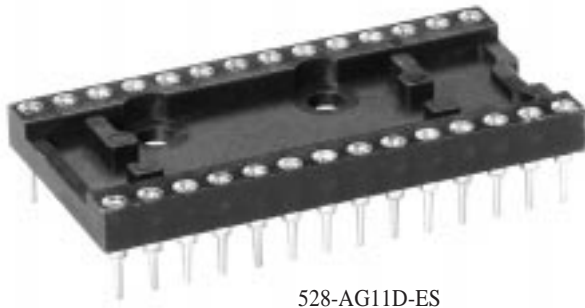
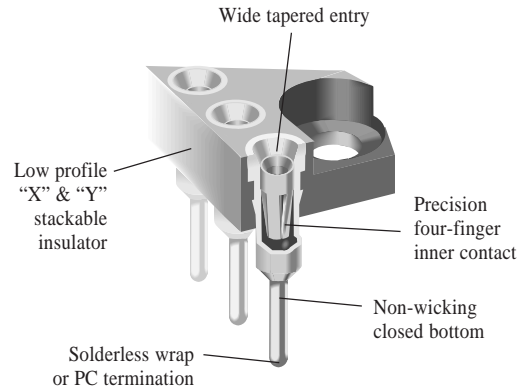


# 500 Series *DIP Socket with Four-Fingered Contact & Solid Insulator*

A




528-AG11D-ES



## FEATURES:

The Thomas & Betts 500 Series Socket features a precision four-finger inner contact to produce the industry standard for high reliability screw machine sockets.

- Precision four-finger inner contact provides concentric funnel entry for easy flat and round lead insertion
- Machined (Premium Series) and stamped (Economy Series) contacts are available
- "X" & "Y" stackable
- Non-wicking, closed bottom sleeve gives 100% protection against flux and solder contamination. Choice of solderless wrap or PC termination
- Accommodates 6 through 40 pin DIPS, rectangular or round leads
-  Recognized under the Component Program of Underwriters Laboratories, Inc. file no. E111362
- Beryllium copper inner contact for maximum mechanical and electrical performance
- For extreme conditions involving shock and vibration, Thomas & Betts' high retention series is available

## APPLICATION DIMENSIONS:

- PCB Thickness Range: Standard .062" and .092" (1,57 and 2,34)
- PCB Hole Size Range: .035" ± .002" (0,89 ± 0,05) PC tail, .055" ± .003" (1,40 ± 0,08) solderless wrap
- IC Pin Dimension Range: .009" x .015" (0,23 x 0,38) through .011" x .020" (0,28 x 0,51) .016" to .021" (0,41 to 0,53) round lead, .105" (2,67) min. length

## MATERIAL SPECIFICATIONS:

Insulator ..... Thermoplastic polyester, UL rated 94V-0  
 Sleeve ..... Machined brass/formed copper  
 Contact ..... Beryllium copper  
 Sleeve Plating ..... Tin/lead or gold  
 Contact Plating ..... Premium or Economy Series (ES) - gold or tin/lead  
    Economy Series (ESL) - low gold

Vapor Phase/IR Compatible

## PERFORMANCE SPECIFICATIONS:

### MECHANICAL

|                         |  |
|-------------------------|--|
| Vibration .....         | Passed MIL-STD-1344, Method 2005.1, Condition II, 10 G's   |
| Shock .....             | Passed MIL-STD-1344, Method 2004.1, Condition C, 100 G's   |
| Durability .....        | Passed MIL-STD-1344, Method 2016   |
| Normal Force .....      | 125 Grams (4.4 oz.) average with .018" (0,46) dia. polished steel pin (Premium Series)<br>200 Grams (7.1 oz.) average with .018" (0,46) dia. polished steel pin (Economy Series) |
| Inner Contact Retention |  |
| in Sleeve .....         | 7.5 Lbs. per line average  |
| Sleeve Retention        |  |
| in Plastic .....        | 3.0 Lbs. per line minimum  |
| Solderability .....     | Passed MIL-STD-202F, Method 208  |
| Insertion Force .....   | Premium - 134 Grams (4.7 oz.) average with a .018" (0,46) dia. polished steel pin<br>Economy - 179 Grams (6.3 oz.) average with a .018" (0,46) dia. polished steel pin           |
| Withdrawal Force .....  | 63 Grams (2.2 oz.) average with a .018" (0,46) dia. polished steel pin (Premium and Economy)   |

### ELECTRICAL

|                            |  |
|----------------------------|--|
| Contact Resistance .....   | 10 Milliohms max.  |
| Contact Rating .....       | 3 Amps   |
| Capacitance .....          | 1.0 pF per MIL-STD-202, Method 305 (contact to contact)      |
| Insulation Resistance .... | 5,000 Megohms min. @ 500 VDC per MIL-STD-1344, Method 3003.1 |
| Dielectric Withstanding    |  |
| Voltage .....              | 1,000 Volts RMS per MIL-STD-1344, Method 3001.1              |

### ENVIRONMENTAL

|                          |   |
|--------------------------|---|
| Humidity .....           | Passed MIL-STD-1344, Method 1002.2, Cond. II                                  |
| Thermal Shock .....      | Passed MIL-STD-1344, Method 1003.1, Cond. A                                   |
| Operation Temperature .. | Gold inner contact -55°C to +125°C,<br>Tin/lead inner contact -55°C to +105°C |

# Thomas & Betts

# DIP Socket with Four-Fingered Contact & Solid Insulator 500 Series

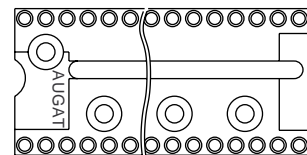


Figure 2

## STANDARD CONFIGURATIONS

| Number of Contacts | A             | B*           | C            | Number of Contacts | A             | B*           | C            |
|--------------------|---------------|--------------|--------------|--------------------|---------------|--------------|--------------|
| 6                  | .300 (7,62)   | .300 (7,62)  | .400 (10,16) | 24                 | 1.200 (30,48) | .400 (10,16) | .500 (12,70) |
| 8                  | .400 (10,16)  |              |              | 24                 | 1.200 (30,48) | .600 (15,24) | .700 (45,72) |
| 14                 | .700 (17,78)  |              |              | 28                 | 1.400 (35,56) |              |              |
| 16                 | .800 (20,32)  |              |              | 32                 | 1.600 (40,64) |              |              |
| 18                 | .900 (22,86)  |              |              | 36                 | 1.800 (47,72) |              |              |
| 20                 | 1.000 (25,40) |              |              | 40                 | 2.000 (50,80) |              |              |
| 22                 | 1.150 (29,21) | .400 (10,16) | .500 (12,70) |                    |               |              |              |

\* Dimension B ± .005 (0,13)

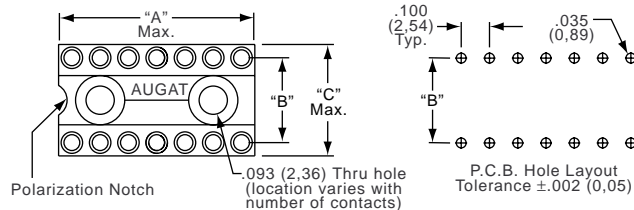
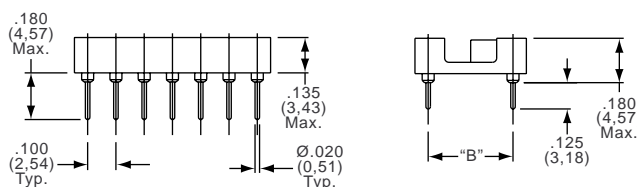


Figure 1



## PART NUMBERS

| Economy Series | Premium   | Figure | Position | Centerline   | Contact  | Sleeve   | Economy Series  | Premium   | Figure | Position | Centerline   | Contact  | Sleeve   |
|----------------|-----------|--------|----------|--------------|----------|----------|---|-----------|--------|----------|--------------|----------|----------|
| 506-AG10D-ES   | 506-AG10D |        | 6        |              | Gold     | Gold     | 524-AG65D-ES  | 524-AG65D |        | 24       |              | Gold     | Gold     |
| 506-AG10D-ESL  |           |        | 6        |              | Low Gold | Gold     | 524-AG65D-ESL   |           |        | 24       |              | Low Gold | Gold     |
| 506-AG11D-ES   | 506-AG11D | 1      | 6        | .300 (7,62)  | Gold     | Tin/Lead | 524-AG66D-ES  | 524-AG66D | 2      | 24       | .400 (10,16) | Gold     | Tin/Lead |
| 506-AG11D-ESL  |           |        | 6        |              | Low Gold | Tin/Lead | 524-AG66D-ESL   |           |        | 24       |              | Low Gold | Tin/Lead |
| 506-AG12D-ES   | 506-AG12D |        | 6        |              | Tin/Lead | Tin/Lead | 524-AG13D-ES  | 524-AG13D |        | 24       |              | Tin/Lead | Tin/Lead |
| 508-AG10D-ES   | 508-AG10D |        | 8        |              | Gold     | Gold     | 524-AG10D-ES  | 524-AG10D |        | 24       |              | Gold     | Gold     |
| 508-AG10D-ESL  |           |        | 8        |              | Low Gold | Gold     | 524-AG10D-ESL   |           |        | 24       |              | Low Gold | Gold     |
| 508-AG11D-ES   | 508-AG11D | 1      | 8        | .300 (7,62)  | Gold     | Tin/Lead | 524-AG11D-ES  | 524-AG11D | 2      | 24       | .600 (15,24) | Gold     | Tin/Lead |
| 508-AG11D-ESL  |           |        | 8        |              | Low Gold | Tin/Lead | 524-AG11D-ESL   |           |        | 24       |              | Low Gold | Tin/Lead |
| 508-AG12D-ES   | 508-AG12D |        | 8        |              | Tin/Lead | Tin/Lead | 524-AG12D-ES  | 524-AG12D |        | 24       |              | Tin/Lead | Tin/Lead |
| 514-AG10D-ES   | 514-AG10D |        | 14       |              | Gold     | Gold     | 528-AG10D-ES  | 528-AG10D |        | 28       |              | Gold     | Gold     |
| 514-AG10D-ESL  |           |        | 14       |              | Low Gold | Gold     | 528-AG10D-ESL   |           |        | 28       |              | Low Gold | Gold     |
| 514-AG11D-ES   | 514-AG11D | 1      | 14       | .300 (7,62)  | Gold     | Tin/Lead | 528-AG11D-ES  | 528-AG11D | 2      | 28       | .600 (15,24) | Gold     | Tin/Lead |
| 514-AG11D-ESL  |           |        | 14       |              | Low Gold | Tin/Lead | 528-AG11D-ESL   |           |        | 28       |              | Low Gold | Tin/Lead |
| 514-AG12D-ES   | 514-AG12D |        | 14       |              | Tin/Lead | Tin/Lead | 528-AG12D-ES  | 528-AG12D |        | 28       |              | Tin/Lead | Tin/Lead |
| 516-AG10D-ES   | 516-AG10D |        | 16       |              | Gold     | Gold     | 532-AG10D-ES  | 532-AG10D |        | 32       |              | Gold     | Gold     |
| 516-AG10D-ESL  |           |        | 16       |              | Low Gold | Gold     | 532-AG10D-ESL   |           |        | 32       |              | Low Gold | Gold     |
| 516-AG11D-ES   | 516-AG11D | 1      | 16       | .300 (7,62)  | Gold     | Tin/Lead | 532-AG11D-ES  | 532-AG11D | 2      | 32       | .600 (15,24) | Gold     | Tin/Lead |
| 516-AG11D-ESL  |           |        | 16       |              | Low Gold | Tin/Lead | 532-AG11D-ESL   |           |        | 32       |              | Low Gold | Tin/Lead |
| 516-AG12D-ES   | 516-AG12D |        | 16       |              | Tin/Lead | Tin/Lead | 532-AG12D-ES  | 532-AG12D |        | 32       |              | Tin/Lead | Tin/Lead |
| 518-AG10D-ES   | 518-AG10D |        | 18       |              | Gold     | Gold     | 536-AG10D-ES  | 536-AG10D |        | 36       |              | Gold     | Gold     |
| 518-AG10D-ESL  |           |        | 18       |              | Low Gold | Gold     | 536-AG10D-ESL   |           |        | 36       |              | Low Gold | Gold     |
| 518-AG11D-ES   | 518-AG11D | 1      | 18       | .300 (7,62)  | Gold     | Tin/Lead | 536-AG11D-ES  | 536-AG11D | 2      | 36       | .600 (15,24) | Gold     | Tin/Lead |
| 518-AG11D-ESL  |           |        | 18       |              | Low Gold | Tin/Lead | 536-AG11D-ESL   |           |        | 36       |              | Low Gold | Tin/Lead |
| 518-AG12D-ES   | 518-AG12D |        | 18       |              | Tin/Lead | Tin/Lead | 536-AG12D-ES  | 536-AG12D |        | 36       |              | Tin/Lead | Tin/Lead |
| 520-AG10D-ES   | 520-AG10D |        | 20       |              | Gold     | Gold     | 540-AG10D-ES  | 540-AG10D |        | 40       |              | Gold     | Gold     |
| 520-AG10D-ESL  |           |        | 20       |              | Low Gold | Gold     | 540-AG10D-ESL   |           |        | 40       |              | Low Gold | Gold     |
| 520-AG11D-ES   | 520-AG11D | 1      | 20       | .300 (7,62)  | Gold     | Tin/Lead | 540-AG11D-ES  | 540-AG11D | 2      | 40       | .600 (15,24) | Gold     | Tin/Lead |
| 520-AG11D-ESL  |           |        | 20       |              | Low Gold | Tin/Lead | 540-AG11D-ESL   |           |        | 40       |              | Low Gold | Tin/Lead |
| 520-AG12D-ES   | 520-AG12D |        | 20       |              | Tin/Lead | Tin/Lead | 540-AG12D-ES  | 540-AG12D |        | 40       |              | Tin/Lead | Tin/Lead |
| 522-AG10D-ES   | 522-AG10D |        | 22       |              | Gold     | Gold     | Note: Part numbers in this chart and in detail shown refer to a .125" PC Tail Pin |           |        |          |              |          |          |
| 522-AG10D-ESL  |           |        | 22       |              | Low Gold | Gold     |   |           |        |          |              |          |          |
| 522-AG11D-ES   | 522-AG11D | 1      | 22       | .400 (10,16) | Gold     | Tin/Lead |   |           |        |          |              |          |          |
| 522-AG11D-ESL  |           |        | 22       |              | Low Gold | Tin/Lead |   |           |        |          |              |          |          |
| 522-AG12D-ES   | 522-AG12D |        | 22       |              | Tin/Lead | Tin/Lead |   |           |        |          |              |          |          |

## ECONOMY AND PREMIUM SERIES - .180" PC TAIL PINS

- 5XX-AG44D-XXX - Gold contact, tin/lead sleeve
- 5XX-AG45D-XXX - Gold contact, gold sleeve
- 5XX-AG143D-XXX - Tin/lead contact, tin/lead sleeve

## HIGH RETENTION SERIES

- 5XX-AG34D - Gold contact, tin/lead sleeve
- 5XX-AG33D - Gold contact, gold sleeve
- 5XX-AG138D - Tin/lead contact, tin/lead sleeve

For wire wrap sockets or 24 position on .400" (10,16) in high retention or .180 (4,57) tails, please consult factory.

## Need more technical information?

Consult your Thomas & Betts sales office listed on the back cover

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