MICRODOT Connectors

MCK and MCD High Density Microminiature “D” Connectors described in this catalog comprise a complete connector system, which is adaptable to a numerous variety of form factors. Low engaging force is achieved by the manner in which Twist Pin Contacts are designed. By constructing the male contact as a breathing helical spring, electrical contact is achieved at many points around the periphery of the pin bundle rather than at a few discrete points, as in conventional pin designs. Normal twist pin engagement force is 6 oz. [1.67N] typically and 8 oz. [2.22N] maximum. The low force twist pins exhibit an engaging force of 4 oz. [1.11N] typically and 5 oz. [1.39N] maximum.

The MCK and MCD Series of connectors featured in this catalog are designed to meet the applicable requirements of MIL-DTL-83513, for interoperability, interchangeability, and performance. Designed for both military and commercial applications, the MCK’s and MCD’s are especially well suited for use in miniaturized airborne and space electronics, computers, and test equipment. The metal shell MCK’s and plastic shell MCD’s are available with solder cup, and solid or stranded wire terminations. MCK transition blocks are standard for printed circuit board mounting. Custom termination configurations for both MCK and MCD can be accommodated. Micro D’s are also supplied in wired harness assemblies.
Technical and Performance Data
(Applicable to MCK, MCD and MCDM unless otherwise noted)

**Electrical**
- **Contacts** — Pin 24 AWG twist pin, Socket 24 AWG precision machined barrel or Stamped and Formed 24 AWG Pin and Socket. Wire Range 24 AWG to 30 AWG solid and stranded.
- **Contact Resistance** — (voltage drop) 25 millivolts max. at 3 amps, 77°±4°F [25°±3°C].
- **Current Rating** — 3 amps max. per contact.
- **Dielectric Withstanding Voltage** — Volts RMS 60 Hz at room ambient. At sea level 690V At 70,000 ft. [21,336 m] 150V
- **Insulation Resistance** — 5,000 megohms min. (@ 500 VDC) at ambient room temperature.
- **Magnetic Permeability** — 2 μ max.

**Mechanical**
- **Contact Spacing** — .050 [1.27mm] centers.
- **Contact Engagement & Separation** — Standard contact engaging force is 6.0 oz. [1.67 N] (8.0 oz. [2.22 N] max.). Separation force is 0.5 oz. [1.4 N] min.
- **Mating Force Maximum** — Calculated as 10 oz. times the number of contacts.

**Environmental**
- **Temperature Range** — -67°F to 257°F [-55°C to +125°C] for MCK/MCD, -67°F to 302°F [-55°C to +150°C] for MCDM.
- **Vibration** — No discontinuity in excess of 1 μ second when tested in accordance with EIA-364-28, test condition IV.
- **Solderability** — Connectors shall pass the test requirements of MIL-STD-202, Method 208
- **Shock** — No discontinuity in excess of 1 μ second when tested in accordance with EIA-364-27, test condition E.
- **Durability** — No mechanical or electrical defects detrimental to the function of the connectors after 500 cycles of mating and unmating.
- **Humidity** — After exposure to humidity as specified EIA-364-31, Method II, IR shall be 1 megohm minimum following step 7a of EIA-364-31 section 4.3.6.1 and 1000 megohms minimum after 24 hours of conditioning per EIA-364-31.
- **Salt Spray** — Connectors shall meet the performance requirements of contact resistance, mating and unmating forces, and contact retention after being subjected to the 48 hour 5% solution salt spray test per EIA-364-26, Condition B.
- **Fluid Immersion** — Unmated connectors after being fully immersed in one of the following fluids, for the prescribed time, will mate at a force of 10 oz. [2.78N] times the number of contacts or less: Perchloroethylene, 2 hours; Lubricating oil per MIL-L-23699, 20 hours.
- **Insert Retention** — Inserts will withstand a 50 lb. [34.9N/cm²] per square inch load in either direction.
- **Crimp Termination Tensile Strength** — (Unassembled contacts with cramped stranded wire terminations) Wires will not pull out of contacts when the following axial loads are applied: 24 AWG, 5 lbs. [22.4 N]; 26 AWG, 4 lbs. [17.7 N]; 28 AWG, 3 lbs. [13.4 N]
- **Outgassing** — When tested in accordance with SP-R-0022, Total Mass Loss (TML) shall be less than 1.0% and Volatile Condensable Material (VCM) shall be less than 0.1% of the original specimen.

**Materials and Finishes**
- **Contacts** — Copper alloy plated with .000050 [0.00127] gold over copper flash per MIL-G-45204 Type II.
- **MCK-Metal Shell** — Insulator — Diallyl Phthalate per MIL-DTL-45204, Type SDG-F
- **MCD-Plastic Shell** — Insulator — Diallyl Phthalate per MIL-DTL-45204, Type SDG-F
- **MCDM-Metal Shell** — Insulator — Diallyl Phthalate per MIL-DTL-45204, Type SDG-F
- **MCDM-Plastic Shell** — Insulator — Diallyl Phthalate per MIL-DTL-45204, Type SDG-F
- **MCDM-Transition Block Shell** — Insulator — Diallyl Phthalate per MIL-DTL-45204, Type SDG-F

**Wire Terminations**
- **Solid copper per QQ-W-343 gold plated per MIL-DTL-45204**
- **Stranded PTFE insulated per MIL-W-16878**
- **Solid copper per QQ-W-343, solder dipped (Transition block)**

**Specifications subject**

Microdot catalog part number for a MIL-DTL-83513 configuration may be constructed to include the desired hardware.

See pages 5-78 through 5-82 for M83513/ cross reference.

---

**Nanominiature and Microminiature Connectors**
# MICRODOT How To Specify MCK and MCD Connectors

## Metal Shell

**Connector Series**
- MCK — Twist Pin & Drawn Socket
- MCKS — Stamp & Formed Pin & Socket

**Shell Finish**
- C1 — Cadmium, Clear
- C2 — Cadmium, Yellow Chromate
- N1 — Nickel, Electroless

**Hardware** (See Pages 5-79 and 5-80)
- B — No Hardware
- F — Float Bushing
- KM — Jackscrew, Slotted Head, High Profile (9-51)
- HM — Jackscrew, Slotted Head, High Profile (100)
- LM — Jackscrew, Slotted Head, Low Profile (9-51)
- JM — Jackscrew, Slotted Head, Low Profile (100)
- QM — Jackscrew, Allen Head, High Profile (9-51)
- QM — Jackscrew, Allen Head, High Profile (100)
- RM — Jackscrew, Allen Head, Low Profile (9-51)
- NM — Jackscrew, Allen Head, Low Profile (100)
- P — Jackpost Assembly (9-51)
- S — Jackpost Assembly (100)
- X — Lockscrew, Slotted Head
- Y — Lockscrew, Allen Head
- Z — Clip and Key (Clip Mount Only)

**Layout**
- 9, 15, 21, 25, 31, 37, 51, 100
- See contact arrangement

**Contact Type**
- P — Pin (Plug)
- S — Socket (Receptacle)

## Plastic Shell

**Connector Series**
- MCD — Wåns Amphenol Connectors

**Insulator Type/Material**
- G2 — Clip Mount, polyester, natural
- G3 — Screw Mount, polyester, natural, .093 Flg.
- R2 — Clip Mount, Mylon
- R3 — Screw Mount, Liquid Crystal Polymer or Polyphenylene Sulfide

**Hardware** (See Pages 5-79 and 5-80)
- B — No Hardware
- F — Float Bushing
- KM — Jackscrew, Slotted Head, High Profile
- LM — Jackscrew, Slotted Head, Low Profile
- QM — Jackscrew, Allen Head, High Profile
- RM — Jackscrew, Allen Head, Low Profile
- P — Jackpost Assembly
- X — Lockscrew, Slotted Head
- Y — Lockscrew, Allen Head
- Z — Clip and Key (Clip Mount Only)

**Layout**
- 9, 15, 21, 25, 31, 37, 51
- See contact arrangement

**Contact Type**
- P — Pin (Plug)
- S — Socket (Receptacle)

---

**Note:** Items in bold italic are qualified to MIL-DTL-83513.
MICRODOT Contact Arrangements

Face View of Pin Insert
(Socket Side is Mirror Image)

9 Contacts

15 Contacts

21 Contacts

25 Contacts

30 Contacts (MCDM Only)

31 Contacts

37 Contacts

51 Contacts

100 Contacts (MCK Only)

Note: MCK metal shells are not designed to intermate or interchange with MCD plastic shells. If metal/plastic intermateing is desired, use MCDM Series Metal Shell on pages 5-72 and 5-73 with MCD Series Plastic Shell on page 5-58.
### MICRODOT MCK Series Metal Shell Connectors

#### Dimensions per MIL-DTL-83513

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P = Pin, S = Socket

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5-56

Catalog 1308940
Revised 9-14
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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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MICRODOT Microminiature D Connectors

5-56
**MICRODOT MCK Series Metal Shell Connectors**

**Panel Mounting Dimensions — MCK**

**Panel Cutout Dimensions — MCK**

---

**Number of Contacts**

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**Specifications subject to change.**

**Dimensions are shown for reference purposes only.**

**Dimensions are in millimeters unless otherwise specified.**

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### Screw Mount Dimensions Per MIL-DTL-83513

**Plugs** (Pin side)

**Receptacles** (Socket side)

### Microdot MCD Series Plastic Shell Connectors

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<th>Part Number</th>
<th>A ± 0.010 [0.254]</th>
<th>B Max.</th>
<th>C ± 0.010 [0.254]</th>
<th>D Max.</th>
<th>E ± 0.010 [0.254]</th>
<th>F ± 0.005 [0.127]</th>
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<td>.778</td>
<td>.2918</td>
<td>.398 ± .010 [0.0457]</td>
<td>.173</td>
<td>.208</td>
<td>.565</td>
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<td>MCD**- 9S***</td>
<td>.778</td>
<td>.3798</td>
<td>.398 ± .010 [0.0457]</td>
<td>.173</td>
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<td>.208</td>
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<td>.250</td>
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P = Pin, S = Socket

**Note:** Weight given is with .500 [12.7] uninsulated, solid, 24 AWG gold plated copper pigtails.

*See “How to Specify” for description, on page 5-54.

**Liquid Crystal Polymer or Polyphenylene Sulfide — MCDR3* per MIL-DTL-83513**

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**Catalog 1308940**

**Website:** www.te.com

**Revised:** 9-14

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**Dimensions are shown for reference purposes only.**

Specifications subject to change.
### MICRODOT MCD Series Plastic Shell Connectors (Continued)

#### Clip Mount — MCD

---

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<td>.208</td>
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<td>MCD**- 51P***</td>
<td>1.156</td>
<td>.941</td>
<td>1.048</td>
<td>.208</td>
<td>.250</td>
<td>.0072</td>
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</table>

**P = Pin, S = Socket**

**Note:** Weight given is with .500 [12.7] uninsulated, solid, 24 AWG gold plated copper pigtails.

*See “How to Specify” for description, on page 5-54.

---

**Clip Mount — MCD**

*Note: Clip Mount not covered by current issue of MIL-DTL-83513.*

---

**Catalog 1308940 Dimensions are shown for reference purposes only. Specifications subject to change.**
MICRODOT MCD Series Plastic Shell Connectors Panel Mounting — Cutout Dimensions

### Panel Mounting Dimensions — MCD

#### Clip Mount

![Clip Mount Diagram]

#### Screw Mount

![Screw Mount Diagram]

### Panel Cutout Dimensions — MCD

#### Clip Mounting

![Clip Mounting Diagram]

#### Screw Mounting

![Screw Mounting Diagram]

#### Notes:

- Front mounting preferred.
- Specifications subject to change.

### Table of Panel Cutout Dimensions — MCD

<table>
<thead>
<tr>
<th>Number of Contacts</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>9</td>
<td>+0.004(1.02)</td>
<td>-0.000(0.00)</td>
<td>+0.005(1.27)</td>
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<td>-0.000(0.00)</td>
<td>+0.005(1.27)</td>
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<td>+0.005(1.27)</td>
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<tr>
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<td>-0.000(0.00)</td>
<td>+0.005(1.27)</td>
</tr>
<tr>
<td>51</td>
<td>+0.004(1.02)</td>
<td>-0.000(0.00)</td>
<td>+0.005(1.27)</td>
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# MICRODOT Microminiature D Connectors

## MICRODOT Mounting and Coupling Hardware

### For Screw Mount MCK, MCKS, MCD and MCDM

<table>
<thead>
<tr>
<th>9-51 Contacts Slot Head</th>
<th>100 Contacts Slot Head</th>
<th>100 Contacts 1/16&quot; Allen Head</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(KM)</strong></td>
<td><strong>(LM)</strong></td>
<td><strong>(P)</strong></td>
</tr>
<tr>
<td><img src="image" alt="Jackscrew Assembly" /></td>
<td><img src="image" alt="Jackscrew Assembly" /></td>
<td><img src="image" alt="Jackscrew Assembly" /></td>
</tr>
<tr>
<td>Part Number 5-1532137-8 Jackscrew Assembly High Profile M83513/5-06 (KM) S96-0002-0084</td>
<td>Part Number 5-1532137-7 Jackscrew Assembly Low Profile M83513/5-05 (LM) S96-0002-0085</td>
<td>Part Number 5-1532137-9 Jackpost Assembly (P) S96-0002-0009 M83513/5-07 P mates with KM, LM, QM and RM Jackscrew Assemblies.</td>
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### 9-51 Contacts 1/16" Allen Head

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<th><strong>(QM)</strong></th>
<th><strong>(RM)</strong></th>
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</thead>
<tbody>
<tr>
<td><img src="image" alt="Jackscrew Assembly" /></td>
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<tr>
<td>Part Number 5-1532137-6 Jackscrew Assembly High Profile M83513/5-03 (QM) S96-0002-0086</td>
<td>Part Number 5-1532137-5 Jackscrew Assembly Low Profile M83513/5-02 (RM) S96-0002-0087</td>
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### 100 Contacts 1/16" Allen Head

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<th><strong>(JM)</strong></th>
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<td>Part Number 6-1532137-3 Jackscrew Assembly High Profile M83513/5-16 (HM) S96-0002-0088</td>
<td>Part Number 6-1532137-2 Jackscrew Assembly Low Profile M83513/5-15 (JM) S96-0002-0089</td>
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</table>

### Notes:
2. Letter(s) in parentheses is to assist in ordering hardware with the connector (See “How To Specify” page 5-54).
3. Items in bold italic are qualified to MIL-DTL-83513.
4. Mounting torque values and mating torque values are per MIL-DTL-83513/5.
### MICRODOT Mounting and Coupling Hardware

#### For Screw Mount MCK, MCD and MCDM (Continued)

<table>
<thead>
<tr>
<th>Slot Head (X)</th>
<th>1/16&quot; Allen Head (Y)</th>
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</thead>
<tbody>
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<td><img src="image" alt="Slot Head Diagram" /></td>
<td><img src="image" alt="1/16&quot; Allen Head Diagram" /></td>
</tr>
</tbody>
</table>

- **Part Number 4-1532137-3**
  - Lockscrew Assembly
  - P/N 096-0002-0008
- **Part Number 1495164-1**
  - Lockscrew Assembly
  - P/N 096-0002-0013

#### For Clip Mount — MCD (Z)

![Clip Mount Diagram](image)

- **Part Number 1466018-1**
  - Mounting Key and Clip
  - P/N 096-0001-0000
  - (2 Required)

#### For Float Mount — MCK, MCD and MCDM (F)

![Float Mount Diagram](image)

- **Washer**
- **Bushing**

**Float Mount Bushing (Factory Installed)**

### Notes:

2. Letter(s) in parentheses is to assist in ordering hardware with the connector (See “How To Specify” page 5-54).
3. Hardware ordered separately should be ordered in pairs; i.e. 2 pcs. P/N 096-0002-0013 per connector half.
**MICRODOT Microminiature D Connectors**

**MICRODOT MCK Transition Blocks**

**RT1 — Right-Angle Termination Configuration**

MIL-DTL-83513/10 through /15 configurations. 90° — Narrow Profile termination configurations. See pages 5-78 to 5-82 for M83513 cross references.

---

**How To Specify**

**MCK—N1—P—37—P—RT1**

**Right Angle Termination (Solder Dipped)**

RT1 — w/.109 Leads
RT1A — w/.140 Leads
RT1B — w/.172 Leads

**Contact Type**

S = STD Socket
P = STD Pin

**Layout**

9, 15, 21, 25, 31, 37, 51 and 100

**Hardware**

P = Jackpost (9-51)
B = No Hardware
S = Jackpost (100)

**Shell Finish**

C2 = Cadmium, Yellow Chromate
N1 = Nickel, Electroless

**Connector Series**

(See page 87)

---

**Notes:**

1. For terminal identification see page 5-65.
2. Grid pattern for all configurations is .100 x .100 [2.54 x 2.54].
3. Lead lengths shown are for RT1.
4. Items in bold italic are qualified to MIL-DTL-83513.
### MICRODOT MCK Transition Blocks (Continued)

#### RT1 — Right-Angle Termination Configuration

(Continued)

<table>
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<tbody>
<tr>
<td>MCK-**- 9PRT1</td>
<td>.787</td>
<td>.565</td>
<td>.3338</td>
<td>.308</td>
<td>.425</td>
<td>.250</td>
<td>.230</td>
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<td>.4018</td>
<td>.308</td>
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<td>.715</td>
<td>.4838</td>
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<td>.250</td>
<td>.130</td>
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<td>MCK-**- 15SRT1</td>
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<td>.250</td>
<td>.130</td>
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<tr>
<td>MCK-**- 25SRT1</td>
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<td>.8018</td>
<td>.308</td>
<td>.425</td>
<td>.250</td>
<td>.130</td>
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<td>.250</td>
<td>.130</td>
<td>1.090</td>
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<td>MCK-**- 31SRT1</td>
<td>1.337</td>
<td>1.115</td>
<td>.9518</td>
<td>.308</td>
<td>.525</td>
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<td>.130</td>
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<td>1.265</td>
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<td>.250</td>
<td>.130</td>
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<td>1.265</td>
<td>1.1018</td>
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<td>.660</td>
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<td>.150</td>
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<td>1.215</td>
<td>1.0518</td>
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<td>.660</td>
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<td>.150</td>
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<td>1.010</td>
<td>.400</td>
<td>.200</td>
<td>1.825</td>
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</table>

P = Pin, S = Socket

Note: Items in bold italic are qualified to MIL-DTL-83513.
RT1 — Right-Angle Termination Configuration

(Continued)

View is of termination side of plug connector. For receptacle, use mirror image. (Except 100 contacts)
ST1 — Straight Termination Configuration

MIL-DTL-83513/22 through /27 configurations. 180° — Narrow Profile termination configurations. See pages 5-78 to 5-82 for M83513 cross references.

How To Specify

<table>
<thead>
<tr>
<th>MCK</th>
<th>N1</th>
<th>P</th>
<th>37</th>
<th>P</th>
<th>ST1</th>
</tr>
</thead>
</table>

**ST1 — Straight Termination (Solder Dipped)**

ST1 — w/.109 Leads
ST1A — w/.140 Leads
ST1B — w/.172 Leads

**Contact Type**

*S = STD Socket

**P = STD Pin**

**Layout**

9, 15, 21, 25, 31, 37, 51 and 100

**Hardware**

*P = Jackpost (9-51)

*B = No Hardware

*S = Jackpost (100)

**Shell Finish**

*C2 = Cadmium, Yellow Chromate

*N1 = Nickel, Electroless

(See page 87)

**Notes:**

1. For terminal identification see page 5-81.
2. Grid pattern for all configurations is .100 x .100 [2.54 x 2.54].
3. Lead lengths shown are for ST1.
4. Items in bold italic are qualified to MIL-DTL-83513.
### MICRONEXT MCK Transition Blocks (Continued)

#### ST1 — Straight Termination Configuration (Continued)

<table>
<thead>
<tr>
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<tbody>
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<td>MCK-**- *- 9PST1</td>
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<td>.308</td>
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<td>MCK-**- *- 15PST1</td>
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<td>.460</td>
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</table>

P = Pin, S = Socket

Note: Items in bold italic are qualified to MIL-DTL-83513.
ST1 — Straight Termination Configuration (Continued)
View is of termination side of plug connector. For receptacle, use mirror image.
MICRODOT Microminiature D Connectors

MCK with Cactus Bend Termination

- Meets MIL-DTL-83513 Performance requirements
- Single metal shell with no Transition Block
- Low profile and lightweight
- .100 [2.54] x .075 [1.91] grid pattern
- Design allows lower cost construction

Specifications subject to change.
### MICRODOT MCK ST2 Series Straight Mount PCB Connectors (Continued)

<table>
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<th>C Max.</th>
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<td>.565</td>
<td>.402</td>
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<td>MCK-***-15 PST2</td>
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<td>.935</td>
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<td>MCK-***-25 PST2</td>
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<td>1.485</td>
<td>1.265</td>
<td>1.102</td>
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</tbody>
</table>

### How To Specify

- **Contact Type**
  - S = Standard Socket
  - P = Standard Pin

- **Layout**
  - 9, 15, 21, 25, 31, 37

- **Hardware**
  - P = Jackpost (2-56 THD)
  - B = No Hardware

- **Shell Finish**
  - C2 = Cadmium, Yellow Chromate
  - N1 = Nickel, Electroless

(See Page 5-56)
MICRODOT Microminiature D Connectors

Technical & Performance Data

Performance
Contact Resistance — The average mated contact resistance is 4 milliohms, with a maximum value of 8 milliohms, using standard #24 solid copper leads when measured directly behind the crimp joints of the mated pin and socket contacts. The average resistance value at 100 microvolts is 4.8 milliohms.

Dielectric Withstanding Voltage (60 Hz rms room temperature) —
Solder Pots — 600 VAC at sea level; 150 VAC at 70,000 feet [21,336 m].
Wire Terminations — 750 VAC at sea level; 200 VAC at 70,000 feet [21,336 m].

Vibration (Per MIL-STD-202C, Method 204-A, Condition D) — No discontinuity in excess of 1 microsecond during twelve 20 minute sweeps from 10 to 2,000 CPS at 0.5 double amplitude or 20 G forces, whichever is less.

Corrosion Resistance (Per MIL-STD-202C, Method 101B, Condition B) — Both mated and unmated samples do not exceed the maximum allowable contact resistance (8 milliohms) when subjected to the 48 hour salt spray test.

Durability — The contact resistance after 500 mating cycles is less than the maximum allowable, 8 milliohms.

Insulation Resistance — Greater than 5,000 megohms at room temperature for the materials listed under “Materials.”

Maximum Current Carrying Capacity — No. 24 contact, 3 amperes. It must be recognized, however, that all the wires to a connector will not carry their maximum current under all environmental conditions due to wire temperature.

Contact Engaging and Separation Forces — 6 oz. [1.67N] maximum (eng.); 0.5 oz. [.14N] minimum (sep.).

Temperature Range (Operating) —
Diallyl phthalate -67°F to 257°F [-55°C to +125°C].

Materials
Insulator — Diallyl phthalate per MIL-M-14, Type SDG-F, Liquid Crystal Polymer (LCP) per ASTM D5138, or RYTON per ASTM D4067.
Contacts —
Pin Contact — Copper alloy and beryllium copper alloy make up the complete construction.
Socket Contact — Copper alloy.

Body Shell — High grade aluminum alloy.

Finishes
Contacts — Standard finish is 0.000050 [0.00127] gold over copper flash per MIL-G-45204, Type II.
Body Shell — Electroless nickel per AMS 2404.

Note:
Insulators are molded into their metal shells — No bonded joint is used.

Screw Mount

The only metal shell connector that mates with all existing plastic types. This line is ideal for external use and other applications requiring frequent disconnect and remating. When durability and reliability are paramount the metal shell connector is unsurpassed — it eliminates the need for retrofitting where new metal shell varieties must mate with older plastic types.

Originally designed for military applications, they are currently used for commercial requirements, including computers.

RYTON is a trademark of Chevron Chemical Company LLC.
### MICROMOT MCDM Series Metal Shell Connectors (Continued)

#### How To Specify

<table>
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<tr>
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<th>Shell Type and Material</th>
<th>Hardware (See Pages 5-79 and 5-80)</th>
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<td>KM — Jackscrew, Slotted Head, High Profile</td>
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**How To Specify**

**Part Number**

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**Note:** Weight given is with .500 [12.7] uninsulated, solid, 24 AWG gold plated copper pigtail.
Screw Mount Coaxial Terminations
Available now — RF Performance in standard subminiature rectangular connectors, with VSWR values of 1.01 to 1.10 in frequencies ranging in DC to 2.3 GHz. This is the COMBOMATE Connector.

This series of connectors incorporates the same metal shells and twist pin contacts used in the widely accepted, high reliability, MCDM Series. The RF COMBOMATE Connector Series will accommodate RG 196 A/U or RG 178 B/U coaxial cable terminated in a unique manner in standard, already tooled insert layouts. This feature results in savings in cost, time and space.

The RF COMBOMATE Connector Series will accommodate a maximum of 17 RG 196 A/U or RG 178 B/U cables in an area of less than .225 sq. inches [14.51 mm²]. Mixed layouts with coaxial terminations and standard AWG 24, 26 and 28 are also immediately available in 7 different shell sizes. The overall envelope and mounting dimensions of equivalent size of COMBOMATE Connectors are exactly the same as the standard MCDM Series.

Performance Data — Coaxial Terminations
Impedance — 49.0 to 51.0 Ohms.
Voltage Standing Wave Ratio (VSWR) — 1.01:1 to 1.10:1 at frequency ranging in DC to 2.3 GHz.
Dielectric Withstanding Voltage (60 Hz rms room temperature) — 750 VAC at sea level; 200 VAC at 70,000 feet [21,336 m].
Screw Mount Coaxial Terminations (Continued)

How To Specify

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*Ordering Criteria: A wide variety of contact combinations, coaxial and power mixed, are available. Contact TE Connectivity for additional arrangement numbers.
MICRODOT MCDM Series Metal Shell RF COMBOMATE Connectors (Continued)

Contact Arrangement as Viewed from the Engaging Face of the Pin Side

Note: The above contact arrangements are the maximum densities that can be obtained in each shell size when using RG 196 A/U or RG 178 B/U cable.
Panel Mounting
Dimensions — MCDM

Panel Cutout Dimensions

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<th>A -.000 [-.000]</th>
<th>B +.004 [+.012]</th>
<th>B -.000 [-.000]</th>
<th>C +.005 [+1.02]</th>
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Note: Front mounting preferred.
### MCKS (Metal Shell)

#### MIL-DTL-83513 Cross Reference

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Catalog 1308940
Revised 9-14
Dimensions are shown for reference purposes only. Specifications subject to change.

www.te.com
### MCDR (Plastic Shell)

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### MCDR (Plastic Shell)

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**Military Part No.**

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**Microdot Part No.**

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- MCDR3-B-51P6G9-72.0

**Dimensions are shown for reference purposes only. Specifications subject to change.**

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*C = Cadmium or N = Nickel (space applications only)

**C2 = Cadmium or N1 = Nickel (space applications only)