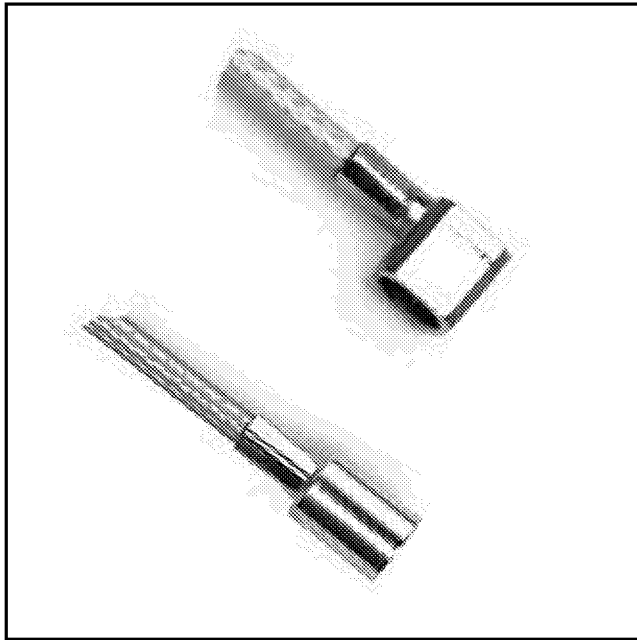


# Micro Miniature Coaxial Connectors (MMS)

Cable Assemblies



211

## IMPORTANT NOTICE TO PURCHASER

ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TESTS WE BELIEVE TO BE RELIABLE, BUT THE ACCURACY OR COMPLETENESS THEREOF IS NOT GUARANTEED, AND THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED:

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Date Issued: October 2, 1998

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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**

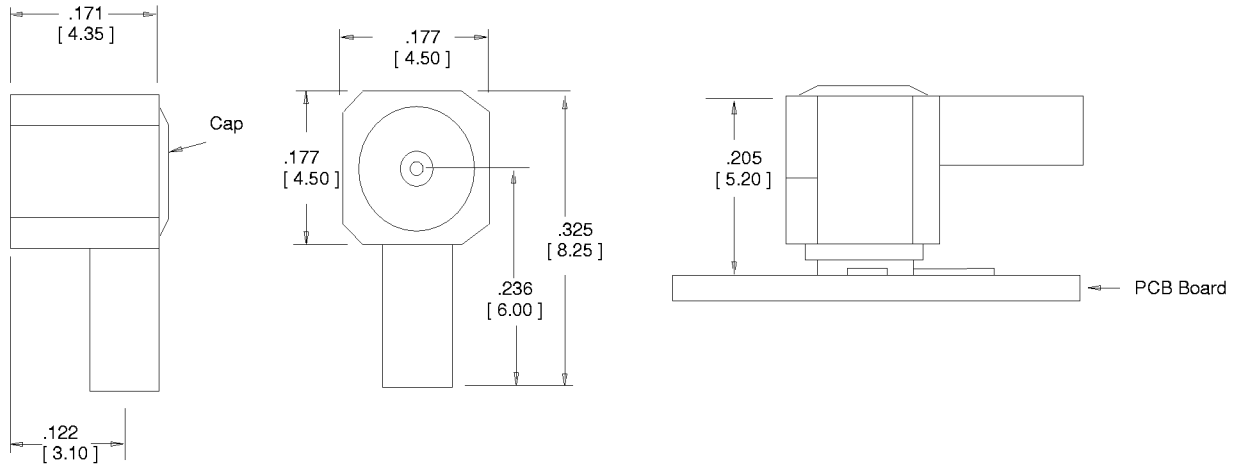
For ordering information call

**800-225-5373**

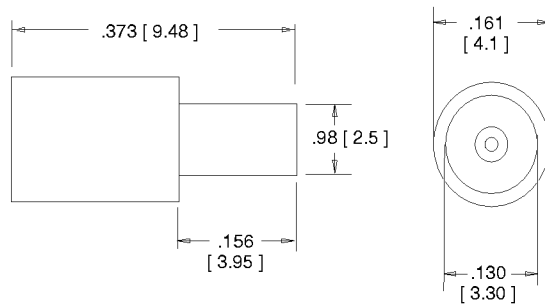
Length Tolerance	
<10":	±.25"
10" to 20":	±.50"
20" to 40":	±.60"
40" to 120":	±1.00"
>120" - Up:	±2.00"
Minimum Length: 1.6"	



### 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

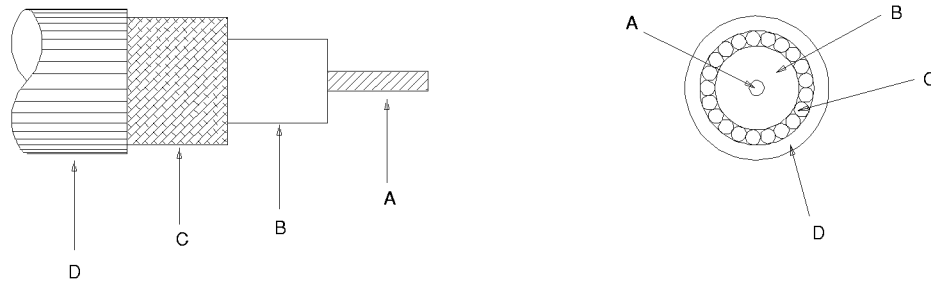
- 018 = 50 Ω, miniature
- 013 = 50 Ω, double braid
- 014 = 50 Ω, conformable
- 017 = 50 Ω, RG178
- 041 = 75 Ω, high speed

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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