

ELECTRONICS



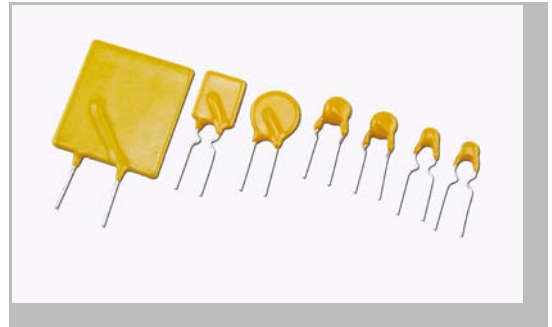
Positive Thermal Coefficient

RL16 Series

Positive Thermal Coefficient - RL16 Series

Features

- 1. 100A short circuit rating
- 2. 16V Operating voltages
- 3. Fast time-to-trip
- 4. Meets all USB protection requirements
- 5. RoHS compliant, Lead- Free and Halogen-Free*



Applications

- 1. Overcurrent and overtemperature protection of automotive electronics
- 2. Hard disk drives
- 3. PC motherboards
- 4. PC peripherals
- 5. Point-of-sale (POS) equipment
- 6. PCMCIA cards
- 7. USB port protection - USB 2.0, 3.0 & OTG
- 8. HDMI 1.4 Source protection
- 9. Computers&peripherals
- 10. General Electronics

Product Name



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Dimension

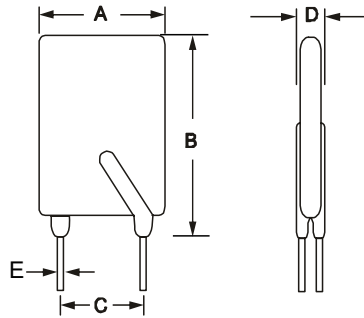


Fig.1

Type Number	I _{hold}	V _{max}	I _{trip}	I _{max}	R _{max}	R _{min}	P _{dtyp}	Package Dimensions (mm)					Circuit Figure
	A	V	A	A	Ω	Ω	W	A	B	C	D	E	
HRL16-300	3	16	6	100	0.06	0.02	2.3	9	12	5.1	3	0.8	Fig.1
HRL16-400	4	16	8	100	0.04	0.02	2.4	10	13	5.1	3	0.8	Fig.1
HRL16-500	5	16	10	100	0.025	0.014	2.6	10.7	15	5.1	3	0.8	Fig.1
HRL16-600	6	16	12	100	0.021	0.01	2.8	13.5	15	5.1	3	0.8	Fig.1
HRL16-700	7	16	14	100	0.015	0.008	3	13.5	18	5.1	3	0.8	Fig.1
HRL16-800	8	16	16	100	0.013	0.006	3.3	13.5	18	5.1	3	0.8	Fig.1
HRL16-900	9	16	18	100	0.012	0.004	3.7	15	23	5.1	3	0.8	Fig.3
HRL16-1000	10	16	20	100	0.011	0.004	3.7	18	24	5.1	3	0.8	Fig.3
HRL16-1100	11	16	22	100	0.009	0.003	4.2	18	25	5.1	3	0.8	Fig.3
HRL16-1200	12	16	24	100	0.008	0.003	4.2	22.5	28	10.5	3	0.8	Fig.3
HRL16-1400	14	16	28	100	0.008	0.003	4.2	24	28	10.5	3	0.8	Fig.3

I_{hold} = Hold current: maximum current device will pass without tripping in 20°C still air.

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

R_{min/max} = Minimum/Maximum device resistance prior to tripping at 25°C.

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

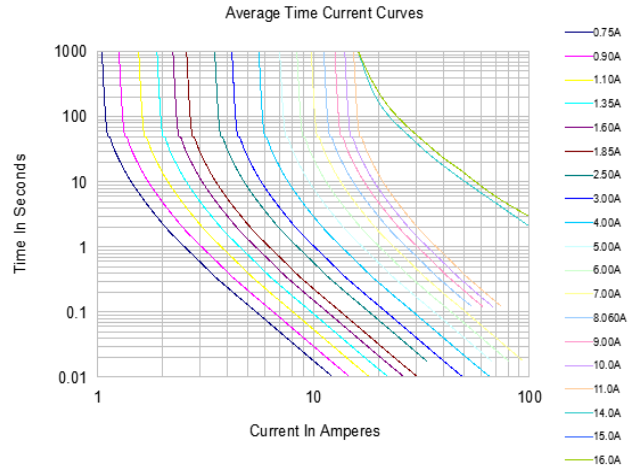
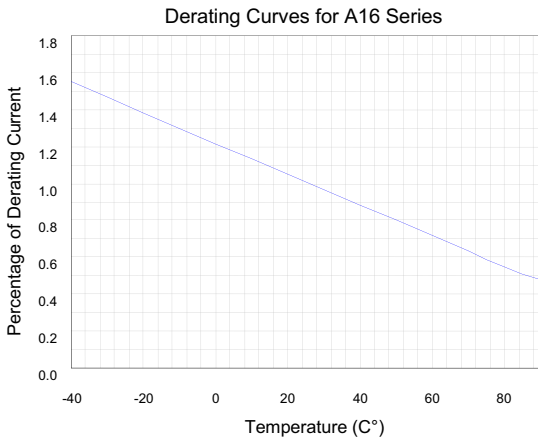
I_{trip} = Trip current: minimum current at which the device will trip in 20°C still air.

R_{typ} = Typical resistance of device in initial (un-soldered) state.

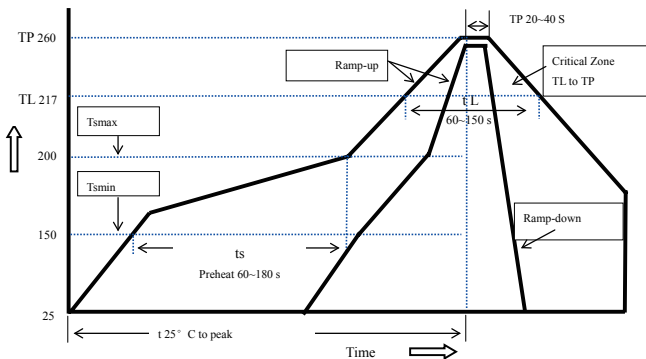
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Average Time Current Curves

Temperature Derating Curve



Soldering Parameters



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate(Ts max to T p)	3°C/second max.
Preheat	
-Temperature Min(Ts min)	150°C
-Temperature Max(Ts max)	200°C
-Time(Ts min to Ts max)	60~180 seconds
Time maintained above:	
-Temperature(TL)	+217°C
-Time(tL)	60~150 seconds
Peak Temperature(Tp)	260°C
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max
Storage Condition	0°C~35°C,70%RH

Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free

Recommended maximum paste thickness is 0.25mm
 Devices can be cleaned using standard industry methods and solvents.

Note 1: All temperature refer to topside of the package, measured on the package body surface.

Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

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THERMAL DERATING CHART - IH(A)

Type Number	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
RL16-250	3.70	3.46	3.10	2.50	2.14	1.90	1.83	1.33	1.19
RL16-300	4.40	3.96	3.60	3.00	2.64	2.40	2.13	1.83	1.56
RL16-400	5.90	5.28	4.80	4.00	3.52	3.20	2.84	2.44	2.08
RL16-500	7.40	6.60	6.00	5.00	4.40	4.00	3.55	3.05	2.60
RL16-600	8.90	7.92	7.20	6.00	5.28	4.80	4.26	3.66	3.12
RL16-700	10.4	9.24	8.40	7.00	6.10	5.60	4.97	4.27	3.64
RL16-800	11.8	10.56	9.60	8.00	7.04	6.40	5.68	4.88	4.16
RL16-900	13.3	11.88	10.80	9.00	7.92	7.20	6.39	5.49	4.68
RL16-1000	14.8	13.20	12.00	10.00	8.80	8.00	7.10	6.10	5.20
RL16-1100	16.3	14.52	13.20	11.00	9.68	8.80	7.81	6.71	5.72
RL16-1200	17.7	15.84	14.40	12.00	10.56	9.60	8.52	7.32	6.24
RL16-1400	20.7	18.48	16.80	14.00	12.32	11.20	9.94	8.54	7.28

Warehouse Storage Conditions of Products

- Storage Conditions:
 1. Storage Temperature: -10°C~+40°C
 2. Relative Humidity: ≤75%RH
 3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year

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