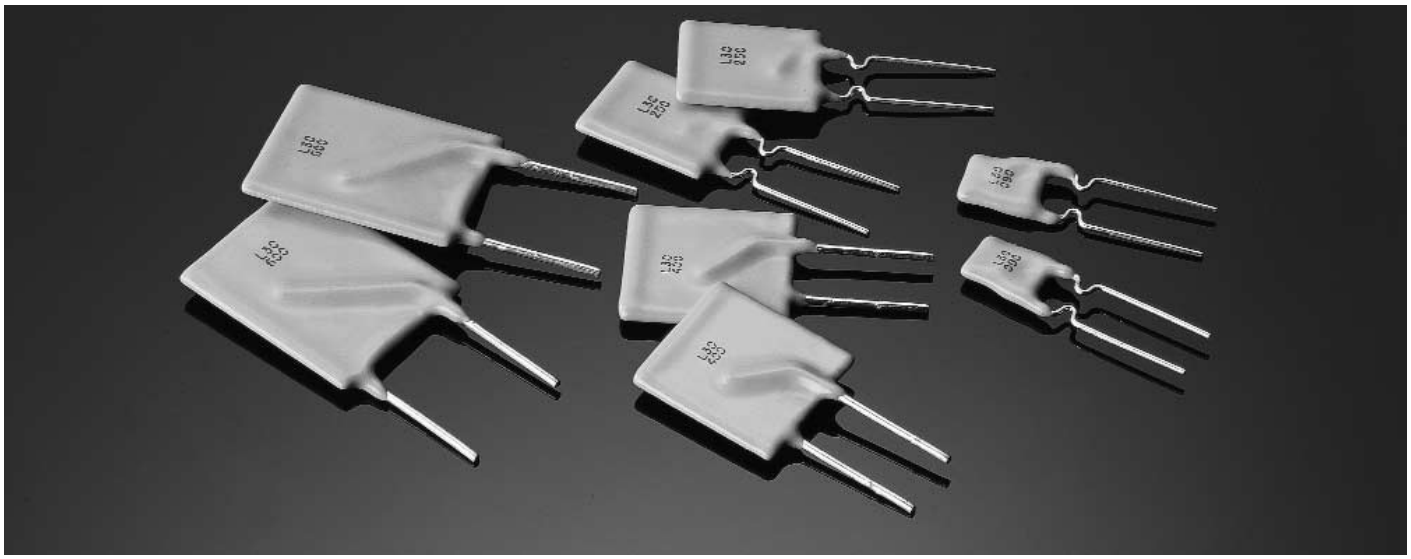
30R Series



- The 30R Series Resettable devices utilize a unique polymer-based, Positive Temperature Coefficient (PTC) material to protect electrical circuits against overcurrent conditions.
- In normal operation, the 30R Series PTC has many conductive paths and a very low resistance. In an overcurrent condition, the temperature of the polymer material rises. This dramatically reduces the conductive paths resulting in an immediate rise in resistance. In this condition, the device provides circuit protection by significantly limiting the flow of current. However, once the cause of the initial overcurrent condition is eliminated, the 30R Series PTC cools down and resets to a low resistance value permitting the normal current flow to resume.
- The 30R Series is a 30V Radial Leaded Device with a 40A Short Circuit Rating.

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratory and the Component Acceptance Program of CSA. TUV approved.

AGENCY FILE NUMBERS: UL E183209, CSA LR 108832

PHYSICAL SPECIFICATIONS:

Materials: Leads

30R090-250: Tin plated copper-clad steel, 24 AWG (0.020" Dia.)
30R300-900: Tin plated copper, 20 AWG (0.032" Dia.)

Lead Solderability: MIL-STD-202, Method 208E

Coating: Thermoset Coating

Device Labeling: Device is marked with the letter 'L', amperage rating, voltage rating & date code.

Packaging: Standard bulk packaging is 500 pieces per container. Optional tape and reel packaging per EIA 486-B is also available.

Standard reel quantities:

Part Number	Reel Quantity	Part Number	Reel Quantity
R30R090 R30R110 R30R135 R30R160 R30R185 R30R250	3000	R30R300 R30R400	1500
		30R500 30R600 30R700 30R800 30R900	Bulk Only 500 Per Container

ENVIRONMENTAL SPECIFICATIONS:

Passive Aging: 85°C, 1000 Hours. ±5% typical resistance change.

Humidity Aging: 85°C, 85% R.H., 1000 hours. ±5% typical resistance change.

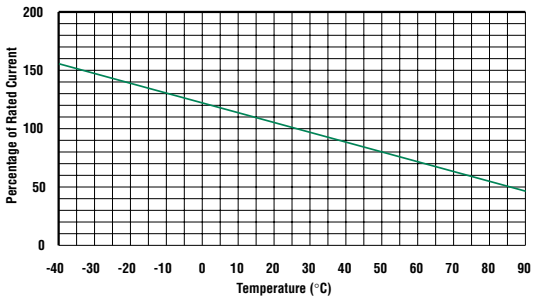
Thermal Shock: 85°C / –40°C, 20 times. ±10% typical resistance change.

Vibration: MIL-STD 202, Method 201. No resistance change.

Mechanical Shock: MIL-STD-202, Method 213 test condition I (100 g's, 6 sec.). No resistance change.

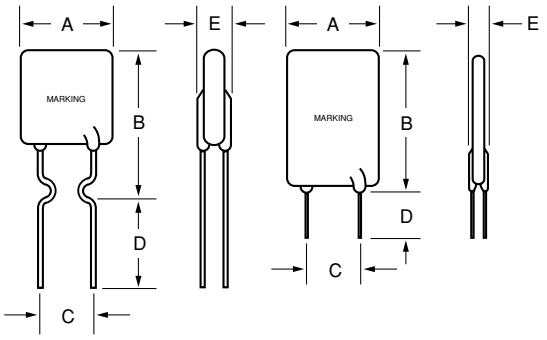
Max. Surface Temperature: 125°C
Operating/Storage Temperature: –40°C to 85°C

Rerating Curve for 30R Series



30R Series

Dimensions (Inches)

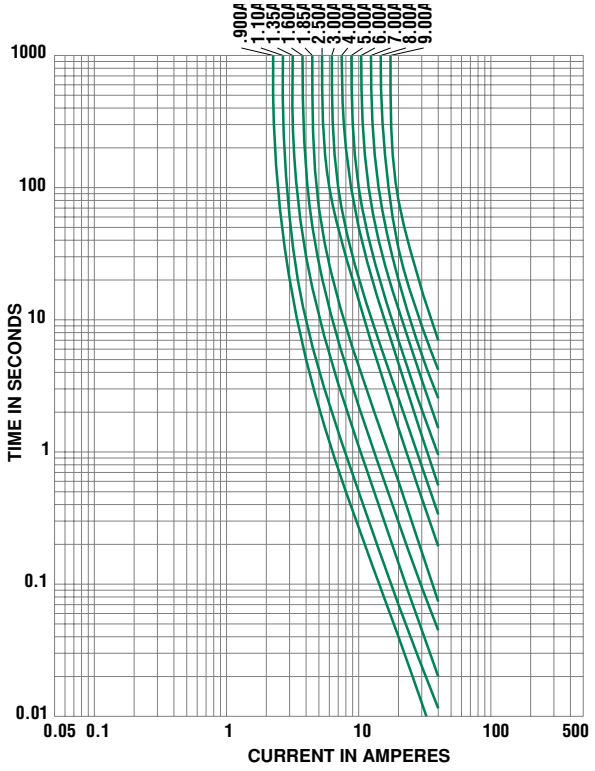


Note: Stand-offs only used for 30R090-30R250

Part Number	'A' (Max.)	'B' (Max.)	'C' (Typ.)
30R090	6.60 (0.26)	12.19 (0.48)	5.08 (0.20)
30R110	6.60 (0.26)	14.22 (0.56)	5.08 (0.20)
30R135	8.89 (0.35)	13.46 (0.53)	5.08 (0.20)
30R160	8.89 (0.35)	15.42 (0.60)	5.08 (0.20)
30R185	10.16 (0.40)	15.75 (0.62)	5.08 (0.20)
30R250	11.43 (0.45)	18.29 (0.72)	5.08 (0.20)
30R300	11.43 (0.45)	7.27 (0.68)	5.08 (0.20)
30R400	13.97 (0.55)	20.07 (0.79)	5.08 (0.20)
30R500	13.97 (0.55)	24.89 (0.98)	10.16 (0.40)
30R600	16.51 (0.65)	24.89 (0.98)	10.16 (0.40)
30R700	19.05 (0.75)	26.67 (1.05)	10.16 (0.40)
30R800	21.59 (0.85)	29.21 (1.15)	10.16 (0.40)
30R900	24.13 (0.95)	29.72 (1.17)	10.16 (0.40)

Dimension 'D' is 7.62 (0.30") Minimum
Dimension 'E' is 3.05 (0.12") Maximum

Average Time Current Curves



ORDERING INFORMATION:

Part Number	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	P_d max. (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	R_{IL} (W)	R_{AT} (W)
30R090	0.90	1.80	30	40	0.6	4.50	5.9	0.070	0.22
30R110	1.10	2.20	30	40	0.7	5.50	6.6	0.050	0.17
30R135	1.35	2.70	30	40	0.8	6.75	7.3	0.040	0.13
30R160	1.60	3.20	30	40	0.9	8.00	8.0	0.030	0.11
30R185	1.85	3.70	30	40	1.0	9.25	8.7	0.030	0.09
30R250	2.50	5.00	30	40	1.2	12.5	10.3	0.020	0.07
30R300	3.00	6.00	30	40	2.0	15.0	10.8	0.020	0.08
30R400	4.00	8.00	30	40	2.5	20.0	12.7	0.010	0.05
30R500	5.00	10.00	30	40	3.0	25.0	14.5	0.010	0.05
30R600	6.00	12.00	30	40	3.5	30.0	16.0	0.005	0.04
30R700	7.00	14.00	30	40	3.8	35.0	17.5	0.005	0.03
30R800	8.00	16.00	30	40	4.0	40.0	18.8	0.005	0.02
30R900	9.00	18.00	30	40	4.2	40.0	20.0	0.005	0.02

I_{hold} = Hold Current: maximum current device will sustain for 4 hours without tripping in 20°C still air.
I_{trip} = Trip Current: minimum current at which the device will trip in 20°C still air.
V_{max} = Maximum voltage device can withstand without damage at rated current (Imax)
I_{max} = Maximum fault current device can withstand without damage at rated voltage (Vmax)
P_d = Power dissipated from device when in the tripped state at 20°C still air.
R_{IL} = Minimum resistance of device in initial (un-soldered) state.
R_{AT} = Maximum resistance of device at 20°C measured one hour after tripping.

CAUTION: Operation beyond the specified ratings may result in damage and possible arcing and flame.