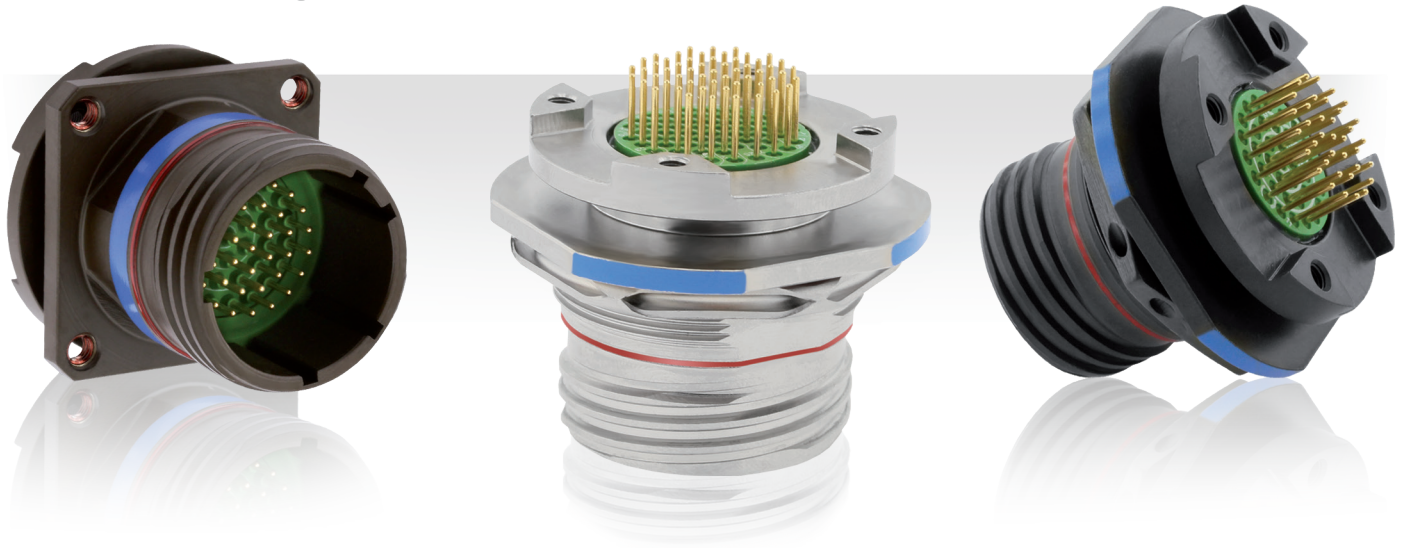


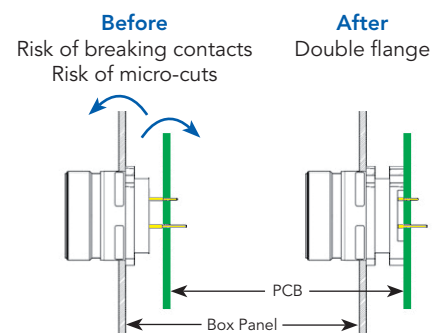
38999 Series III Double Flange



Double Flange Solution for PCB Mount

Connector specially designed for printed circuit board applications in harsh environments, decoupling vibration from the board.

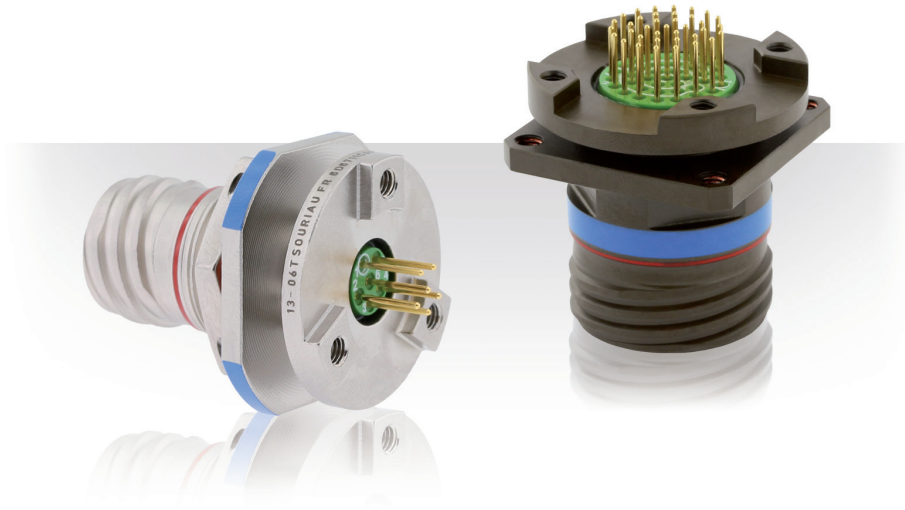
- Excellent mechanical performances** ■ Standoffs integrated into the connector. No risk of breaking contacts or micro-cuts.



- Design flexibility** ■ Square flange or Jam nut versions available. Versatile contact length options.

- A wide range** ■ Available in aluminum with a range of layouts from shell size 9 to 25.

- User friendly** ■ Easy to assemble and time saving.



Description

- High level vibration resistance in harsh environments
- Offers the same level of performance as the MIL-DTL-38999 Series III connector
- Jam nut or square flange receptacle
- No risk of breaking contacts
- No risk of micro-cuts
- Allow direct grounding from PCB to the flange
- PC tails contacts without shoulder: #12, #16, #20 and #22
- Resin sealed version, please consult us

Technical features

Mechanical

- **Shell:** Aluminum
- **Shell plating:**
 - . Cadmium olive drab (W)
 - . Nickel (F)
 - . Black zinc nickel (Z)
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:** Silicone elastomer
- **Contacts:** Copper alloy
- **Contacts plating:** Gold over nickel plated
- **Endurance:** 500 mating cycles
- **Shock:** 300g, 3ms
- **Vibration:**
 - . Sinus:
 - . 10 à 2000 Hz, 3x12 hrs (60g, 140 - 2000 Hz) with T° cycling
 - . Random:
 - . 50 to 2000 Hz, 2x8 Hrs (1g2/ Hz, 100 - 2000Hz) at T° max.
 - . 25 to 2000 Hz, 2x8 Hrs (5g2/ Hz, 100 - 300Hz) at ambient T°
- **Contact retention:**

| Contacts size | 22 | 20 | 16 | 12 |
|----------------|----|----|-----|-----|
| Min force in N | 44 | 67 | 111 | 111 |

Electrical

- **Test voltage rating (Vrms)**

| Service | sea level | at 21000 m |
|---------|-----------|------------|
| M | 1 300 | 800 |
| N | 1 000 | 600 |
| I | 1 800 | 1 000 |
| II | 2 300 | 1 000 |

- **Contact resistance**

| Contacts size | 22 | 20 | 16 | 12 |
|---------------|------|-----|-----|-----|
| Resistance mΩ | 14.6 | 7.3 | 3.8 | 3.5 |

- **Insulation resistance:** ≥ 5 000 MΩ (under 500 Vdc)

- **Contact rating:**

| Contacts size | 22 | 20 | 16 | 12 |
|---------------|----|-----|----|----|
| Rating (A) | 5 | 7.5 | 13 | 23 |

- **Shell continuity:**
 - . Cadmium olive drab (W): 2.5 Ωh
 - . Nickel (F): 1 Ωh
 - . Black zinc nickel (Z): 2.5 Ωh
- **Shielding:**
 - . F: 65 db at 10 GHz; 85 db at 1 GHz
 - . W: 50 db at 10 GHz
 - . Z: Consult us

Environmental

- **Temperature range:**
 - . W: -65°C +175°C
 - . F: -65°C +200°C
 - . Z: -65°C +200°C
- **Sealing:** Mated connectors meet altitude immersion requirements of MIL-DTL-38999.
- **Salt spray:**
 - . W: 500 Hrs
 - . F: 48 Hrs
 - . Z: 500 Hrs

Resistance to fluids

- **According to MIL-DTL-38999 standard**
 - . Gasoline: JP5 (OTAN F44)
 - . Mineral hydrolic fluid: MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
 - . Mineral lubricating: MIL-L-7870A (OTAN 0142)
 - . Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808
 - . Cleaning fluid: MIL-C-87936 diluted
 - . De-icing fluid: MIL-A-8243
 - . Extinguishing fluid: Bromochloromethane
 - . Cooling fluid: Coolanol

Ordering information

| | | | | | | | | | | |
|--|--------------------------------------|----|--|---|----|---|----|---|---|---|
| Basic Series | 8D | 87 | 11 | C | 17 | W | 35 | P | N | L |
| Shell type: | | | | | | | | | | |
| 80: | Square flange receptacle | | | | | | | | | |
| 87: | Jam nut receptacle | | | | | | | | | |
| Length between panel & PCB (in mm) | For other length, please consult us. | | | | | | | | | |
| Type: | | | | | | | | | | |
| C: | Receptacle with short PC tail | | | | | | | | | |
| L: | Receptacle with long PC tail | | | | | | | | | |
| Shell size: | 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | |
| Plating: | | | | | | | | | | |
| W: | Olive green cadmium | | | | | | | | | |
| F: | Nickel (RoHS) | | | | | | | | | |
| Z: | Black zinc nickel (RoHS) | | | | | | | | | |
| Contact layout: | Consult us for available layouts | | | | | | | | | |
| Contact type: | | | | | | | | | | |
| P: | Pin | | | | | | | | | |
| S: | Socket | | | | | | | | | |
| Orientation: | N, A, B, C, D, E | | | | | | | | | |
| Specification: | | | | | | | | | | |
| None: | Standard | | | 046: Tin plated contact SnPb | | | | | | |
| L: | Without contacts | | | 046E: Tin plated contact Sn pure (RoHS) | | | | | | |
| For other specification, please contact us | | | 046S: Tin plated contact SAC305 (RoHS) | | | | | | | |

Dimensions

Jam nut receptacle (type 87)

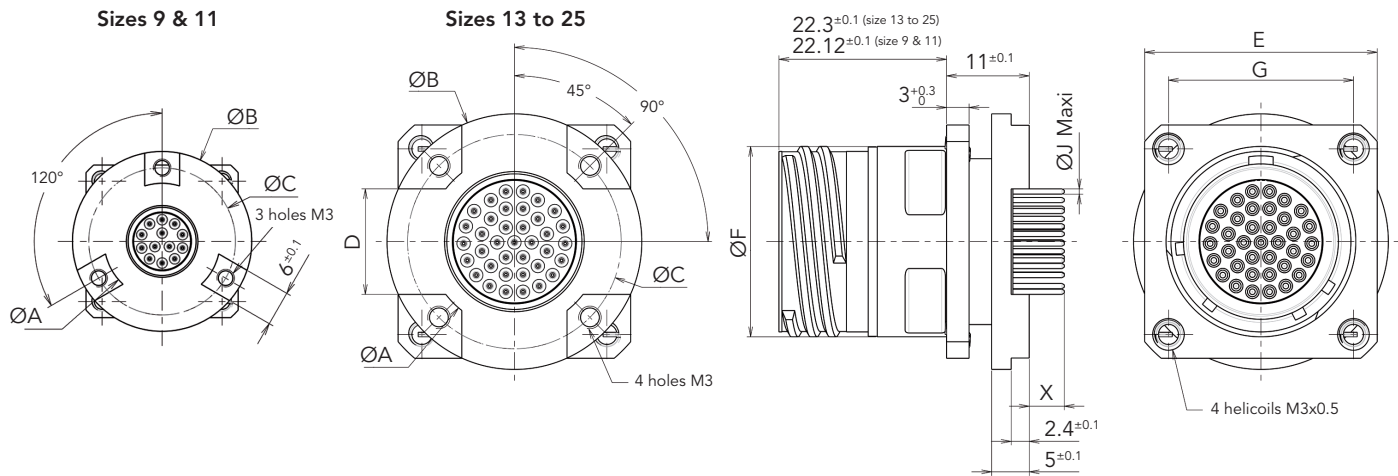
Sizes 9 & 11

Sizes 13 to 25

| Shell size | ØA ± 0.15 | ØB ± 0.15 | ØC | D ^{+0.2} ₋₀ | E ± 0.4 | F ^{+0.1} _{-0.15} | Contact size | Contact type | PC tail length | Size 09 & 11 | Size 13 to 25 | ØJ max |
|------------|-----------|-----------|-------|---------------------------------|---------|------------------------------------|--------------|--------------|----------------|--------------|---------------|--------|
| | | | | | | | | | | X Min | X Min | |
| 9 | 15.10 | 26.00 | 20.50 | - | 27.00 | 16.53 | 22D | M & F | Long | 7.1 | 7.1 | 0.7 |
| 11 | 19.90 | 30.80 | 25.20 | - | 31.80 | 19.07 | | M & F | Short | 3.6 | 3.6 | |
| 13 | 19.90 | 30.80 | 25.25 | 12 | 34.90 | 23.82 | 20 | M & F | Long | 7.1 | 7.1 | 0.9 |
| 15 | 23.00 | 33.90 | 28.42 | 14 | 38.10 | 26.97 | | M & F | Short | 3.6 | 4.2 | |
| 17 | 26.00 | 36.80 | 31.42 | 16 | 41.30 | 30.15 | 16 | M & F | Long | 7.1 | 7.1 | 1.35 |
| 19 | 29.50 | 40.40 | 35.03 | 18 | 46.00 | 33.32 | | M & F | Short | 3.6 | 4.2 | |
| 21 | 32.50 | 43.20 | 37.82 | 20 | 49.20 | 36.50 | 12 | M & F | Long | 6.76 | 5.6 | 1.35 |
| 23 | 35.50 | 46.50 | 41.12 | 23 | 52.40 | 39.67 | | M & F | Short | 3.76 | 2.6 | |
| 25 | 38.60 | 49.60 | 44.30 | 25 | 55.60 | 42.85 | | | | | | |

Note: All dimensions are in millimeters (mm)

Square flange receptacle (type 80)



| Shell size | ØA ±0.1 | ØB ±0.1 | ØC ±0.1 | D ±0.1 | E ±0.2 | ØF ±0.1 | G ±0.1 |
|------------|---------|---------|---------|--------|--------|---------|--------|
| | | | | | | | |
| 11 | 19.9 | 30.8 | 25.2 | - | 26.14 | 18.67 | 20.62 |
| 13 | 19.9 | 30.8 | 25.25 | 12 | 28.55 | 22.07 | 23.01 |
| 15 | 23 | 33.9 | 28.42 | 14 | 30.94 | 25.25 | 24.61 |
| 17 | 26 | 36.8 | 31.42 | 16 | 33.25 | 30 | 26.97 |
| 19 | 29.5 | 40.4 | 35.03 | 18 | 36.45 | 31.57 | 29.36 |
| 21 | 32.5 | 43.2 | 37.82 | 20 | 39.65 | 34.75 | 31.75 |
| 23 | 35.5 | 46.5 | 41.12 | 23 | 42.85 | 37.92 | 34.93 |
| 25 | 38.6 | 49.6 | 44.3 | 25 | 45.95 | 41.1 | 38.1 |

| Contact size | Contact type | PC tail length | Size 09 & 11 | Size 13 to 25 | ØJ max |
|--------------|--------------|----------------|--------------|---------------|--------|
| | | | X Min | X Min | |
| 22D | M | Long | 7.39 | 7.21 | 0.70 |
| | | Short | 4.39 | 4.21 | |
| | F | Long | 7.12 | 6.94 | |
| | | Short | 4.12 | 3.94 | |
| 20 | M | Long | 7.39 | 7.21 | 0.90 |
| | | Short | 4.39 | 4.21 | |
| | F | Long | 7.40 | 7.22 | |
| | | Short | 4.40 | 4.22 | |
| 16 | M | Long | 7.39 | 7.21 | 1.35 |
| | | Short | 4.39 | 4.21 | |
| | F | Long | 7.34 | 7.16 | |
| | | Short | 4.34 | 4.16 | |
| 12 | M | Long | 7.40 | 7.22 | 1.35 |
| | | Short | 4.40 | 4.22 | |
| | F | Long | 7.41 | 7.23 | |
| | | Short | 4.41 | 4.23 | |

Note: All dimensions are in millimeters (mm)

For further information contact us at technical.emear@souriau.com (Europe - Asia - Africa)
technical.americas@souriau.com (North America)
 or visit our web site www.souriau.com