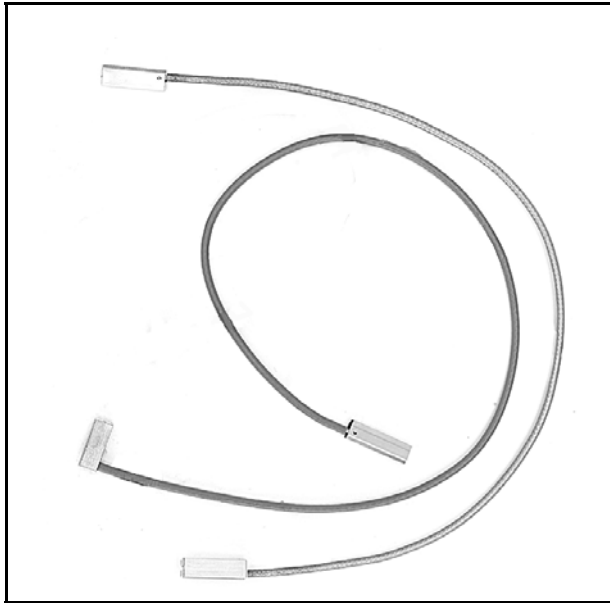


3M™ Shielded Controlled Impedance (SCI)

.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

TS-0803-05
Sheet 1 of 3

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

Current Rating: 1 A
Insulation Resistance: $>5 \times 10^9 \Omega$
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 Withdrawal 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)

3M™ Shielded Controlled Impedance (SCI)

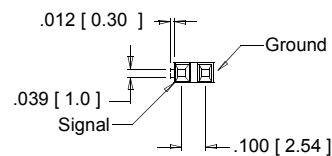
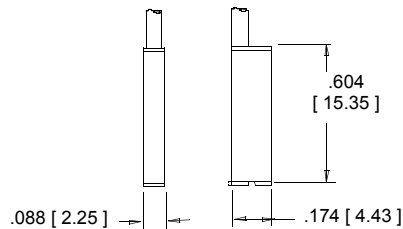
.100"

Cable Assemblies

Connector Types

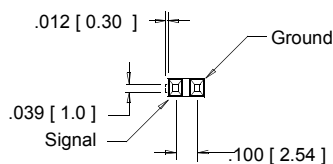
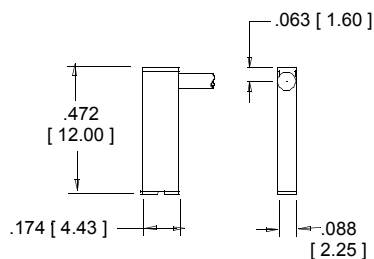
Stand Alone Version

Type 23



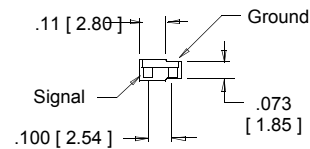
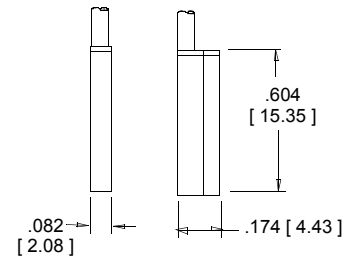
Right Angle Version

Type 22



Carrier Version

Type 24

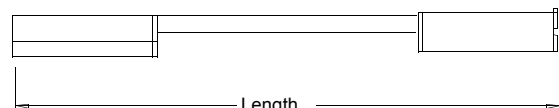


Inch
[mm]

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)

USA and Canadian

Certification

Y = Yes

N = No

Ground Pattern

S = Signals as indicated on connector dwg

Z = Customer special ground pattern

(Consult Factory)

Harness Required

A = Multiple Assy's Harnessed

0 = Single Assembly Only

TS-0803-05

Sheet 2 of 3



Interconnect Solutions

<http://www.3M.com/interconnects/>

3M is a trademark of 3M Company.

For technical, sales or ordering information call

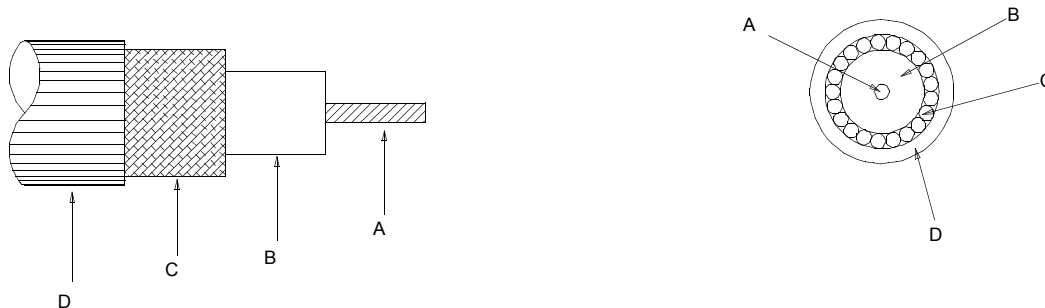
800-225-5373

3M™ Shielded Controlled Impedance (SCI)

.100"

Cable Assemblies

Cable Specification



Physical Properties (TYP)

Cable Type		A Center Conductor	B Dielectric Material	C Shield	D Jacket
017	50 Ω $\pm 5 \Omega$	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 $\pm 2 \Omega$	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 $\pm 3 \Omega$	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 $\pm 5 \Omega$	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 $\pm 2 \Omega$	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 $\pm 3 \Omega$	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)

TS-0803-05
Sheet 3 of 3



Interconnect Solutions

<http://www.3M.com/interconnects/>

3M is a trademark of 3M Company.

For technical, sales or ordering information call

800-225-5373

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.



Electronics

6801 River Place Blvd.
Austin, TX 78726-9000
800/328-1368
www.3M.com/electronics

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Minimum 10%
Post-Consumer Fiber

Printed in USA.

© 3M 2005

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

3M:

[982424-027-100.0-0-S-Y](#)