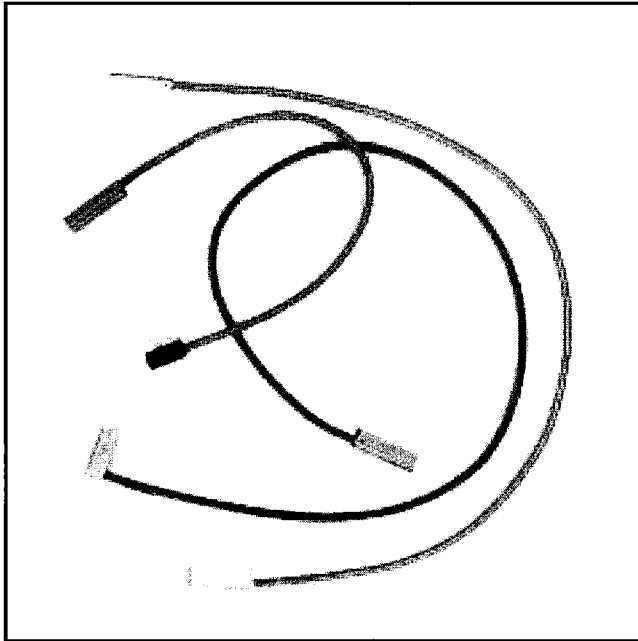


Shielded Controlled Impedance (SCI)

Cable Assemblies



162

Stand-Alone version

- Available in right angle and straight configurations with optional polarization feature
- .100 inch (2.54 mm) center spacing
- Mates with standard 3M two-pin headers
- 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
- Supplied as a component of a complete assembly

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Sheet 1 of 3

Date Issued: February 19, 1999

Physical

Connector Insulation

Material: Thermoplastic
Flammability: UL 94V-0

Connector Contact

Material: Beryllium Copper
Plating: 50/50 μ " Au/Ni (1.27/1.27 μ m Au/Ni)

Connector Shieldbox

Material: Copper Zinc Alloy
Plating: Solderable Nickel

Electrical

Insulation Resistance: $>5 \times 10^9 \Omega$

Withstanding Voltage: 500 Vdc

Characteristic Impedance: $50 \pm 3 \Omega$, Bandwidth 3 GHz

Characteristic Impedance: $75 \pm 5 \Omega$, Bandwidth 1 GHz

Environmental

Temperature Rating: 20, 21, 22, 23: -55 to $+105^\circ\text{C}$;
24: -55 to $+125^\circ\text{C}$

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 Withdrawal Force: 1.5 N min [Pin:0.025" (0.63 mm)]

Cable Retention Force: 50 N min

Durability (Insertion/Withdrawal): 500 cycles

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

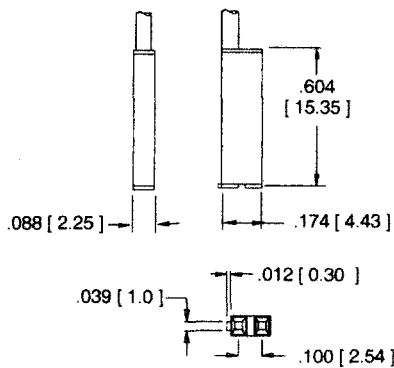
800-225-5373

Shielded Controlled Impedance (SCI)

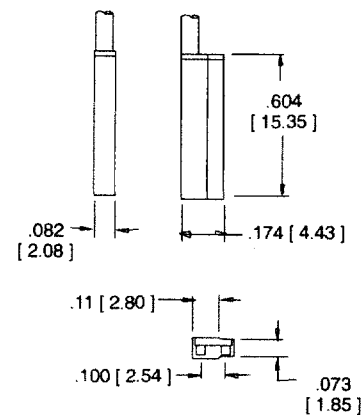
Cable Assemblies

Connector Specifications

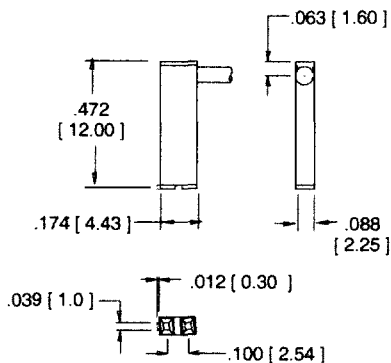
Stand Alone Connector Type 21, 23



Carrier Version Type 24



Right Angle Version Type 20, 22



Ordering Information

98XXXX-XXX-XXX.X X

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

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

Length Tolerance
 <10": ±1/4"
 10" to 36": ±1/2"
 36" to 120": ±1"
 >120": ±2"
 Minimum Length: 4.3"

Certification
 Y = CUL
 N = No Certification

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 Sheet 2 of 3

3M Electronic Products Division

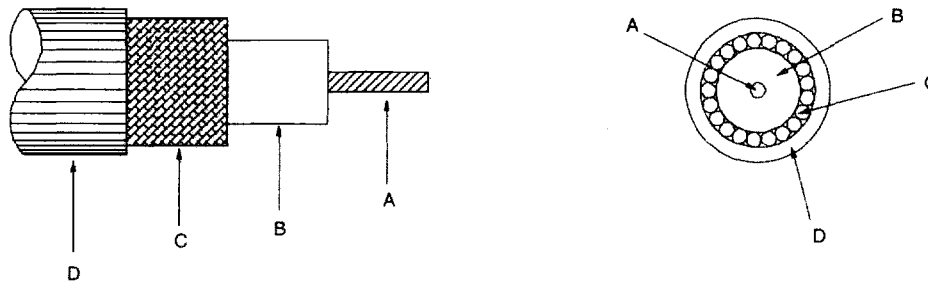
6801 River Place Blvd.
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For Technical information and quoting call
800-334-7372
 For ordering information call
800-225-5373

Shielded Controlled Impedance (SCI)

Cable Assemblies

Cable Specification



Mechanical Specifications (TYP)

Cable Type		A Center Conductor	B Dielectric Material	C Shield (Braid)	D Jacket
017	50 Ω ± 2 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 SPC Braid 95% nominal coverage .059" O.D. (1.50 mm O.D.)	FEP Natural Color .07" O.D. (1.90 mm O.D.)
041	75 Ω ± 3 Ω	30 AWG SPC Stranded (7/38) .012" O.D. (0.30 mm O.D.)	FEP .045" O.D. (1.1 mm O.D.)	40 AWG TPC Braid 90% nominal coverage .059" O.D. (1.50 mm O.D.)	FEP Gray Color .074" O.D. (1.88 mm O.D.)

Electrical Specifications (TYP)

Cable Type		Capacitance	Propagation Delay	Attenuation	Conductor Resistance
017	50 Ω ± 2 Ω	32 pF/ft Max (105 pF/m Max)	1.46 ns/ft nominal (4.8 ns/m nominal)	33 dB Max/100 ft @ 400 MHz (108 dB/100 m)	.24 Ω/ft at 68°F (0.8 Ω/m at 20°C)
041	75 Ω ± 3 Ω	16 pF/ft Max (52 pF/m Max)	1.22 ns/ft nominal (4.0 ns/m nominal)	10 dB Max/100 ft @ 100 MHz (27.5 dB/100 m)	.09 Ω/ft at 68°F (0.3 Ω/m at 20°C)

Inch
[mm]

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

[] Dimensions for
Reference only

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Sheet 3 of 3