



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



3M™ Heat Shrink Tubing SMS

Adhesive-Lined, 4:1, Semi-Rigid, Polyolefin for the Automotive Industry

Data Sheet

May 2010

Description 3M™ Heat Shrink Tubing SMS is a co-extruded, dual wall product. It is a composite of a polyolefin shrinkable outer wall and a thermoplastic adhesive inner wall. SMS tubing does not degrade when exposed to automotive and marine environments and is not affected by severe vibration, extreme temperature changes, moisture or automotive fluids.

Features **All-Weather, Heat-Shrinkable, Dual Wall, Polyolefin Tubing for Automotive Wire Harnesses**

- Semi-rigid polyolefin
- Provides excellent strain relief
- Functional over wide temperature range
- Puncture resistant
- Resistant to salt water, automotive fluids and corrosive chemicals
- Fire retardant

Applications Semi-rigid SMS tubing is ideal for applications requiring moisture sealing, mechanical protection and strain relief.

The adhesive layer is compatible with typical wire insulation and is intended for moisture sealing and insulation of automotive, RV, truck, trailer, tractor, heavy equipment and marine wire splices, in-line components, fusible links and terminals.

Shrink Ratio SMS tubing has a 4:1 shrink ratio. When fully recovered, the tubing will shrink 25% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

The operating temperature range is -55°C (-67 °F) to 110°C (230 °F), with a minimum shrink temperature of 121°C (250 °F).

3M™ Heat Shrink Tubing SMS

Standard Sizes and Dimensions

Ordering Size	Maximum Expanded I.D.	Maximum Recovered I.D.	Nominal Recovered Melt Wall	Meltable Recovered Outer Wall	Color Code
.220	.220"	.045"	.030"	.027"	Yellow
.300	.300"	.060"	.033"	.028"	White
.350	.350"	.080"	.038"	.033"	Green
.450	.450"	.105"	.043"	.053"	Red
.700	.700"	.175"	.060"	.053"	Orange

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Applicable Specification: ESB-M99D56-FORD, MS-DB56-CHRYSLER

Physical Property (Test Method)	Typical Value US units (metric)
Color	Black, and other color-coded sizes
Tensile Strength	1900 PSI
Ultimate Elongation (ASTM-D2671)	350%
Longitudinal Change (ASTM-D2671)	+0, -10%
Secant Modulus (2%) (ASTM-D882 Procedure A)	35,000 PSI
Heat Aging	135°C (Adhesive Softens)
Specific Gravity (ASTM-D792) (outer wall)	1.25
Flammability (ASTM-D2671 Procedure B)	Self Extinguishing
Thermal Cycle	5°C to 135°C
Vibration	24 hours
Cold Flex	-30°C

Electrical Property (Test Method)	Typical Value US units (metric)
Dielectric Strength (ASTM-D149) (outer wall)	500 V/mil
Dielectric Withstand	1000 Volts AC
Current Leakage	<0.250 Microamps

Chemical Property (Test Method)	Typical Value US units (metric)
Auto fluid Compatibility	8 fluids

3M test methods available upon request.

3M™ Heat Shrink Tubing SMS

Handling and Safety Precautions	Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet and/or product label prior to handling or use.
--	--

Shelf Life & Storage	3M™ Heat Shrink Tubing SMS has a 2-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).
---------------------------------	---

Availability	Standard Packaging Cut pieces and 4 foot lengths. See price pages for standard lengths and carton quantities. Other sized, lengths and packaging options are available, subject to factory quotation.
---------------------	---

Printing
Custom printing to identify resistors, diodes and other components is available, subject to factory quotation.

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-0329.

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 at 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 is a trademark of 3M Company.



Electrical Markets Division

6801 River Place Blvd.
Austin, TX 78726-9000
800 676.8381
FAX: 800 828.9329
www.3M.com/electrical

Please recycle
© 3M 2010 All rights reserved
78-8129-9270-5 A