

### Description

- The 16R series radial leaded device is designed to provide overcurrent protection for USB applications where space is not a concern and with a maximum 40A short circuit rating.

### Features

- RoHS compliant
- Fast time-to-trip
- Meets all USB protection requirements
- 100A short circuit rating
- 16V Operating voltages

### Applications

- Computers & peripherals
- Any USB application

### Agency Approvals

AGENCY	AGENCY FILE NUMBER
	E183209
	R50082521

### Electrical Characteristics

Part Number	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	P <sub>d</sub> max. (W)	Maximum Time To Trip		Resistance		Agency Approvals	
						Current (A)	Time (Sec.)	R <sub>min</sub> (Ω)	R <sub>1max</sub> (Ω)		
16R250G	2.5	4.7	16	100	1.0	12.5	5.0	0.0220	0.0530	X	X
16R300G	3.0	5.1	16	100	2.3	15.0	1.0	0.0380	0.0975	X	X
16R400G	4.0	6.8	16	100	2.4	20.0	1.7	0.0210	0.0600	X	X
16R500G	5.0	8.5	16	100	2.6	25.0	2.0	0.0150	0.0340	X	X
16R600G	6.0	10.2	16	100	2.8	30.0	3.3	0.0100	0.0280	X	X
16R700G	7.0	11.9	16	100	3.0	35.0	3.5	0.0077	0.0200	X	X
16R800G	8.0	13.6	16	100	3.0	40.0	5.0	0.0056	0.0175	X	X
16R900G	9.0	15.3	16	100	3.3	45.0	5.5	0.0047	0.0135	X	X
16R1000G	10.0	17.0	16	100	3.6	50.0	6.0	0.0040	0.0102	X	X
16R1100G	11.0	18.7	16	100	3.7	55.0	7.0	0.0037	0.0089	X	X
16R1200G	12.0	20.4	16	100	4.2	60.0	7.5	0.0033	0.0086	X	X
16R1400G	14.0	23.8	16	100	4.6	70.0	9.0	0.0026	0.0064	X	X

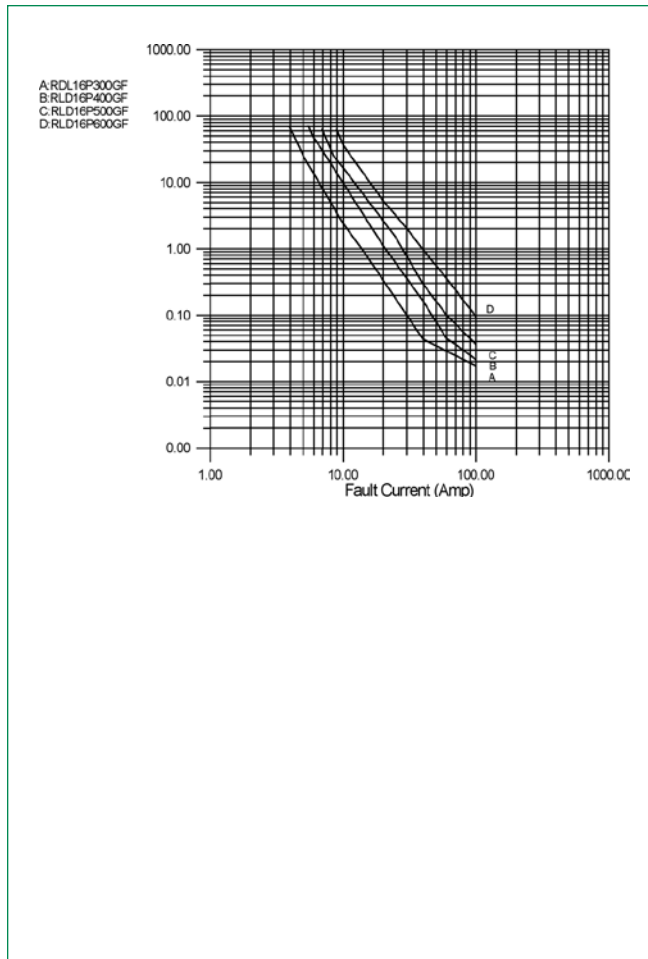
I<sub>hold</sub> = Hold current: maximum current device will pass without tripping in 23°C still air.  
 I<sub>trip</sub> = Trip current: minimum current at which the device will trip in 23°C still air.  
 V<sub>max</sub> = Maximum voltage device can withstand without damage at rated current (I<sub>max</sub>)  
 I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>)  
 P<sub>d</sub> = Power dissipated from device when in the tripped state at 23°C still air.

R<sub>min</sub> = Minimum resistance of device in initial (un-soldered) state.  
 R<sub>1max</sub> = Maximum resistance of device at 23°C measured one hour after tripping.  
**Caution:** Operation beyond the specified rating may result in damage and possible arcing and flame.

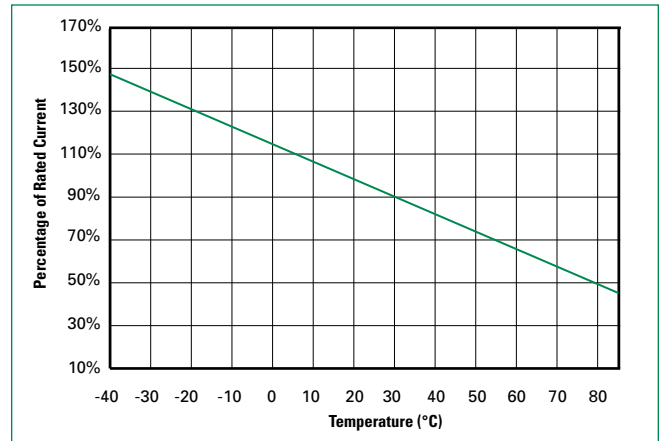
## Temperature Derating

Part Number	Ambient Operation Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
16R250G	3.7	3.3	2.9	2.5	2.2	2.0	1.8	1.6	1.3
16R300G	4.4	4.0	3.5	3.0	2.6	2.4	2.1	1.9	1.6
16R400G	5.9	5.3	4.7	4.0	3.5	3.2	2.9	2.6	2.1
16R500G	7.4	6.6	5.9	5.0	4.4	4.0	3.6	3.2	2.6
16R600G	8.9	8.0	7.1	6.0	5.2	4.8	4.3	3.9	3.2
16R700G	10.4	9.3	8.2	7.0	6.1	5.6	5.0	4.5	3.7
16R800G	11.8	10.6	9.4	8.0	7.0	6.3	5.7	5.1	4.2
16R900G	13.3	12.0	10.6	9.0	7.8	7.1	6.5	5.8	4.7
16R1000G	14.8	13.3	11.8	10.0	8.7	7.9	7.1	6.4	5.3
16R1100G	16.3	14.6	12.9	11.0	9.6	8.7	7.9	7.0	5.8
16R1200G	17.7	15.9	14.1	12.0	10.5	9.5	8.6	7.7	6.3
16R1400G	20.7	18.6	16.5	14.0	12.2	11.1	10.0	9.0	7.4

## Average Time Current Curves

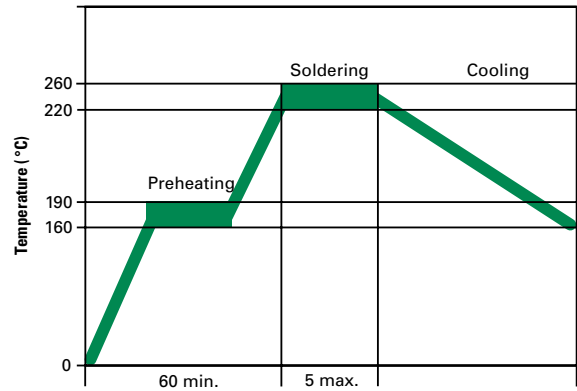


## Temperature Derating Curve



**Soldering Parameters - Wave Soldering**

<b>Pre-Heating Zone</b>	Refer to the condition recommended by the flux manufacturer. Max. ramping rate should not exceed 4°C/Sec.
<b>Soldering Zone</b>	Max. solder temperature should not exceed 260°C
<b>Cooling Zone</b>	Cooling by natural convection in air.


**Physical Specifications**

<b>Lead Material</b>	7.0-14A: Tin-plated copper
<b>Soldering Characteristics</b>	Solderability per MIL-STD-202, Method 208E
<b>Insulating Material</b>	Cured, flame retardant epoxy polymer meets UL94V-0 requirements.
<b>Device Labeling</b>	Marked with LF, voltage, current rating, and date code.

**Environmental Specifications**

<b>Operating/Storage Temperature</b>	-40°C to +85°C
<b>Maximum Device Surface Temperature in Tripped State</b>	125°C
<b>Passive Aging</b>	+85°C, 1000 hours ±5% typical resistance change
<b>Humidity Aging</b>	+85°C, 85% R.H. 1000 hours ±5% typical resistance change
<b>Thermal Shock</b>	+85°C to -40°C 10 times ±5% typical resistance change
<b>Solvent Resistance</b>	MIL-STD-202, Method 215F No change

### Dimensions

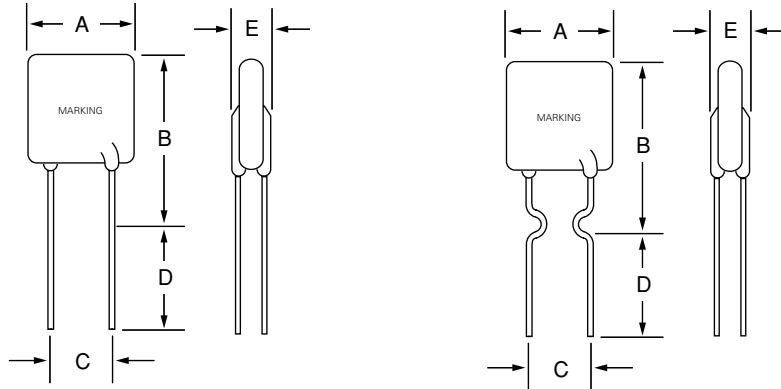
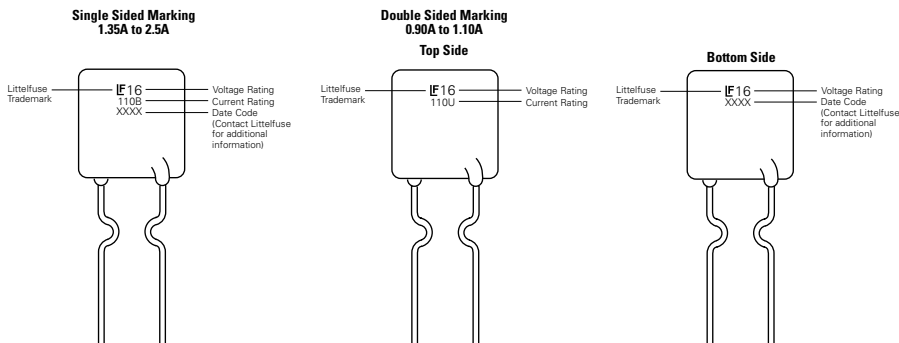


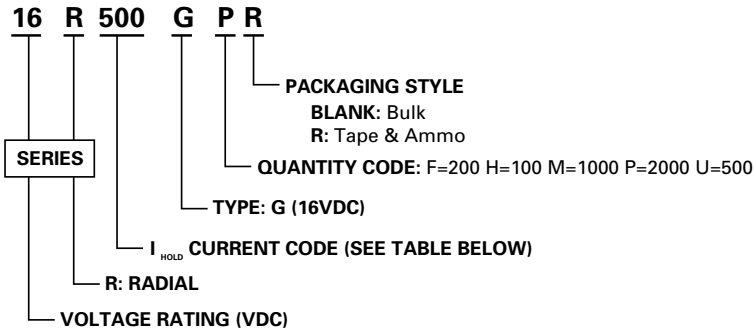
Figure 1

Figure 2

Part Number	A		B		C		D		E		Physical Characteristics			
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Lead (dia)		Material	Figure
	Max.	Max.	Max.	Max.	Typ.	Typ.	Min.	Min.	Max.	Max.	Inches	mm		
16R250G	0.33	8.40	0.50	12.80	0.20	5.1	0.13	3.18	0.12	3.00	0.020	0.51	Sn/CuFe	2
16R300G	0.28	7.10	0.43	11.00	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R400G	0.35	8.90	0.50	12.80	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R500G	0.41	10.40	0.56	14.30	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R600G	0.42	10.70	0.67	17.10	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R700G	0.44	11.20	0.78	19.70	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R800G	0.50	12.70	0.82	20.90	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R900G	0.55	14.00	0.85	21.70	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R1000G	0.65	16.50	0.99	25.20	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R1100G	0.69	17.50	1.02	26.00	0.20	5.1	0.30	7.6	0.12	3.00	0.032	0.81	Sn/Cu	1
16R1200G	0.69	17.50	1.10	28.00	0.20	5.1	0.30	7.6	0.14	3.50	0.039	1.00	Sn/Cu	1
16R1400G	0.93	23.50	1.01	27.90	0.20	5.1	0.30	7.6	0.14	3.50	0.039	1.00	Sn/Cu	1

### Part Marking System



**Part Numbering System**

**Packaging**

I <sub>hold</sub> (A)	I <sub>hold</sub> Code	Packaging Option	Quantity	Quantity & Packaging Codes
2.50	250	Bulk	500	U
		Tape and Ammo	2000	PR
3.00	300	Bulk	500	U
		Tape and Ammo	2000	PR
4.00	400	Bulk	500	U
		Tape and Ammo	2000	PR
5.00	500	Bulk	500	U
		Tape and Ammo	2000	PR
6.00	600	Bulk	500	U
		Tape and Ammo	2000	PR
7.00	700	Bulk	200	F
		Tape and Ammo	1000	MR
8.00	800	Bulk	200	F
		Tape and Ammo	1000	MR
9.00	900	Bulk	200	F
		Tape and Ammo	1000	MR
10.00	1000	Bulk	200	F
		Tape and Ammo	1000	MR
11.00	1100	Bulk	200	F
		Tape and Ammo	1000	MR
12.00	1200	Bulk	100	H
		Tape and Ammo	1000	MR
14.00	1400	Bulk	100	H