 UNEF | 0.734 (18.6) | .8125-20 UNEF |
| 13 | 0.955 (24.3) | 1.511 (38.4) | 0.683 (17.3) | 1.188 (30.2) | 0.625 (15.9) | 0.850 (21.6) | 1.375 (34.9) | 1.007 (25.6) | .6875-24 UNEF | 0.858 (21.8) | 1.0000-20 UNEF |
| 15 | 1.084 (27.5) | 1.636 (41.6) | 0.808 (20.5) | 1.312 (33.3) | 0.625 (15.9) | 0.975 (24.8) | 1.500 (38.1) | 1.134 (28.8) | .8125-20 UNEF | 0.984 (25.0) | 1.1250-18 UNEF |
| 17 | 1.208 (30.7) | 1.761 (44.7) | 0.909 (23.1) | 1.438 (36.5) | 0.625 (15.9) | 1.100 (27.9) | 1.625 (41.3) | 1.259 (32.0) | .9375-20 UNEF | 1.110 (28.2) | 1.2500-18 UNEF |
| 19 | 1.333 (33.9) | 1.949 (49.5) | 1.034 (26.3) | 1.562 (39.7) | 0.656 (16.7) | 1.207 (30.7) | 1.812 (46.0) | 1.384 (35.2) | 1.0625-18 UNEF | 1.234 (31.3) | 1.3750-18 UNEF |
| 21 | 1.459 (37.1) | 2.073 (52.7) | 1.159 (29.4) | 1.688 (42.9) | 0.750 (19.1) | 1.332 (33.8) | 1.938 (49.2) | 1.507 (38.3) | 1.1875-18 UNEF | 1.360 (34.5) | 1.5000-18 UNEF |
| 23 | 1.580 (40.1) | 2.199 (55.9) | 1.284 (32.6) | 1.812 (46.0) | 0.750 (19.1) | 1.457 (37.0) | 2.062 (52.4) | 1.634 (41.5) | 1.3125-18 UNEF | 1.484 (37.7) | 1.6250-18 UNEF |
| 25 | 1.709 (43.4) | 2.323 (59.0) | 1.409 (35.8) | 2.000 (50.8) | 0.750 (19.1) | 1.582 (40.2) | 2.188 (55.6) | 1.759 (44.7) | 1.4375-18 UNEF | 1.610 (40.9) | 1.7500-18 UNS |

• "D" shaped mounting hole dimensions

All dimensions in inches (millimeters in parenthesis)

ACCESSORIES



| LJT SHELL SIZE | DUMMY RECEPTACLES | RECEPTACLE DUST CAPS | | PLUG CAP |
|----------------|-------------------|----------------------|--------------|--------------|
| | | FOR FLANGED | FOR JAM NUT | |
| 9 | M38999/9-9B | MS27502**9C | MS27502**9N | MS27501**9C |
| 11 | M38999/9-11B | MS27502**11C | MS27502**11N | MS27501**11C |
| 13 | M38999/9-13B | MS27502**13C | MS27502**13N | MS27501**13C |
| 15 | M38999/9-15B | MS27502**15C | MS27502**15N | MS27501**15C |
| 17 | M38999/9-17B | MS27502**17C | MS27502**17N | MS27501**17C |
| 19 | M38999/9-19B | MS27502**19C | MS27502**19N | MS27501**19C |
| 21 | M38999/9-21B | MS27502**21C | MS27502**21N | MS27501**21C |
| 23 | M38999/9-23B | MS27502**23C | MS27502**23N | MS27501**23C |
| 25 | M38999/9-25B | MS27502**25C | MS27502**25N | MS27501**25C |

** Select code for plating

- B = Olive Drab Chromate over Cadmium over Nickel (500-Hour Salt Spray) (Most Popular)
- F = Electroless Nickel (Fluid-Resistant)
- A = Gold Iridite over Cadmium Nickel
- C = Hard Anodize



| LJT SHELL SIZE | ENDBELLS | | CABLE RANGE | |
|----------------|--------------------|-----------------------|--------------|--------------|
| | STRAIGHT, LOW-COST | RIGHT-ANGLE, LOW-COST | MIN. | MAX. |
| 9 | M85049/49-2-8** | M85049/47**8 | .098 (2.50) | .234 (5.94) |
| 11 | M85049/49-2-10** | M85049/47**10 | .153 (3.89) | .234 (5.94) |
| 13 | M85049/49-2-12** | M85049/47**12 | .190 (4.83) | .328 (8.33) |
| 15 | M85049/49-2-14** | M85049/47**14 | .260 (6.60) | .457 (11.61) |
| 17 | M85049/49-2-16** | M85049/47**16 | .283 (7.19) | .614 (15.60) |
| 19 | M85049/49-2-18** | M85049/47**18 | .325 (8.25) | .634 (16.10) |
| 21 | M85049/49-2-20** | M85049/47**20 | .343 (8.71) | .698 (17.73) |
| 23 | M85049/49-2-22** | M85049/47**22 | .381 (9.68) | .823 (20.90) |
| 25 | M85049/49-2-24** | M85049/47**24 | .418 (10.62) | .853 (21.67) |

** Select code for connector plating

- W = Olive Drab Chromate over Cadmium over Nickel (1000-Hour Salt Spray)
- N = Electroless Nickel (Fluid-Resistant)
- A = Black Anodize

All dimensions in inches (millimeters in parenthesis)



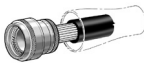




Straight



Right Angle

| LJT SHELL SIZE | SELF-LOCKING ENDBELLS, STRAIGHT | CABLE RANGE, RIGHT-ANGLE | MIN. | MAX. |
|----------------|---------------------------------|--------------------------|--------------|--------------|
| 9 | M85049/49-2S8** | M85049/47S**8 | .098 (2.49) | .234 (5.94) |
| 11 | M85049/49-2S10** | M85049/47S**10 | .153 (3.89) | .234 (5.94) |
| 13 | M85049/49-2S12** | M85049/47S**12 | .190 (4.83) | .328 (8.33) |
| 15 | M85049/49-2S14** | M85049/47S**14 | .260 (6.60) | .457 (11.61) |
| 17 | M85049/49-2S16** | M85049/47S**16 | .283 (7.19) | .614 (15.60) |
| 19 | M85049/49-2S18** | M85049/47S**18 | .325 (8.25) | .634 (16.10) |
| 21 | M85049/49-2S20** | M85049/47S**20 | .343 (8.71) | .698 (17.73) |
| 23 | M85049/49-2S22** | M85049/47S**22 | .381 (9.68) | .823 (20.90) |
| 25 | M85049/49-2S24** | M85049/47S**24 | .418 (10.62) | .853 (21.67) |

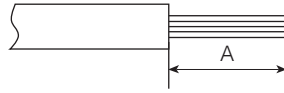
** Select code for connector plating
 W = Olive Drab Chromate over Cadmium over Nickel (1000-Hour Salt Spray)
 N = Electroless Nickel (Fluid-Resistant)
 S = 300 Series Steel, Passivated

| | SEALED | EMI/RFI | S = STRAIGHT A = 90° B = 45° | ORIENTATION | DESCRIPTION |
|---|--------|---------|------------------------------------|----------------------------------|---|
| M85049/62  | Y | N | S | Heat Shrink Boot Adapters | Designed for use with straight or right angle shrink boots. A knurled rear section with a boot groove provides excellent surface for the boot to grab the metal endbell. Available with lock wire and drain holes. See Heat Shrink Boots on pages 367-369 . |
| M85049/33 M85049/32  | N | Y | S A | Shield Termination Back Shell | Non-environmental designed for use with jacketed cable. Allow extra space to break out the wires and still provide strain relief clamping to the outside of the cable jacket. |
| M85049/17  | Y | Y | S | Extender Back Shell | This EMI/RFI-shielding, environmentally-sealed endbell features a standard-style cable clamp with gland seal at the end of an extender-style backshell. |
| M85049/29  | N | N | S | Extender Back Shell | This EMI/RFI-shielding, non-environmentally-sealed endbell features a standard-style cable clamp. |
| Banding  M85049/85 M85049/86 M85049/87 | Y | Y | S B A | Banding Adapter | Banding adapters utilize a band of metal that fastens and grounds cable shields to the outside of endbells. This method of terminating shields has advantages in that they typically use tools to tighten and trim the bands. These tools make the termination tight, repeatable, reworkable (if you make a mistake, just cut the band off and start again) and facilitates service. Banding adapters help lower the total applied cost by having simpler designs that have fewer parts with uncomplicated assembly procedures. |
| Custom | | | SAB | Custom Designs Contact us | If the military-standard endbells don't fit your needs, contact us and we will customize an endbell solution. Most of these customized endbells are typically assembled in 4-8 weeks or sooner! |
| M85049/27 | N | N | S | E-Nut | Wire seal compression nut |

All dimensions in inches (millimeters in parenthesis)

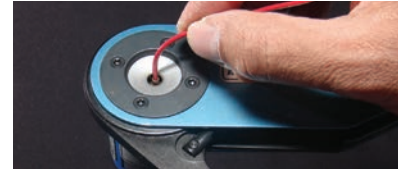
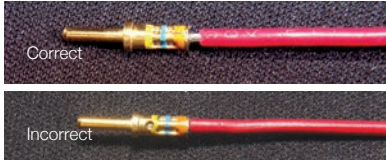
WIRE STRIPPING

Strip insulation from end of wire to be crimped. (See table for proper stripping dimensions.) Do not cut or damage wire strands.



| WIRE SIZE | A |
|--------------|--------------|
| 22, 22M, 22D | .125 (3.18) |
| 20 | .188 (4.77) |
| 16 | .188 (4.77) |
| 12 | .188 (4.77) |
| 10 | .335 (8.51) |
| 8 (power) | .470 (11.99) |

CONTACT CRIMPING



STEP 1: Insert wire into rear of contact. Wire insulation must press against rear of contact. Wire must be visible through inspection hole.

STEP 2: M22520 series crimp tool and locator is recommended. See Contact and Tool Table on pages 182 and 183 for choice of turret head and selection setting according to contact size, part number and wire gauge size.

STEP 3: Insert contact and wire into tool jaws. To crimp, squeeze handles together fully until ratchet releases and allows handles to expand; otherwise, contact cannot be extracted from tool jaws. Maintain slight insertion pressure on wire while crimping contact to wire.

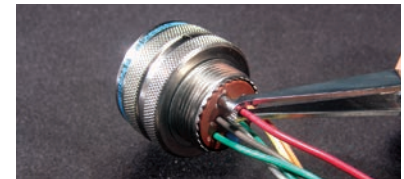
CONTACT INSERTION



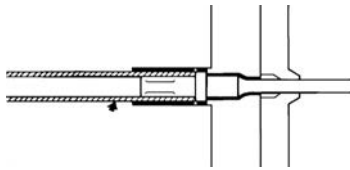
STEP 1: Remove hardware from plug or receptacle and slip over wire bundle in proper order for reassembly.



STEP 2: Using proper plastic or metal insertion tool for corresponding contact, position wire in tip of the tool so that the tool tip presses against the contact shoulder.



STEP 3: Press tool against contact shoulder and, with firm and even pressure, insert wired contact and tool tip into center contact cavity.



STEP 4: When contact bottoms, a slight "click" can be heard as tines of metal retaining clip snap into place behind contact shoulder.



STEP 5: Remove tool and pull back lightly on wire to make sure contact is properly seated. Repeat operation with remainder of contacts to be inserted, beginning with the center cavity and working outward in alternating rows.

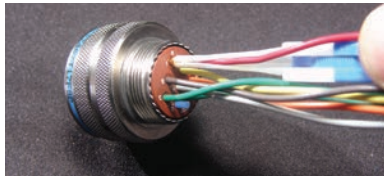


STEP 6: After all contacts are inserted, fill any empty cavities with wire sealing plugs. Reassemble plug or receptacle hardware.

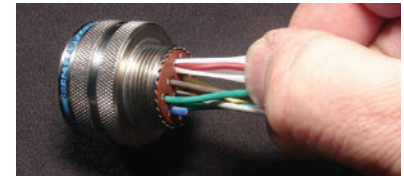
CONTACT EXTRACTION



STEP 1: Remove hardware from plug or receptacle and slide hardware back along wire bundle.



STEP 2: Using plastic or metal extraction tool with proper color code corresponding to contact size, place wire in tool.



STEP 3: Insert tool into contact cavity until tool tip bottoms against the contact shoulder, expanding clip retaining tines.



STEP 4: Hold wire firmly in tool and extract wired contact and tool. Repeat operation for all contacts to be extracted.



STEP 5: Fill any empty cavities with wire sealing plugs. Reassemble plug or receptacle hardware.

All dimensions in inches (millimeters in parenthesis)

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