

3M™ Shielded Controlled Impedance (SCI)

2 mm HM 2×1, For Twinax and Coax

Cable Assemblies



- High density 2.0 mm center spacing
- Mates with CompactPCI®, HSHM, Futurebus® and 3M™ 2 mm Latch Eject Header, 1552 Series and Pin Strip Headers, 1512 Series
- Provides up to 12 Gb/s performance (contact 3M for additional data)
- Robust metal grounded connector housing provides impedance control and EMI shield
- Available with high performance coaxial or twinaxial cables
- Available with or without external ground clips
- 64 position carrier available, 14 sizes of latch eject carriers
- Contact 3M for custom configurations

Date Modified: August 6, 2008

TS-2105-B
Sheet 1 of 6

Physical

Connector Insulation Material: Thermoplastic

Flammability: UL 94V-0

Connector Contact Material: Copper Alloy

Plating: Nickel 100 μ" (2.54 μm) Avg/30μ" (0.76 μm) Avg. Gold

Connector Shield Material: Copper Alloy

Plating: Nickel 100 μ" (2.54 μm) Avg/30μ" (0.76 μm) Avg. Gold

Electrical

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

Withstanding Voltage: 500 V_{DC} for 1 minute

Characteristic Impedance: 50 Ω & 100 Ω single ended & differential

Cable Voltage Rating: 30 V

Cable Current Rating: 1 A

Mechanical

Pitch 2.0 mm (0.079") [signal to signal]

Mating Pin: 0.5 mm square (0.0197")

Contact Mating Point: 2.4 mm (0.094")

Connector Insertion Force: 180 gms Typical (0.4 lbs) [signal and ground]

Connector Withdrawl Force: 115 gms Typical (0.25 lbs) [signal and ground]

Durability (Insertion/Withdrawl): 500 cycles

Environmental

Temperature Rating: -40°C to +105°C

UL File No.: E86892

3M

Electronic Solutions Division
Interconnect Solutions

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

Futurebus is a registered trademark of the Institute of Electrical and Electronic Engineers, Inc. (IEEE)
CompactPCI is a registered trademark of PICMG-PCB. 3M is a trademark of 3M Company.

For technical, sales or ordering information call

800-225-5373

3M™ Shielded Controlled Impedance (SCI)

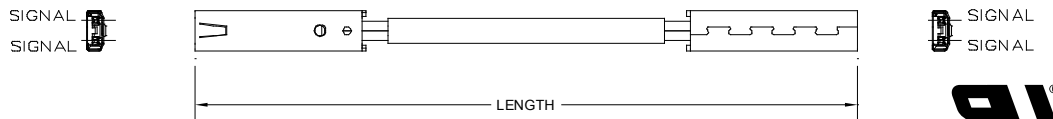
2 mm HM 2×1, For Twinax and Coax

Cable Assemblies

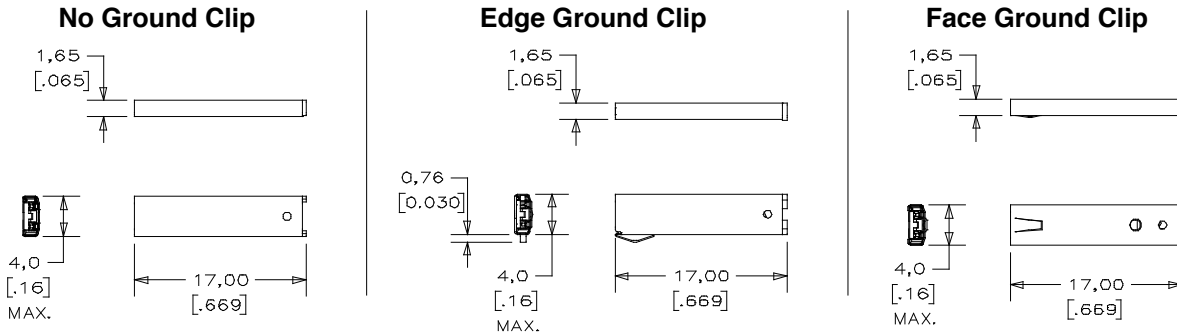
Coax Cable Assembly w/ Edge Ground Clip, Connector Type #25



Twinax Cable Assembly, w/ Face Clip, Connector Type #30



SCI Connector Types



Cable Assembly Ordering Information

98XXXX - XXX - XXX.X - X

Coax Version:
 Left Connector Type/Right Connector Type
 25 = carrier style, with edge clip, coax version
 27 = carrier style, w/o edge clip, coax version
 29 = carrier style, with face clip, coax version

Twinax Version:
 26 = carrier style, with edge clip, twinax version
 28 = carrier style, w/o edge clip, twinax version
 30 = carrier style, with face clip, twinax version

Cable Type
 027 = 50 Ω Coax (26 AWG conductor)
 058 = 100 Ω Twinax (26 AWG conductor)

Length
(inches)

Harnessing
 A = Multiple Assy's Harnessed
 0 = Single Assembly Only

Tolerance Unless Noted			
Inch	±.3	±.15	
	.0	.00	.000
[] Dimensions for Reference Only			

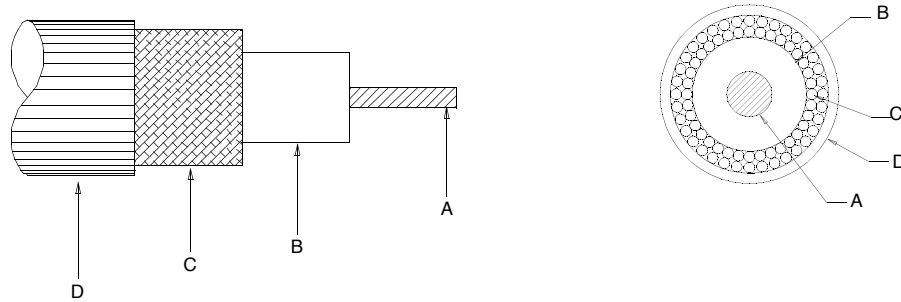
TS-2105-B
 Sheet 2 of 6

3M™ Shielded Controlled Impedance (SCI)

2 mm HM 2×1, For Twinax and Coax

Cable Assemblies

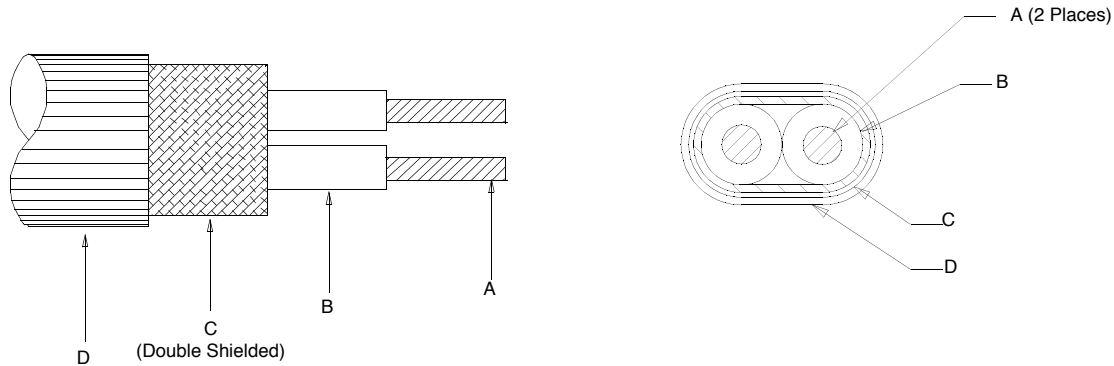
Coax Cable



Coax Physical Properties (TYP)					
Cable Type		A Center Conductor	B Dielectric Material	C Shield	D Jacket
027 Coax Blue	50 Ω	26 AWG Silver Plated Copper (7/34) 0.48 mm O.D. (.019" O.D.)	Air / FEP	Dual layer silver plated copper wire served shield	FEP 1.80 mm O.D. (.071" O.D.)

Coax Electrical Properties (TYP)					
Cable Type		Capacitance	Propagation Delay	Attenuation	
027	50 Ω	24 pf/ft nom	1.15 ns/ft nominal	0.57 db/ft @ 3 GHz	

Twinax Cable



Coax Physical Properties (TYP)					
Cable Type		A Center Conductor	B Dielectric Material	C Shield	D Jacket
058 Twinax Brown	100 Ω	26 AWG Silver Plated Copper (1) 0.406 mm O.D. (.016" O.D.)	Air / FEP	Silver plated copper braid over aluminized mylar	FEP 1.80 x 2.49 mm O.D. (.061" x 0.98" O.D.)

Coax Electrical Properties (TYP)					
Cable Type		Capacitance	Propagation Delay	Attenuation	
058	100 Ω	12 pf/ft nom	1.18 ns/ft nominal	0.52 db/ft @ 3 GHz	

TS-2105-B
Sheet 3 of 6



Electronic Solutions Division
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) Cable Assemblies

2 mm HM 2×1, For Twinax and Coax

Cable Assemblies

2 mm SCI Carrier for 2 mm Latch Eject Header 1552XX-X4XX

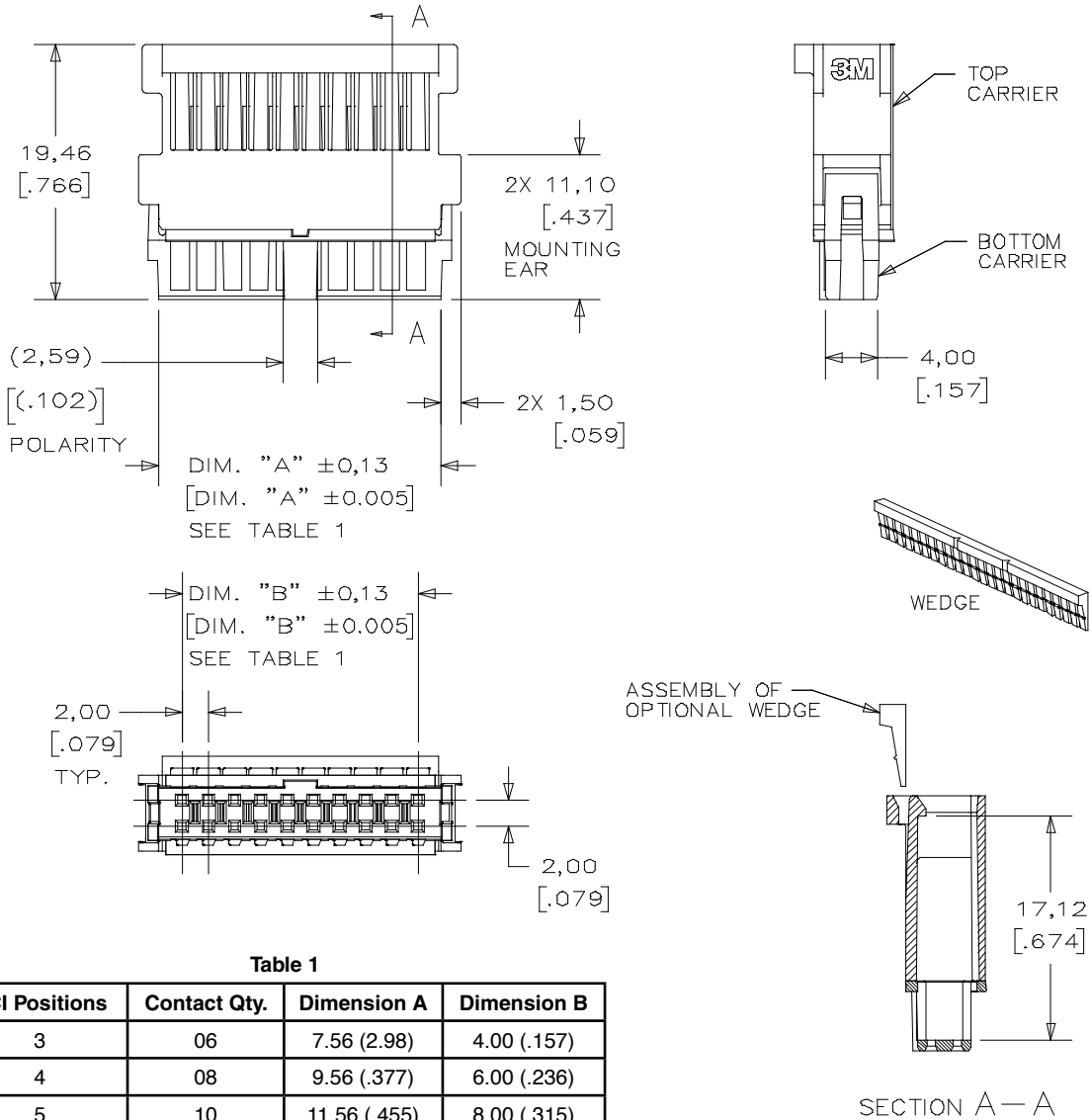


Table 1

SCI Positions	Contact Qty.	Dimension A	Dimension B
3	06	7.56 (2.98)	4.00 (.157)
4	08	9.56 (.377)	6.00 (.236)
5	10	11.56 (.455)	8.00 (.315)
6	12	13.56 (.534)	10.00 (.394)
8	16	17.56 (.692)	14.00 (.551)
10	20	21.56 (.849)	18.00 (.709)
11	22	23.56 (.928)	20.00 (.787)
12	24	25.56 (1.006)	22.00 (.866)
13	26	27.56 (1.085)	24.00 (.945)
15	30	31.56 (1.243)	28.00 (1.102)
17	34	35.56 (1.400)	32.00 (1.260)
20	40	41.56 (1.636)	38.00 (1.496)
22	44	45.56 (1.794)	42.00 (1.654)
* 25	50	51.56 (2.030)	48.00 (1.890)

*

* Available now; Contact 3M Sales for other positions.

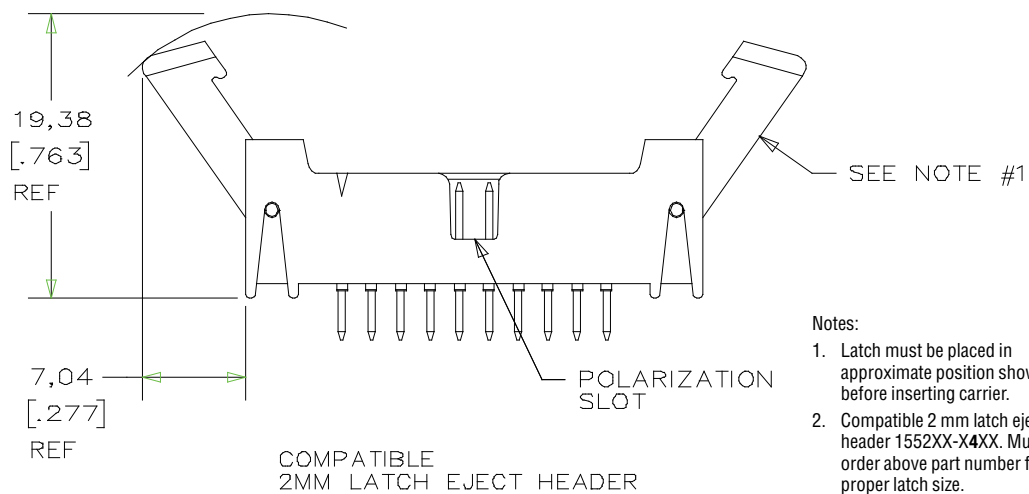
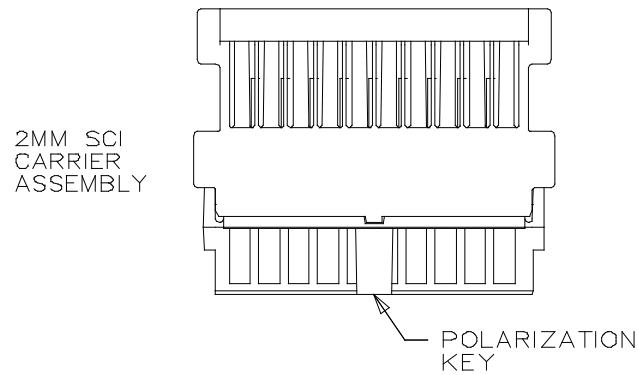
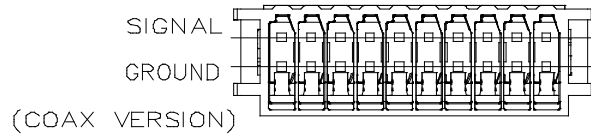
TS-2105-B
Sheet 4 of 6

3M™ Shielded Controlled Impedance (SCI)

2 mm HM 2×1, For Twinax and Coax

Cable Assemblies

2 mm SCI Carrier and Latch Eject Header



Ordering Information

Carrier: 93XX

Contact Qty. See Table 1.

Header: 1552XX - X4XX (See TS-2199 for full part number)

Ejector/Latch

TS-2105-B
Sheet 5 of 6

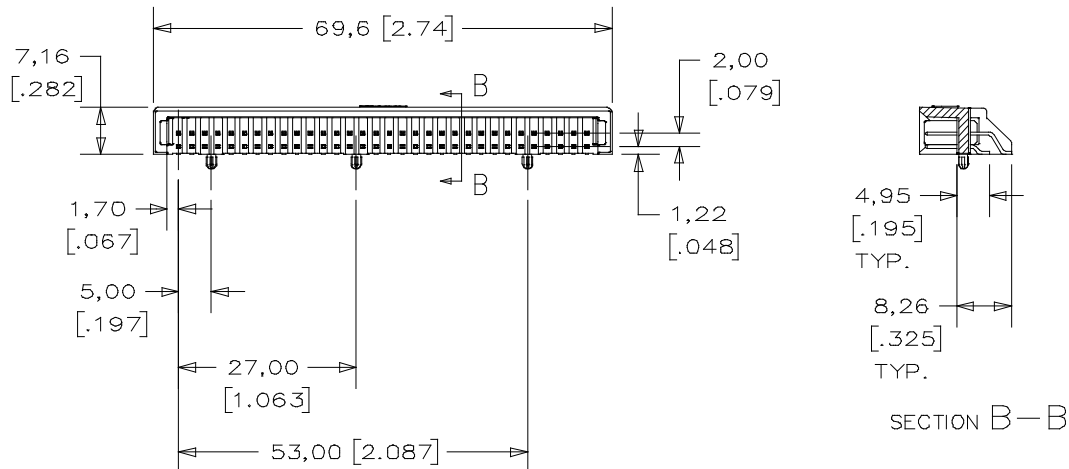
3M™ Shielded Controlled Impedance (SCI)

2 mm HM 2×1, For Twinax and Coax

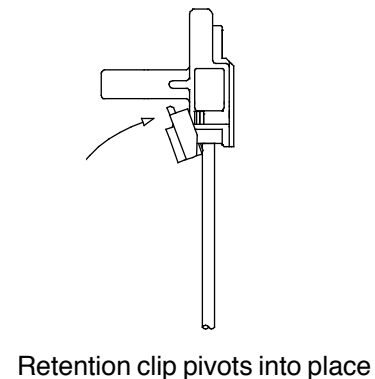
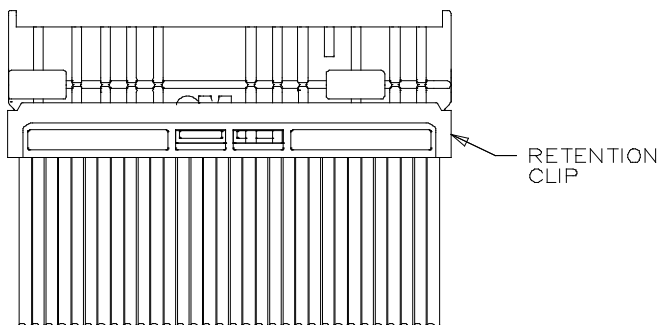
Cable Assemblies

2x32 2 mm SCI Carrier and SMT Header System

2x32 2 mm Surface Mount 3 Wall Header*



2x32 2 mm Carrier Housing



*Please contact 3M for PCB layout guidelines.

Accessories Ordering Information

9864 - 2X00

C = 2 × 32 2mm Retention Clip only
D = 2 × 32 2 mm Carrier Housing with Retention Clip
H = 2 × 32 Surface Mount Header

TS-2105-B
Sheet 6 of 6

3M
Electronic Solutions Division
Interconnect Solutions
<http://www.3M.com/interconnects/>

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

Regulatory Information Appendix

3M Electronic Solutions Division/Interconnect

EUROPE

Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product is RoHS Compliant 2005/95/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

This product contains lead in the solder tail area in excess of the maximum concentration value allowed.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC, as amended by EU Commission Decision 2005/717/EC, as amended by EU Court of Justice Decision 2008/C 116/04

This product contains decaBDE in the insulating material in excess of the maximum concentration allowed for finished products subject to EU RoHS that are placed on the EU market after June 30, 2008.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E5: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

CHINA

Appendix C1: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does not** contain any of the following substances in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix C2: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
端子镀层(contact plating)	×	○	○	○	○	○
○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)						
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

Appendix C3: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
合金(Metal alloy)	×	○	○	○	○	○
<p>○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)</p> <p>×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)</p>						

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.

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.**



3M Electronics Solutions Division

6801 River Place Blvd.
Austin, TX 78726-9000
U.S.A.
1-800-225-5373
www.3m.com/interconnects

Please recycle. Printed in USA.
© 3M 2008. All rights reserved.
RIA-2217B-E

3M is a trademark of 3M Company.