

# Type RS90

## Resettable Fuse (PTC's)

### Radial Leaded



www.optifuse.com

(800) 621-0326

#### Application:

Telecom & wide variety of electronic equipment

#### Product Features:

Low hold current, Solid State

Radial-leaded product ideal for up to 90V

**Operation Current:** 100mA~3.75A

**Maximum Voltage:** Up to 90V

**Temperature Range:** -40°C to 85°C

#### Agency Standards and Listings:



#### Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max. Time To Trip	Maximum Current	Rated Voltage	Typical Power	Resistance Tolerance	
	$I_H$ , A	$I_T$ , A	at $5xI_H$ , S	$I_{MAX}$ , A	$V_{MAX}$ , Vdc	$P_d$ , W	$R_{MIN}$ $\Omega$	$R1_{MAX}$ $\Omega$
RS90-010	0.10	0.20	4.0	40	72/90	0.38	2.50	7.50
RS90-015	0.15	0.35	10.0	40	72/90	0.70	2.40	7.00
RS90-017	0.17	0.34	3.0	40	72/90	0.48	2.00	5.00
RS90-020	0.20	0.40	2.2	40	72/90	0.41	1.83	4.40
RS90-025	0.25	0.50	2.5	40	72/90	0.45	1.25	3.00
RS90-030	0.30	0.60	3.0	40	72/90	0.49	0.88	2.10
RS90-035	0.35	0.75	10.0	40	72/90	1.30	0.70	2.50
RS90-040	0.40	0.80	3.8	40	72/90	0.56	0.55	1.29
RS90-050	0.50	1.00	4.0	40	72/90	0.77	0.50	1.17
RS90-055	0.55	1.20	10.0	40	72/90	1.50	0.40	1.50
RS90-065	0.65	1.30	5.3	40	72/90	0.88	0.31	0.72
RS90-075	0.75	1.50	6.3	40	72/90	0.92	0.25	0.60
RS90-090	0.90	1.80	7.2	40	72/90	0.99	0.20	0.47
RS90-110	1.10	2.20	8.2	40	72/90	1.50	0.15	0.38
RS90-135	1.35	2.70	9.6	40	72/90	1.70	0.12	0.30
RS90-160	1.60	3.20	11.4	40	72/90	1.90	0.09	0.22
RS90-185	1.85	3.70	12.6	40	72/90	2.10	0.08	0.19
RS90-250	2.50	5.00	15.6	40	72/90	2.50	0.05	0.13
RS90-300	3.00	6.00	19.8	40	72/90	2.80	0.04	0.10
RS90-375	3.75	7.50	24.0	40	72/90	3.20	0.03	0.08

$I_H$  = **Hold Current** – Maximum current at which the device will not trip at 23°C still air.

$I_T$  = **Trip Current** – Minimum current at which the device will always trip at 23°C still air.

$V_{MAX}$  = Maximum voltage device can withstand without damage at it's rated current.

$I_{MAX}$  = Maximum fault current device can withstand without damage at rated voltage ( $V_{max}$ ).

$P_d$  = Typical power dissipated from device when in the tripped state in 23°C still air environment.

$R_{MIN}$  = Minimum device resistance at 23°C.

$R1_{MAX}$  = Maximum device resistance at 23°C, 1 hour after tripping.

Note: All specifications subject to change without notice.

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#### Physical Specifications:

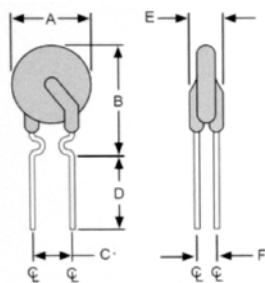
**Lead Material:** RS90-010 ~ RS90-090: Tin plated copper, 24 AWG.

RS90-110 ~ RS90-375: Tin plated copper, 20 AWG.

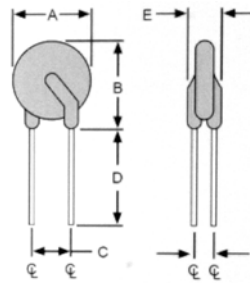
**Soldering Characteristics:** MIL-STD-202, Method 208E.

**Insulating Coating:** Flame retardant epoxy, meet UL-94V-0 requirement.

#### RS90 Product Dimensions (millimeters)



RS90-010 ~ RS90-090  
Lead Size: 24AWG,  
0.51 mm Diameter



RS90-110 ~ RS90-375  
Lead Size: 20AWG,  
0.81 mm Diameter

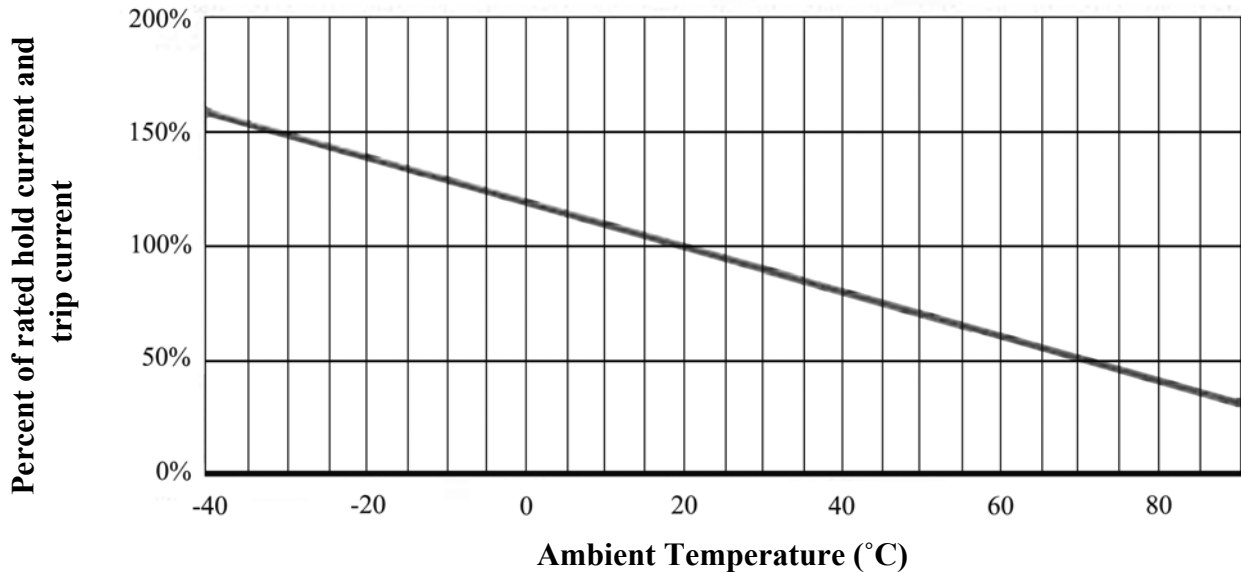
Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Maximum	Typical
RS90-010	7.4	12.7	5.1	7.6	3.1	1.1
RS90-015	7.4	12.7	5.1	7.6	3.1	1.1
RS90-017	7.4	12.7	5.1	7.6	3.1	1.1
RS90-020	7.4	12.7	5.1	7.6	3.1	1.1
RS90-025	7.4	12.7	5.1	7.6	3.1	1.1
RS90-030	7.4	13.0	5.1	7.6	3.1	1.1
RS90-035	7.4	12.7	5.1	7.6	3.1	1.1
RS90-040	7.6	13.5	5.1	7.6	3.1	1.1
RS90-050	7.9	13.7	5.1	7.6	3.1	1.1
RS90-055	9.7	14.0	5.1	7.6	3.1	1.1
RS90-065	9.7	14.5	5.1	7.6	3.1	1.1
RS90-075	10.4	15.2	5.1	7.6	3.1	1.1
RS90-090	11.7	15.8	5.1	7.6	3.1	1.1
RS90-110	13.0	18.0	5.1	7.6	3.1	1.4
RS90-135	14.5	19.6	5.1	7.6	3.1	1.4
RS90-160	16.3	21.3	5.1	7.6	3.1	1.4
RS90-185	17.8	22.9	5.1	7.6	3.1	1.4
RS90-250	21.3	26.4	10.2	7.6	3.1	1.4
RS90-300	24.9	30.0	10.2	7.6	3.1	1.4
RS90-375	28.5	33.5	10.2	7.6	3.1	1.4

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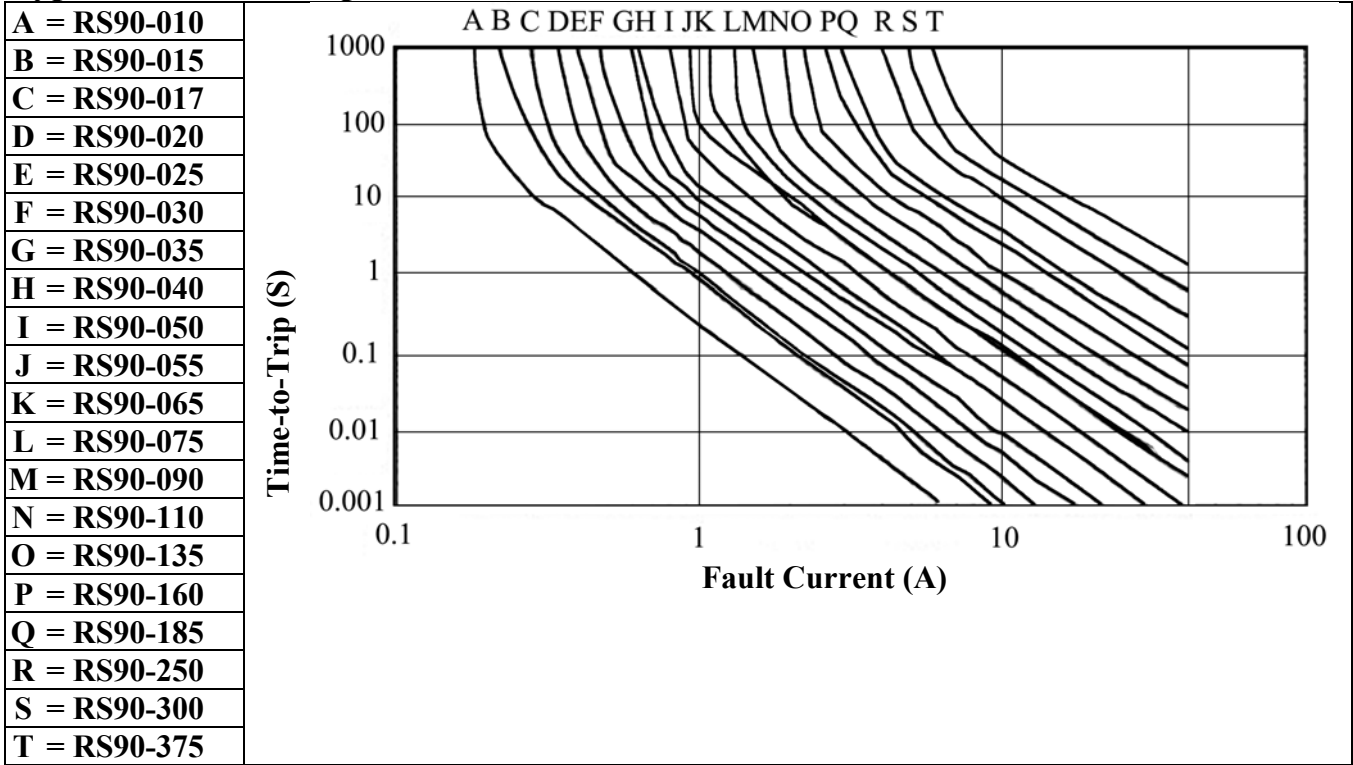


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**Thermal Derating Curve – Type RS90**



**Typical Time-To-Trip at 23°C**



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### Standard Package

Part Number	Pcs/Bag	Reel/Tape
RS90-010	500	3K
RS90-015	500	3K
RS90-017	500	3K
RS90-020	500	3K
RS90-025	500	3K
RS90-030	500	3K
RS90-035	500	3K
RS90-040	500	3K
RS90-050	500	3K
RS90-055	500	3K
RS90-065	300	3K
RS90-075	300	3K
RS90-090	300	3K
RS90-110	200	1.5K
RS90-135	200	1.5K
RS90-160	200	1.5K
RS90-185	200	1.5K
RS90-250	100	---
RS90-300	100	---
RS90-375	100	---

#### Warning:



-Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.  
-PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.  
-Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.

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