

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

## Contact Ratings/ Service Ratings

### CONTACT RATING FOR TV III, HD, JT II, LJT I, SJT

| Contact Size | Test Current (Amps) |          | Maximum Millivolt Drop Crimp* | Maximum Millivolt Drop |           |
|--------------|---------------------|----------|-------------------------------|------------------------|-----------|
|              | Crimp               | Hermetic |                               | Solder*                | Hermetic* |
| 23           | 5                   | 3        | 73                            | 20                     | 85        |
| 22M          | 3                   | 2        | 45                            | 20                     | 60        |
| 22D          | 5                   | 3        | 73                            |                        | 85        |
| 22           | 5                   | 3        | 73                            | 20                     | 85        |
| 20           | 7.5                 | 5        | 55                            | 20                     | 60        |
| 16           | 13                  | 10       | 49                            | 20                     | 85        |
| 12           | 23                  | 17       | 42                            | 20                     | 85        |
| 10 (Power)   | 33                  | NA       | 33                            | NA                     | NA        |
| 8 (Power)    | 46                  | NA       | 26                            | NA                     | NA        |
| 4            | 80                  | NA       | 23                            | NA                     | NA        |
| 0            | 150                 | NA       | 21                            | NA                     | NA        |

\*When tested using silver plated wire.

| Contact Size | Crimp Well Data |                   | Solder Well Data     |                    |
|--------------|-----------------|-------------------|----------------------|--------------------|
|              | Well Diameter   | Normal Well Depth | Well Diameter        | Nominal Well Depth |
| 23           | .0345 ± .0010   | .141              | .0345 ± .0010        | .130               |
| 22M          | .028 ± .001     | .141              | .029 +.004<br>- .000 |                    |
| 22D          | .0345 ± .0010   | .141              | .036 +.004<br>- .000 | .094               |
| 22           | .0365 ± .0010   | .141              | .036 +.004<br>- .000 | .094               |
| 20           | .047 ± .001     | .209              | .044 +.004<br>- .004 | .125               |
| 16           | .067 ± .001     | .209              | .078 +.000<br>- .004 | .141               |
| 12           | .100 ± .002     | .209              | .116 +.004<br>- .002 | .141               |
| 10 (Power)   | .137 ± .002     | .355              | NA                   | NA                 |
| 8            | .181 ± .002     | .490              | NA                   | NA                 |
| 4            | .281 ± .002     | .490              | NA                   | NA                 |
| 0            | .453 ± .002     | .585              | NA                   | NA                 |

### 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         |

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

\*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 catalog or consult Amphenol Aerospace.

### 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 I LJT, II JT, III TV

## Thermocouple Contacts/Sealing Plugs

38999

III

Dualok

II

I

SJT

Access

Aquacon

Series III, II, I

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

| Contact Size | JT/LJT/SJT Pins MS No. | JT Socket MS No. | LJT/SJT Sockets MS No. | Contact Size | JT/LJT Pins MS No. | JT Socket MS No. | LJT/SJT 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          |              |                    |                  |                        |

### MIL-DTL-38999 SERIES II JT/ I LJT 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.

### MIL-DTL-38999 SERIES II JT/ I LJT THERMOCOUPLE CONTACTS PYLE VERSION

| Contact Size | Pins (II JT/I 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   |

Above part numbers include standard finish designation - gold plating over suitable underplate in accordance with MIL-DTL-39029. For other finishes, consult Amphenol Aerospace. Note: 22M and 22D contacts are interchangeable. \*For use with RG180B/U and RG195A/U cable. For other size 8 coax or optional sizes 12 and 18 coax contacts available for use in JT/LJT connectors, Refer to the High Speed Catalog. \*\* For use with 17/M176-00002 cable.

### MIL-DTL-38999 SERIES III SEALING PLUGS

| Contact Size | Commercial No. | Military No. |
|--------------|----------------|--------------|
| 8 (Coax)     | 10-482099-8    | N/A          |
| 8 (Twinax)   | T3-4008-59P    | N/A          |
| 8 (Power)    | 10-405996-83   | MS27488-8-3  |
| 10 (Power)   | T3-4010-59P    | M85049/81-10 |
| 12           | 10-405996-122  | MS27488-12-2 |
| 16           | 10-405996-162  | MS27488-16-2 |
| 20           | 10-405996-202  | MS27488-20-2 |
| 22D          | 10-405996-222  | MS27488-22-2 |
| 4            | 10-405996-43   | MS27488-4-3  |
| 0            | 10-405996-03   | MS27488-0-3  |

### MIL-DTL-38999 SERIES II JT/ I LJT 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           | 10-405996-122  | MS27488-12-2 |
| 16           | 10-405996-162  | MS27488-16-2 |
| 20           | 10-405996-202  | MS27488-20-2 |
| 22           | 10-405996-222  | MS27488-22-2 |
| 22M          | 10-405996-222  | MS27488-22-2 |
| 22D          | 10-405996-222  | MS27488-22-2 |

### SJT SEALING PLUGS

| Contact Size | Commercial No.       |
|--------------|----------------------|
| 8 (Coax)     | 10-482099-8          |
| 8 (Twinax)   | 10-482099-8          |
| 10 (Power)   | NA                   |
| 12           | 10-405996-012 Yellow |
| 16           | 10-405996-016 Blue   |
| 20           | 10-405996-020 Red    |
| 22           | 10-405996-022 Black  |
| 22M          | 10-405996-022 Black  |
| 22D          | 10-405996-022 Black  |

\*\* 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.

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

## Thermocouple Contacts/Sealing Plugs/Finishing Data

### 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 they are in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

### 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 (non-firewall) | L             |            |
| Stainless Steel with Nickel Plate (firewall)     | S             | RS         |
| Stainless Steel                                  | K             | RK         |
| Duralon plated                                   | T*            | DT         |
| Zinc-Nickel Plated                               | Z*            | DZ         |
| Electroless Nickel Space Grade                   | G             |            |

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

#### HERMETIC SHELL COMPONENTS

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

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

#### ALUMINUM SHELL COMPONENTS NON-HERMETIC

| Finish                               | Suffix   |            | Finish Plus "SR" Suffix | Indicated Finish Standard for JT Types Listed Below | Indicated Finish Standard for LJT Types Listed Below |
|--------------------------------------|----------|------------|-------------------------|-----------------------------------------------------|------------------------------------------------------|
|                                      | Military | Commercial |                         |                                                     |                                                      |
| 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 Duralon                  |          | (038)      |                         |                                                     |                                                      |
| Space Grade                          |          | (453)      |                         |                                                     |                                                      |

#### 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                                           |          |            | JT( )H / JT( )Y                                     | LJT( )Y                                              |
| Tin Plated Shell and Contacts                                |          |            | JTL( )H / JTL( )Y                                   | 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                                             |



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