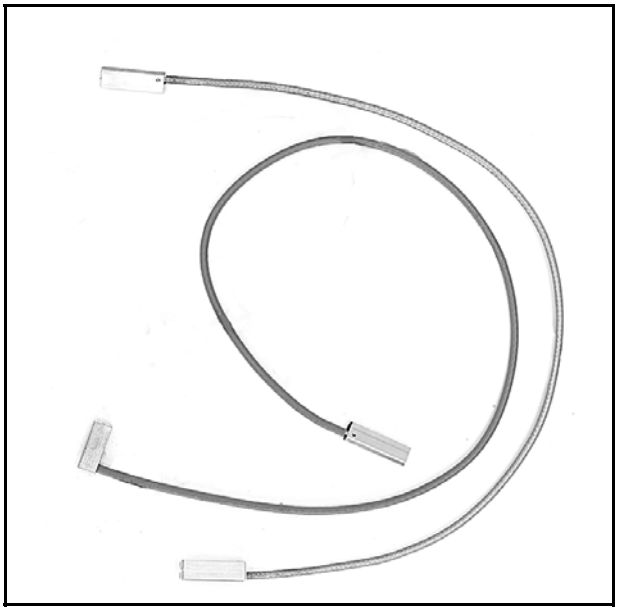
3M™ Shielded Controlled Impedance (SCI)

.100″ Cable Assemblies



- .100 inch (2.54 mm) center spacing
- Mates with standard 3M two-pin headers
- Supplied as a completed assembly

Stand-Alone version

- Available in right angle and straight configurations with optional polarization feature
- Right angle connector has optional two-pin header latch

Carrier version

- Available only in straight configuration designed for use with the 3M SCI carrier system

Date Modified: September 23, 2005

Physical

(Connector Insulation) Material:	Thermoplastic
Flammability:	UL 94V-0
(Connector Contact) Material:	Beryllium Copper
Plating:	50/50 μ″ Au/Ni (1.27/1.27 μm Au/Ni)
(Connector Shieldbox) Material:	Copper Zinc Alloy
Plating:	Solderable Nickel

Electrical

Current Rating:	1 A
Insulation Resistance:	>5 x 10^9 Ω
Withstanding Voltage:	500 V AC
Characteristic Impedance:	See cable types

Mechanical

Center Spacing:	.100″ (2.54 mm)
Mating Pin Dimensions:	.024″ min/.026″ max (0.61 mm/0.665 mm)
Mating Pin Length 20, 21, 22, 23:	.23″ nom (5.80 mm); 24: .21″ nom (5.02 mm)
Contact Mating Point 20, 21, 22, 23:	.13″ (3.40 mm); 24: .10″ (2.60 mm)
Connector Insertion Force:	2.3 N max [Pin:0.025″ (0.63 mm)]
Connector Withdrawel Force:	1.5 N min [Pin:0.025″ (0.63 mm)]
Cable Retention Force:	50 N min
Durability (Insertion/Withdrawal):	500 cycles

Environmental

Temperature Rating:	22, 23: -55 to +105°C; 24: -55 to +125°C

UL File No.: E86982 (Optional)

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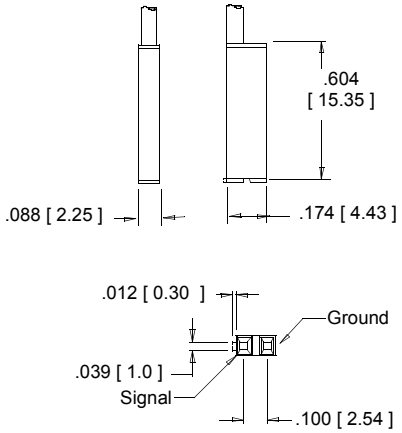
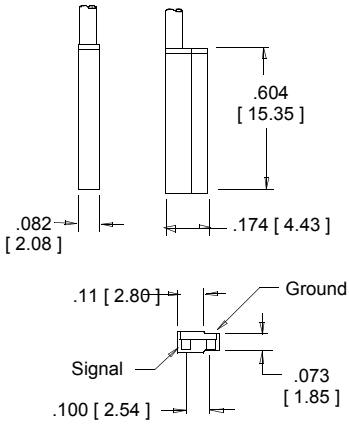
Connector Types

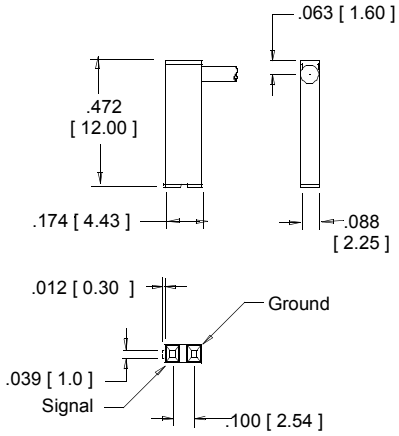
Stand Alone Version
Type 23



Carrier Version
Type 24



Right Angle Version
Type 22

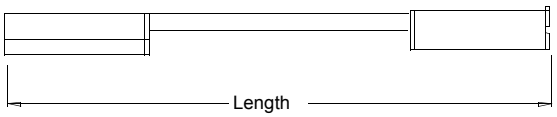


Inch
[mm]

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

[ ] Dimensions for Reference only

Example Assembly



Assembly Tolerances:
<10″:±1/4″
10″ to 36″:
±1/2″
36″ to 120″:
±1″
>120″:±2″
Minimum Length:
4.3″

Ordering Information

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

Left Connector Type/Right Connector Type
22 = Right angle, nonpolarized
23 = Straight, nonpolarized
24 = Carrier version, straight

Cable Type
017 = 50 Ω
027 = 50 Ω Low capacitance
041 = 75 Ω
XXX = For other cable options contact 3M (if non standard)

Length (inches)

Harness Required
A = Multiple Assy's Harnessed
0 = Single Assembly Only

Ground Pattern
S = Signals as indicated on connector dwg
Z = Customer special ground pattern (Consult Factory)

USA and Canadian Certification
Y = Yes
N = No

TS-0803-05
Sheet 2 of 3

For technical, sales or ordering information call
800-225-5373

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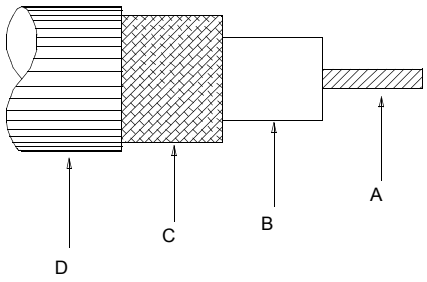
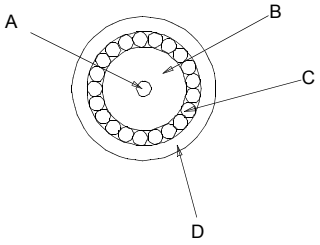
Cable Specification





Physical Properties (TYP)					
Cable Type		**A** **Center Conductor**	**B** **Dielectric Material**	**C** **Shield**	**D** **Jacket**
017	50 Ω ± 5 Ω	30 AWG SCCCS Stranded (7/38) .012″ O.D. (0.30 mm O.D.)	PTFE .033″ O.D. (0.84 mm O.D.)	38 AWG Braid (SPC) 95% nominal coverage .059″ O.D. (1.50 mm O.D.)	FEP Natural Color .071″ O.D. (1.80 mm O.D.)
027	50 Ω ± 2 Ω	26 AWG SPC Stranded (7/34) .019″ O.D. (0.48 mm O.D.)	AIR/FEP Tube .044″ O.D. (1.1 mm O.D.)	38 AWG (SPC) Double Serve	FEP Blue Color .074″ O.D. (1.88 mm O.D.)
041	75 Ω ± 3 Ω	30 AWG SPC Stranded (7/38) .012″ O.D. (0.30 mm O.D.)	FEP (Porous) .045″ O.D. (1.14 mm O.D.)	40 AWG Braid (TPC) 90% min coverage .059″ O.D. (1.50 mm O.D.)	FEP Gray Color .074″ O.D. (1.88 mm O.D.)
SCCCS = Silver Coated Copper Covered Steel SPC = Silver Plated Copper TPC = Tin Plated Copper					

Electrical Properties (TYP)					
Cable Type		**Capacitance**	**Propagation Delay**	**Attenuation**	**Conductor Resistance**
017	50 Ω ± 5 Ω	32 pf/ft max (105 pf/m)	1.46 ns/ft nominal (4.8 ns/m)	33 dB Max/100 ft @ 400 MHz (108 dB/ 100 m)	.24 Ω/ft at 68°F (0.8 Ω/m at 20°C)
027	50 Ω ± 2 Ω	23 pf/ft nom (75 pf/m)	1.15 ns/ft nominal (3.77 ns/m)	20 dB /100ft @ 400 MHz Nom (65 dB/100 m)	.041 Ω/ft at 68°F (.15 Ω/m at 20°C)
041	75 Ω ± 3 Ω	16 pf/ft max (52 pf/m)	1.22 ns/ft nominal (4.0 ns/m)	10 dB Max/100 ft @ 100 MHz (33 dB/100 m)	.09 Ω/ft at 68°F (0.3 Ω/m at 20°C)

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