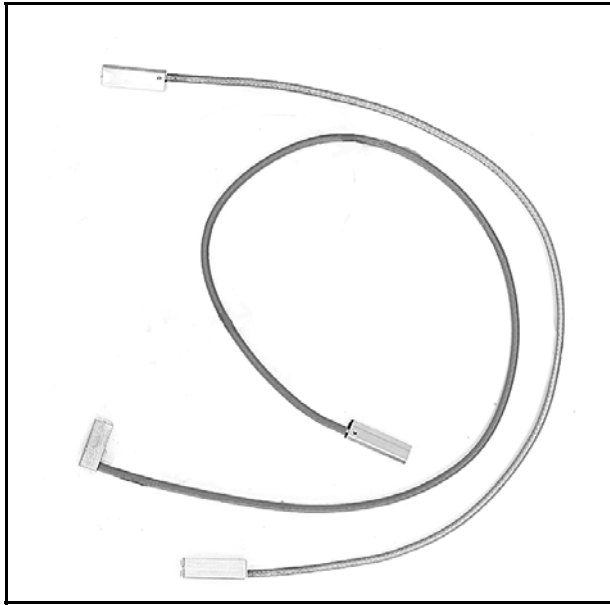


3M™ Shielded Controlled Impedance (SCI)

.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)

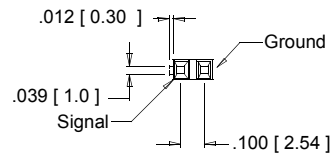
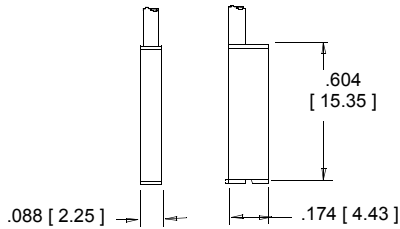
3M™ Shielded Controlled Impedance (SCI)

.100"

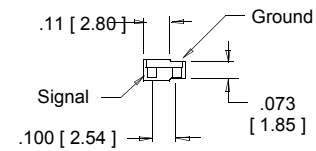
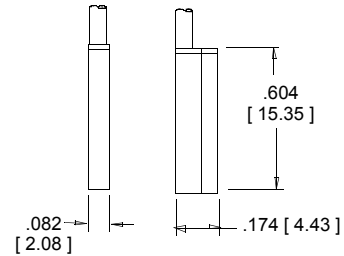
Cable Assemblies

Connector Types

Stand Alone Version Type 23



Carrier Version Type 24

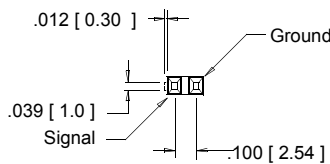
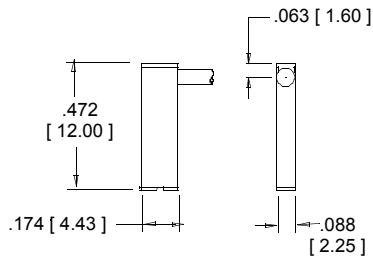


Inch
[mm]

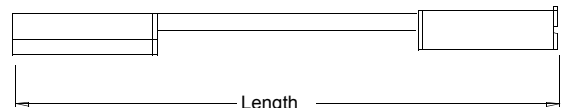
| Tolerance Unless Noted | | | |
|------------------------|-----|------|-------|
| | .0 | .00 | .000 |
| Inch | ±.1 | ±.01 | ±.005 |

[] Dimensions for Reference only

Right Angle Version Type 22



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

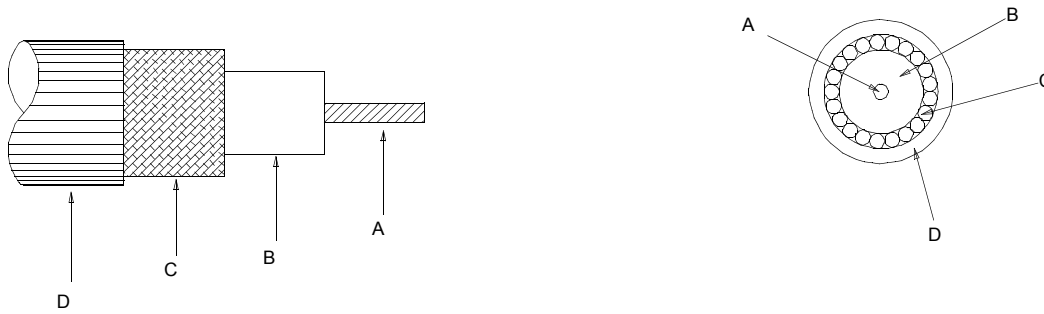
TS-0803-05
 Sheet 2 of 3

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 ± 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) |

TS-0803-05
Sheet 3 of 3

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.

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