

# MCX

## Connectors

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### ❖ MCX Coaxial Connectors - MCX Microminiature Coaxial Connectors



#### GENERAL

- ▷ Microminiature coaxial connectors
- ▷ "Push-pull" snap-on mating

The MCX series connector utilizes the SMB connector series electrical line and has a particularly simple and compact interface.

30% smaller than the SMB, the MCX series helps to miniaturize equipment, optimize printed circuit board layouts with its range of models for PCBs, and lowers wiring connection costs through its "crimp-on" versions.

The excellent electrical characteristics of this series make it particularly suitable for both civil and military radio communications market.

#### Standards

- ▷ MIL-C-39012

# MCX

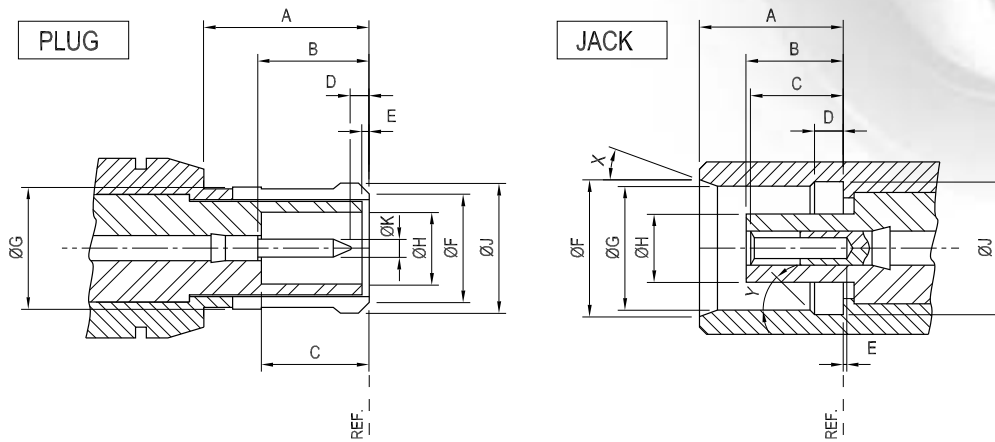
## Connectors

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### ❖ Characteristics

| Requirement               | MIL-C-39012 Paragraph | Specification                                       |
|---------------------------|-----------------------|---|
| <b>ELECTRICAL DATA</b>    |                       |   |
| Impedance                 |                       | 50Ω   |
| Frequency range           |                       | DC 6 GHz  |
| Contact current           |                       | DC 1.5A max.  |
| Voltage rating            |                       | 250V rms  |
| Contact resistance        | 3-16                  | Center contacts : 5.0 mΩ<br>Outer contacts : 1.0 mΩ |
| Insulation resistance     | 3-11                  | 1000 MΩ min.  |
| Insertion loss            | 3-27                  | 0.1dB max. at 1GHz                                  |
| V.S.W.R                   | 3-14                  | ≤1.5  |
| <b>MECHANICAL DATA</b>    |                       |   |
| Engagement force          |                       | 25 N  |
| Separation force          |                       | 8 ~ 20N   |
| Life                      | 3-15                  | 500 matings.  |
| Contact captivation       | 3-14                  | 10 N  |
| <b>ENVIRONMENTAL DATA</b> |                       |   |
| Temperature range         |                       | : -65°C~+125°C                                      |
| Corrosion resistance      | 3-13                  | MIL-STD-202, Method 101, Condition B.               |
| Moisture resistance       | 3-21                  | MIL-STD-202, Method 106.                            |
| Thermal shock             | 3-20                  | MIL-STD-202, Method 107, Condition C.               |
| Vibration                 | 3-18                  | MIL-STD-202, Method 204, Condition D.               |
| <b>MATERIALS</b>          |                       |   |
| Bodies                    |                       | Brass   |
| Outer contacts            |                       | Beryllium copper                                    |
| Insulators                |                       | PTFE Teflon   |
| <b>PLATINGS</b>           |                       |   |
| Bodies                    |                       | Gold plated   |
| Center contacts           |                       | Gold plated   |

## ❖ Interface Dimensions



INTERFACE DIMENSIONS in mm/inch

|   | PLUG      |           | JACK      |           |
|---|-----------|-----------|-----------|-----------|
|   | Min.      | Max.      | Min.      | Max.      |
| A | 4.15/.163 | —         | 4.00/.157 | 4.12/.162 |
| B | 2.80/.110 | 3.20/.126 | 2.60/.102 | 2.80/.110 |
| C | 2.80/.110 | 3.20/.126 | 2.30/.090 | 2.80/.110 |
| D | 0.15/.006 | —         | 0.75/.029 | 0.85/.033 |
| E | 0.00/.000 | 0.30/.012 | 0.00/.000 | —         |
| F | —         | 3.60/.142 | 3.80/.150 | —         |
| G | —         | 3.40/.134 | 3.42/.135 | 3.48/.137 |
| H | 2.00/.079 | 2.07/.081 | 1.80/.071 | 1.98/.078 |
| J | 3.72/.146 | 3.80/.150 | 3.60/.142 | 3.70/.146 |
| X |           |           | 18 °      | 22 °      |
| Y |           |           | 43 °      | 47 °      |

**Applicable standards**

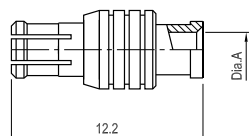
▷ MIL-C-39012

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### ❖ Semi-Rigid Cables

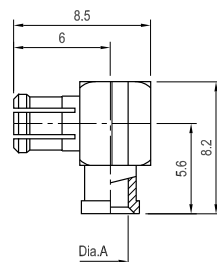
Straight Plug



for cable solder

|             |            |
|-------------|------------|
| Part number | 1M-101     |
| Cable group | U85        |
| Dim. A      | 2.25(.089) |

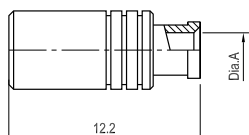
Right angle Plug



for cable solder

|             |            |
|-------------|------------|
| Part number | 1M-301     |
| Cable group | U85        |
| Dim. A      | 2.25(.089) |

Straight Jack

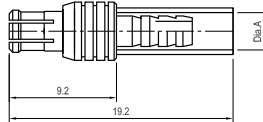


for cable solder

|             |            |
|-------------|------------|
| Part number | 1M-201     |
| Cable group | U85        |
| Dim. A      | 2.25(.089) |

## ❖ Flexible Cables

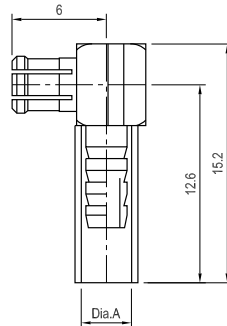
Straight Plug



for cable crimp

|             |           |
|-------------|-----------|
| Part number | 1M-111    |
| Cable group | 316       |
| Dim. A      | 3.2(.089) |

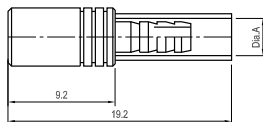
Right angle Plug



for cable crimp

|             |           |
|-------------|-----------|
| Part number | 1M-311    |
| Cable group | 316       |
| Dim. A      | 3.2(.089) |

Straight Jack



for cable crimp

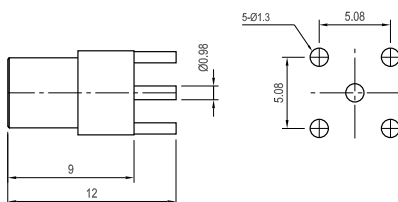
|             |           |
|-------------|-----------|
| Part number | 1M-211    |
| Cable group | 316       |
| Dim. A      | 3.2(.089) |

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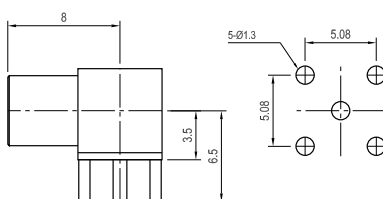
### ❖ Receptacles- 50Ω

Straight PCB Jack



|             |          |
|-------------|----------|
| Part number | 1M-501   |
| Cable group | PCB Jack |

Right angle PCB Jack



|             |          |
|-------------|----------|
| Part number | 1M-701   |
| Cable group | PCB Jack |