

# Micro Miniature Coaxial Connectors (MMS)

## Cable Assemblies



160

- Minicoaxial connector applicable in high frequency assemblies
- Applications for 50  $\Omega$  up to 6 GHz

**Important Notice**  
• Applications for 75  $\Omega$  up to 1 GHz  
• Suitable for SMT reflow  
• Right angle version, type 29, fits cable type 017  
• Straight version, type 29, fits cable type 017  
• Supplied as a component of a complete assembly

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## Physical

**Insulation**  
Material: PTFE  
Flammability: UL 94V-0

**Contact**  
Material: Brass  
Plating: Nickel 30 $\mu$ m min (.26 $\mu$ m) Gold

**Body**  
Material: Zamac (Zinc Alloy)  
Plating: Nickel

## Electrical

**Voltage Rating:** 50 Vrms Max  
**Current:** 0.9 A Max  
**Power:** 40 W Max  
**Insulation resistance:** 5  $\times$  10  $\Omega$   
**Withstanding Voltage:** 250 Vrms  
**Characteristic Impedance:** 50  $\Omega$   
**Bandwidth (50  $\Omega$ ):** 6 GHz  
**Bandwidth (75  $\Omega$ ):** 1 GHz  
**VSWR :** 50  $\Omega$  (Mated Pair) 1.07 at 2 GHz    75  $\Omega$  (Mated Pair) 1.14 at 1 GHz  
**RF Insertion Loss:** 0.2 dB at 2 GHz  
**RF Leakage (Mated Pair):** -40 dB at 2 GHz

## Mechanical

**Connector Insertion/Withdrawal Force:** 2 N Min, 10 N Max  
**Cable Retention Force:** 66.7 N Min  
**Durability (Insertion/Withdrawal):** 50 cycles

## Environmental

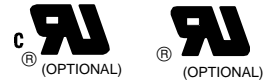
**Temperature Rating:** -40° to +90°C  
UL File No.: E86982 (Optional)

### 3M Electronic Products Division

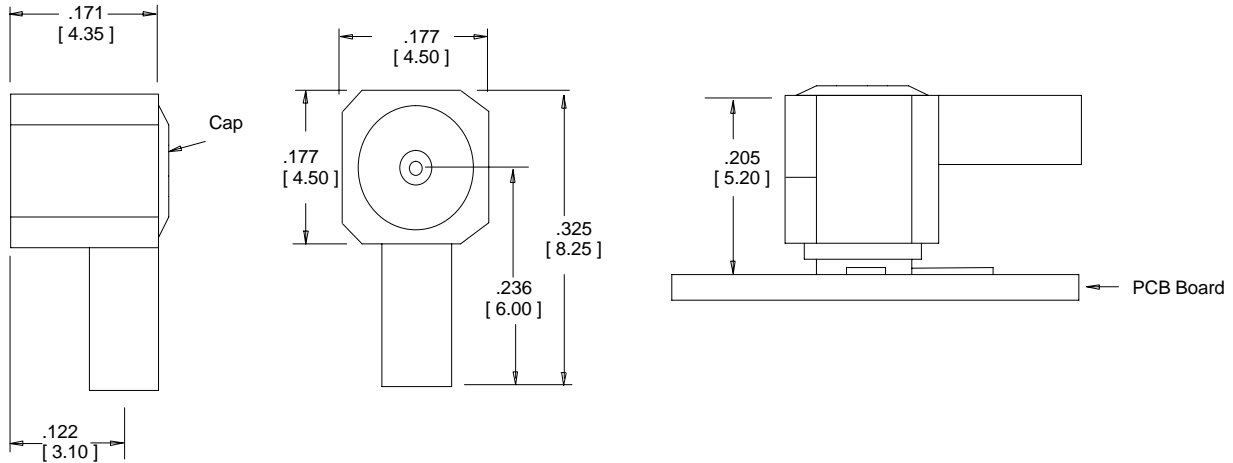
6801 River Place Blvd.  
Austin, TX 78726-9000

For Technical information and quoting call  
**800-334-7372**  
For ordering information call  
**800-225-5373**

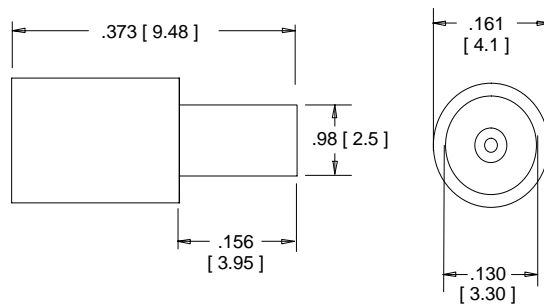
Length Tolerance	
<10":	±.25"
10" to 20":	±.50"
20" to 40":	±.60"
40" to 120":	±1.00"
>120" – Up:	±2.00"
Minimum Length: 1.6"	



### Right Angle



### Straight



### Ordering Information

**98XXXX-XXX-XXX.X X**

Left Connector Type/Right Connector Type  
 28 = Right angle, plug  
 29 = Straight, plug (017 cable only)  
 00 = Open end, no prep  
 XX = Specific  
 35 = Right angle, plug (with 30 μ" gold option)

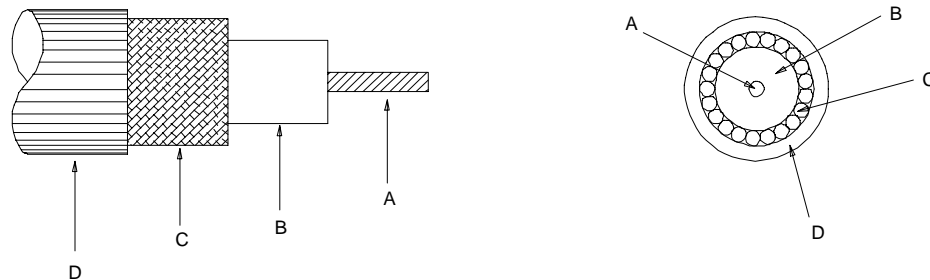
Cable Type  
 018 = 50 Ω, miniature  
 013 = 50 Ω, double braid  
 014 = 50 Ω, conformable  
 017 = 50 Ω, RG-178  
 041 = 75 Ω, high speed

Overall (Tip to Tip)  
 Length in inches

Certification  
 Y = CUL  
 N = No Certification

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### Cable Specification



#### Mechanical Specifications (TYP)

Cable Type		A Center Conductor	B Dielectric Material	C Shield (Braid)	D Jacket
013	50 ± 5 Ω	24 AWG Solid SPC .0201" (.51 mm) O.D.	Foamed FluoroPolymer .056" nominal O.D. (1.47 mm nominal)	38 AWG SPC Double Braided 90% nominal coverage each .063" (1.60 mm)	FEP Teflon .077" nominal (1.96 mm nominal)
014	50 Ω nominal	24 AWG Solid SCCCS .0201" (.51 mm) O.D.	PTFE .064" nominal O.D. (1.63 mm nominal)	Copper Conformable Tin Composit Braid 100% coverage	None
017	50 ± 2 Ω	30 AWG Stranded (7/38) SCCCS .012" (.30 mm) O.D.	PTFE .033" nominal O.D. (.84 mm nominal)	38 AWG SPC Braid 95% nominal coverage .059" (1.50 mm)	FEP Color Natural .07" nominal (1.90 mm)
018	50 ± .5 Ω	34 AWG Stranded SPA .0075" (.19 mm) O.D.	PTFE .022" nominal O.D. (.57 mm nominal)	40 AWG SPC Braid 87% minimum coverage	FEP Color White .05" nominal (1.27 mm nominal)
041	75 ± 3 Ω	30 AWG Stranded (7/38) SPC .012" (.30 mm) O.D.	FEP .045" nominal O.D. (1.1 mm nominal)	40 AWG TPC Braid 90% nominal coverage .059" (1.50 mm)	FEP Color Gray .074" nominal (1.88 mm)

Teflon is a registered trademark of E. I. du Pont de Nemours & Co., Inc.

#### Electrical Specifications (TYP)

Cable Type		Capacitance	Propagation Delay	Attenuation	Conductor DC Resistance
013	50 ± 5 Ω	24 pF/ft nominal (78 pF/m nominal)	1.20 ns/ft (3.9 ns/m)	27 dB/100 ft @ 1 GHz (89 dB/100 m)	25.7 Ω/kft (84.31 Ω/km)
014	50 Ω nominal	29.5 pF/ft nominal (97 pF/m nominal)	1.45 ns/ft (4.76 ns/m)	13 dB/100 ft @ 400 MHz (43 dB/100 m)	64.2 Ω/kft (211 Ω/km)
017	50 ± 2 Ω	32 pF/ft nominal (105 pF/m nominal)	1.46 ns/ft (4.8 ns/m)	33 dB/100 ft @ 400 MHz (108 dB/100 m)	240 Ω/kft (787 Ω/m)
018	50 ± .5 Ω	29.26 pF/ft nominal (96 pF/m nominal)	1.43 ns/ft (4.7 ns/m)	30 dB/100 ft @ 200 MHz (110 dB/100 m)	225 Ω/kft (738 Ω/km)
041	75 ± 3 Ω	16 pF/ft nominal (52 pF/m nominal)	1.22 ns/ft (4.0 ns/m)	10 dB/100 ft @ 100 MHz (27.5 dB/100 m)	90 Ω/kft (295 Ω/km)

Inch  
[mm]

Tolerance Unless Noted			
	.0	.00	.000
Inch	± .1	± .01	± .005

[ ] Dimensions for Reference only

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