



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!



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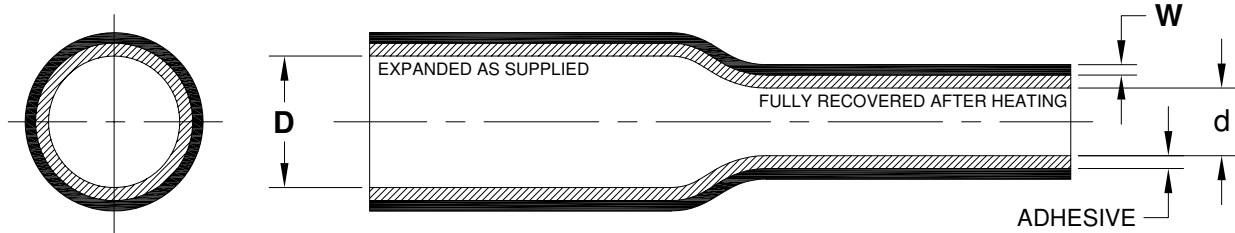
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## HRHT (High Ratio Heat-Shrink Tubing)



**Table of Dimensions, inch (mm):**

Part Description	Expanded I.D. D, Min.	Recovered I.D. d, Max.	Recovered Wall W, Ref.
HRHT-1/X	0.75 (19)	0.12 (3.0)	0.155 (3.9)
HRHT-2/X	1.50 (38)	0.23 (5.8)	0.155 (3.9)
HRHT-3/X	2.00 (51)	0.36 (9.0)	0.155 (3.9)
HRHT-4/X	3.00 (76)	0.50 (12.7)	0.155 (3.9)
HRHT-5/X	4.50 (114)	0.75 (19.0)	0.155 (3.9)

**Notes:**

- The hi-ratio tubing is heat-shrinkable and has expansion ratios as high as 6:1.
- "X" indicates reference-recovered length in inches (e.g. for 3.0-inch length: HRHT-2/3). The tolerance shall be +/- 10% of the specified recovered length.
- The tubing is UL recognized in sizes 1 through 4 only. The reference number is E85381(R).

**Material:**

-152, heat shrinkable, crosslinked flexible polyolefin.  
Standard factory applied hot melt adhesive is /97 or /42, as required.

**Color:** Black

**Specification Reference:**

Item	Specification
Heat-shrinkable tubing	SAE-AS81765/1
Adhesive /97, S1297	RW-2019
Adhesive /42, S1017	RT-1050/1

### CUSTOMER DRAWING

		Raychem Tubing 305 Constitution Drive, Menlo Park, CA 94025		TITLE:			
				<b>HRHT High Ratio Heat-Shrink Tubing</b>			
Unless otherwise specified dimensions are in inches. [Metric dimensions are shown in brackets]				DOCUMENT NO.:			
				<b>HRHT-1thru5/X</b>			
Tyco Electronics reserves the right to amend this drawing at any time. Users should evaluate the suitability of the product for their application.				REV:			
				C			
DRAWN BY:		CAGE CODE:	Org. Date:	File:	SCALE:	DATE:	
U. Nguyen		06090	5/28/09	HRHT-1thru5X.doc	None	July 15, 2009	
DCR NO. :				SIZE	SHEET:		
R090640				A	1 of 2		

**Table 2: Properties**

	Property	Performance	Test Method
<b>Physical</b>	Tensile Strength	1200 psi (8.3 Mpa) minimum	ASTM D-412
	Ultimate Elongation	250% minimum	ASTM D-412
	Specific Gravity	1.4 maximum	ASTM D-792
	Water Absorption	0.5% maximum	ASTM D-570 A
	Hardness	35 ± 5 Shore D	ASTM D-2240
	Flammability	Pass	ASTM D-635
	Corrosion Resistance	Pass	MIL-I-81765
	Low Temperature Flexibility 4 hours at -67 ± 2°F (-55 ± 1°C)	Pass	MIL-I-81765
	Heat Resistance 168 hours at 347± 2°F (175 ± 1°C)	Ultimate elongation, 200% minimum Tensile strength, 1000 psi (6.9 Mpa) minimum	MIL-I-81765
	Heat Shock 4 hours at 437 ± 5°F (225 ± 2°C)	No cracking, dripping or flowing	MIL-I-81765
<b>Elastic Memory</b>		275% minimum expansion to 4 inch (10 cm) of a fully recovered test specimen and 93% recovery of expanded specimen after oven conditioning for 1 minute at 302 ± 4°F (150 ± 2°C)	
<b>Electrical</b>	Dielectric Strength	200 V/mil (7880 V/mm) minimum	ASTM D-149
	Volume Resistivity	10 <sup>12</sup> ohm-cm minimum	ASTM D-257
<b>Chemical Fluid Resistance</b>		Ultimate elongation, 200% minimum Tensile strength, 750 psi (5.2 Mpa) minimum	MIL-I-81765
<b>Operating Temperature</b>		-131 to + 275°F (-55 to +135° C) (without adhesive)	

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