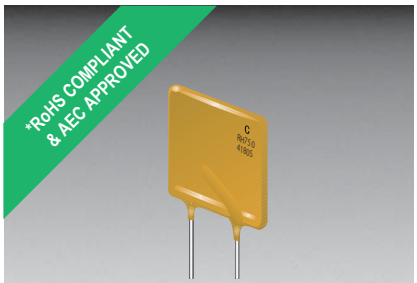


Features

- Compliant with AEC-Q200 Rev-C-Stress Test Qualification for Passive Components in Automotive Applications
- Operating temperature range up to 125 °C
- Low thermal derating factor
- Higher hold currents at elevated temperature
- Choice of operating cuttents
- RoHS compliant* and halogen free**
- Resettable fault protection of general electronic equipment

COPAL ELECTRONICS

PRCP-RHT Series - Polymer Resettable Circuit Protectors

Electrical Characteristics

Model	V max. Volts	I max. Amps	I_{hold}	I_{trip}	Resistance		Max. Time To Trip		Tripped Power Dissipation
			Amperes at 23 °C		Ohms at 23 °C		Amperes at 23 °C	Seconds at 23 °C	Watts at 23 °C
			Hold	Trip	$R_{Min.}$	$R_{1Max.}$ (Post Trip)		Max.	Typ.
PRCP-RHT070	16	40	0.7	1.4	0.3	0.8	3.5	4.0	1.4
PRCP-RHT200	16	100	2.0	3.8	0.045	0.110	12.5	3.0	1.4
PRCP-RHT450	16	100	4.5	7.8	0.022	0.054	22.5	3.0	3.6
PRCP-RHT650	16	100	6.5	12.0	0.011	0.026	32.5	5.5	4.3
PRCP-RHT750	16	100	7.5	13.1	0.0094	0.022	37.5	7.0	4.5
PRCP-RHT1300	16	100	13.0	24.0	0.0041	0.010	60.0	13.0	6.9

Environmental Characteristics

Operating Temperature	-40 °C to +125 °C	
Storage Tempetature	-40 °C to +85 °C	
Passive Aging	+85 °C, 1000 hours	±15 % typical resistance change
Humidity Aging	+85 °C, 85 % R.H. 1000 hours	±15 % typical resistance change
Thermal Shock	MIL-STD-202, Method 107, +125 °C to -40 °C, 10 cycles	±10 % typical resistance change
Vibration	MIL-STD-883C, Method 2007.1, Condition A	No change

Test Procedutes And Requirements For Model PRCP-RHT Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech	Verify dimensions and materials	Per PRCP physical description
Resistance	In still air @ 23 °C	Rmin ≤ R ≤ R1max
Time to Trip	At specified current. Vmax. 23 °C	T ≤ max. time to trip (seconds)
Hold Current	30 min. at Ihold	No trip
Trip Cycle Life	Vmax, Imax, 100 cycles	No arcing or burning
Trip Endurance	Vmax, 48 hours	No arcing or burning
Solderability	MIL-STD-202, Method 208	95 % min. coverage

Thermal Derating Chart - I_{hold} (Amps)

Model	Ambient Operating Tempetature									
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	125 °C
PRCP-RHT070	0.95	0.87	0.79	0.7	0.62	0.56	0.51	0.47	0.39	0.17
PRCP-RHT200	2.71	2.49	2.26	2.00	1.77	1.60	1.46	1.34	1.11	0.49
PRCP-RHT450	6.1	5.6	5.1	4.5	4.0	3.6	3.3	3.0	2.5	1.1
PRCP-RHT650	8.8	8.1	7.4	6.5	5.7	5.3	4.8	4.3	3.6	1.6
PRCP-RHT750	10.2	9.4	8.6	7.5	6.6	6.1	5.6	5.0	4.1	1.9
PRCP-RHT1300	17.7	16.3	14.8	13.0	11.4	10.5	9.6	8.6	7.2	3.3

How to Order

PRCP - RHT 750 - __

Product Designator

Series
RHT = High Temperature Radial Leaded Component

Hold Current,Ihold
070 - 1300 (0.70 - 13.00 Amps)

Packaging Options
- = Bulk Packaging
- 2 = Tape and Reel*

*Packaged per EIA 486-B

*RoHS Directive 2002/95/EC Jan 27 2003 including annex and RoHS Recast 2011/65/EU June 8,2011.
**COPAL follows the prevailing definition of "halogen free" in the industry. COPAL considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.
Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Customers should verify actual device performance in their specific applications.

Applications

- Protection of automotive circuitry including engine control modules
- Overcurrent surge protection of electronic equipment required to operate at high operating temperature ranges
- Resettable fault protection of general electronic equipment

PRCP-RHT Series - Polymer Resettable Circuit Protectors COPAL ELECTRONICS

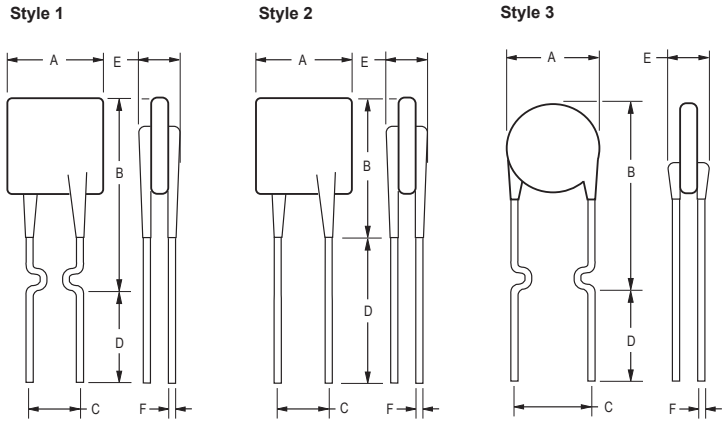
Product Dimensions

Model	A	B	C		D	E	F	Physical Characteristics	
	Max.	Max.	Nom.	Tol. ±	Min.	Max.	Nom.	Style	Material
PRCP-RHT070	6.86 (0.27)	10.8 (0.425)	5.1 (0.201)	0.7 (0.028)	7.6 (0.30)	3.0 (0.12)	0.51 (0.020)	1	Sn/CuFe
PRCP-RHT200	9.4 (0.37)	14.0 (0.55)	5.1 (0.201)	0.7 (0.028)	7.6 (0.30)	3.0 (0.12)	0.51 (0.020)	3	Sn/Cu
PRCP-RHT450	10.4 (0.41)	15.6 (0.61)	5.1 (0.201)	0.7 (0.028)	7.6 (0.30)	3.0 (0.12)	0.81 (0.032)	2	Sn/Cu
PRCP-RHT650	12.7 (0.50)	22.2 (0.88)	5.1 (0.201)	0.7 (0.028)	7.6 (0.30)	3.0 (0.12)	0.81 (0.032)	2	Sn/Cu
PRCP-RHT750	14.0 (0.55)	23.5 (0.93)	5.1 (0.201)	0.7 (0.028)	7.6 (0.30)	3.0 (0.12)	0.81 (0.032)	2	Sn/Cu
PRCP-RHT1300	23.5 (0.925)	28.7 (1.17)	10.2 (0.402)	0.7 (0.028)	7.6 (0.30)	3.6 (0.14)	1.0 (0.040)	2	Sn/Cu

0.51 (24AWG)
0.81 (20AWG)
1.0 (18AWG)

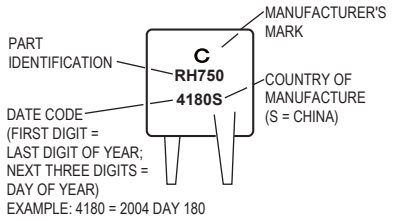
DIMENSIONS: MM (INCHES)

Packaging:
BULK: 500 pcs. per bag
TAPE & REEL: PRCP-RHT070 ~ PRCP-RHT200 = 3000 pcs. per reel; PRCP-RHT450 ~ PRCP-RHT650 = 1500 pcs. per reel;
PRCP-RHT750 ~ PRCP-RHT1300 = 1000 pcs. per reel

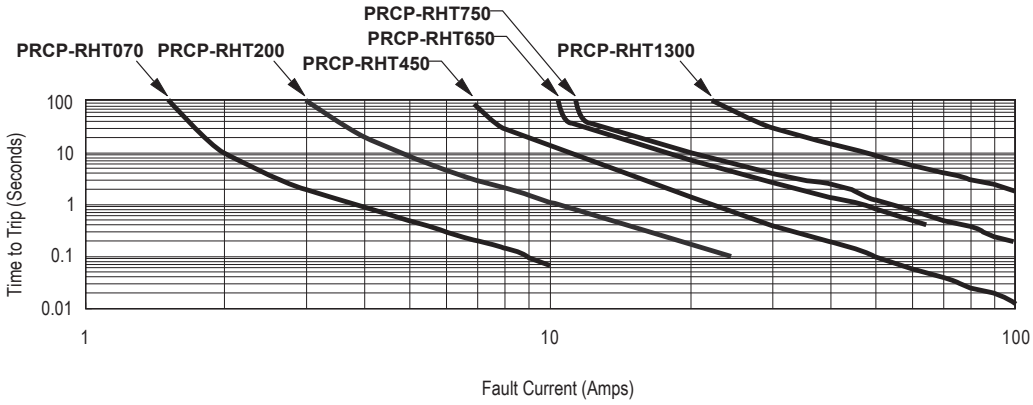


Typical Part Marking

Represents total content. Layout may vary.



Typical Time to Trip at 23 °C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

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PRCP-RHT Series Tape and Reel Specifications

COPAL ELECTRONICS

Devices taped using EIA468–B/IEC60286-2 standards. See table below and Figures 1 and 2 for details.

Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dimensions	Tolerance
Carrier tape width	W	W	18 (.709)	-0.5/+1.0 (-0.02/+.039)
Hold down tape width	W_0	W_4	11 (.433)	min.
Hold down tape			No protrusion	
Top distance between tape edges	W_2	W_6	3 (.118)	max.
Sprocket hole position	W_1	W_5	9 (.354)	-0.5/+0.75 (-0.02/+0.03)
Sprocket hole diameter	D_0	D_0	4 (.157)	±0.2 (±.0078)
Abscissa to plane (straight lead)	H	H	18.5 (.728)	±3.0 (±.118)
Abscissa to plane (kinked lead)	H_0	H_0	16 (.63)	±0.5 (±.02)
Abscissa to top: PRCP-RHT070 ~ PRCP-RHT450	H_1	H_1	32.2 (1.268)	max.
Abscissa to top: PRCP-RHT650 ~ PRCP-RHT1300	H_1	H_1	45.0 (1.837)	max.
Overall width w/lead protrusion: PRCP-RHT070 ~ PRCP-RHT450		C_1	42.5 (1.673)	max.
Overall width w/lead protrusion: PRCP-RHT650 ~ PRCP-RHT1300		C_1	55.0 (2.165)	max.
Overall width w/o lead protrusion: PRCP-RHT070 ~ PRCP-RHT450		C_2	42.5 (1.673)	max.
Overall width w/o lead protrusion: PRCP-RHT650 ~ PRCP-RHT1300		C_2	54.0 (2.126)	max.
Lead protrusion	l_1	L_1	1.0 (.039)	max.
Protrusion of cutout	L	L	11 (.433)	max.
Protrusion beyond hold-down tape	l_2	l_2	Not specified	
Sprocket hole pitch	P_0	P_0	12.7 (0.5)	±0.3 (±.012)
Pitch tolerance			20 consecutive	±1 (±.039)
Device pitch: PRCP-RHT070 ~ PRCP-RHT450			12.7 (0.5)	±0.3 (±.012)
Device pitch: PRCP-RHT650 ~ PRCP-RHT1300			25.4 (1.0)	±0.6 (±.024)
Tape thickness	t	t	0.9 (.035)	max.
Tape thickness with splice: PRCP-RHT070		t_1	1.5 (.059)	max.
Tape thickness with splice: PRCP-RHT450 ~ PRCP-RHT1300		t_1	2.3 (.091)	max.
Splice sprocket hole alignment			4.0 (.157)	±0.2 (±.008)
Body lateral deviation	Δh	Δh	0	±1 (±.039)
Body tape plane deviation	Δp	Δp	0	±0.3 (±.012)
Ordinate to adjacent component lead	P_1	P_1	3.81 (.015)	±0.07 (±.028)

DIMENSIONS: MM (INCHES)

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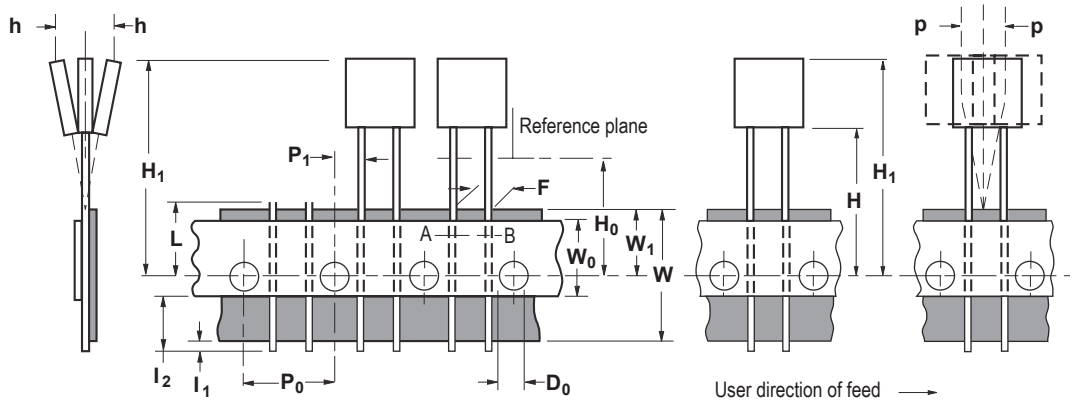
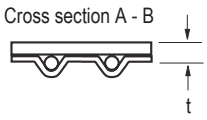
PRCP-RHT Series Tape and Reel Specifications COPAL ELECTRONICS

Dimension Description	IEC Mark	EIA Mark	Dimensions Dimensions	Dimensions Tolerance
Lead spacing: PRCP-RHT070 ~ PRCP-RHT750	F	F	5.08 (0.2)	-0.2/+0.8 (-0.006/+0.031)
Lead spacing: PRCP-RHT1300	F	F	10.2 (0.402)	-0.2/+0.8 (-0.006/+0.031)
Reel width: PRCP-RHT070 ~ PRCP-RHT450	w	W_2	56 (2.20)	max.
Reel width: PRCP-RHT650 ~ PRCP-RHT1300	w	W_2	63.5 (2.50)	max.
Reel diameter	d	a	370.0 (14.57)	max.
Space between flanges less device	W_1	h	4.75 (.187)	±3.25 (±.128)
Arbor hole diameter	f	c	26.0 (1.02)	±12.0 (±.472)
Core diameter	h	n	80.0 (3.15)	max.
Box			62 (2.44) / 355 (14.0) / 345 (13.6)	
Consecutive missing places			3	max.
Empty places per reel			Not specified	

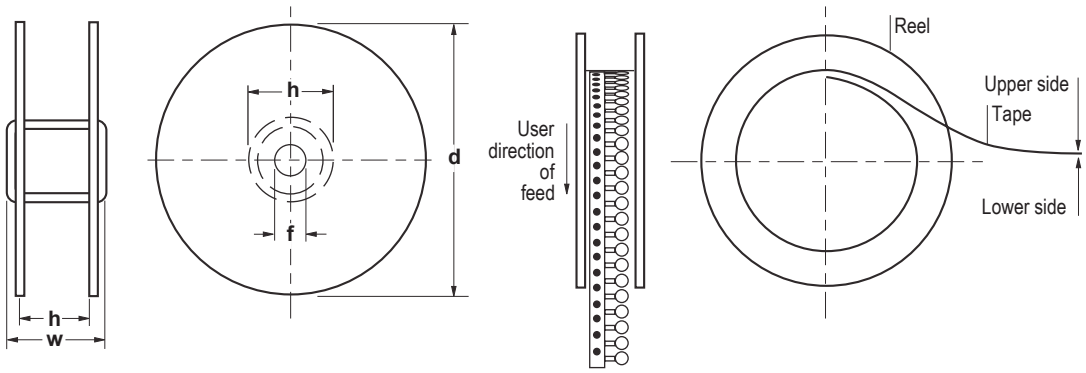
Taped Component Dimensions - Figure 1





DIMENSIONS: MM (INCHES)

Reel Dimensions - Figure 2



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Revision History

Date	Rev.	Reason
12/13/2005	A	Initial issue
08/31/2012	B	Updated Product Dimensions
10/02/2013	C	Updated Tape and Reel Specifications
06/04/2015	D	Updated Features (Added halogen free)