

ELECTRONICS



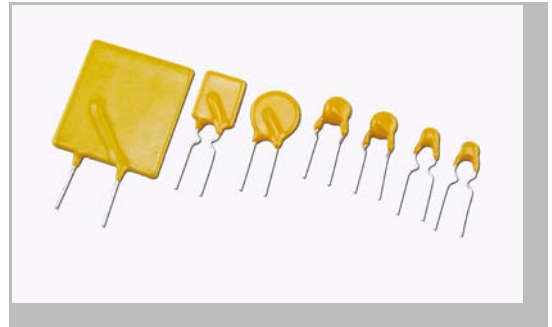
Positive Thermal Coefficient

RL250 Series

Positive Thermal Coefficient - RL250 Series

Features

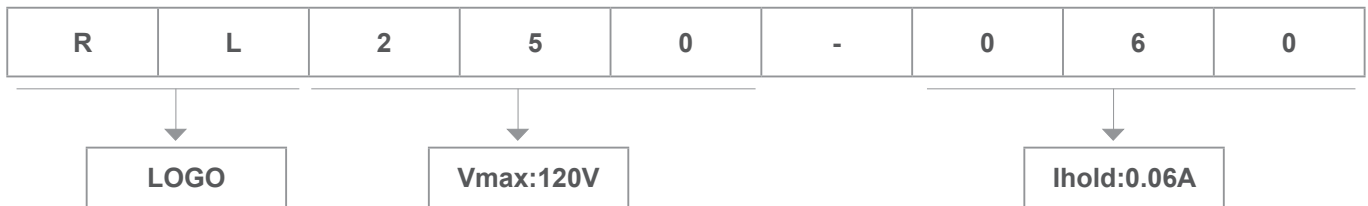
- 1. I(hold):60~800mA
- 2. 250V Operating voltages
- 3. Radial leaded devices.
- 4. Very high voltage surge capabilities.
- 5. Available in lead-free version.
- 6. Fast time-to-trip
- 7. RoHS compliant, Lead- Free and Halogen-Free



Applications

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

Product Name



Positive Thermal Coefficient - RL250 Series

Dimension

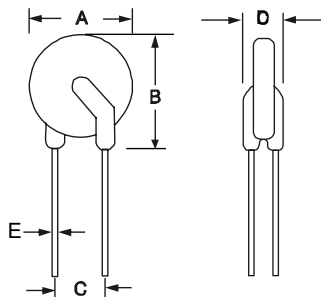


Fig.1

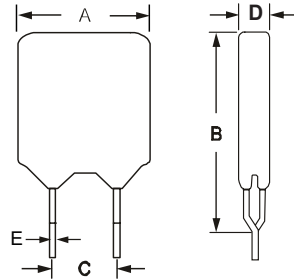


Fig.2

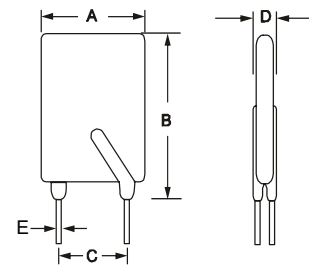
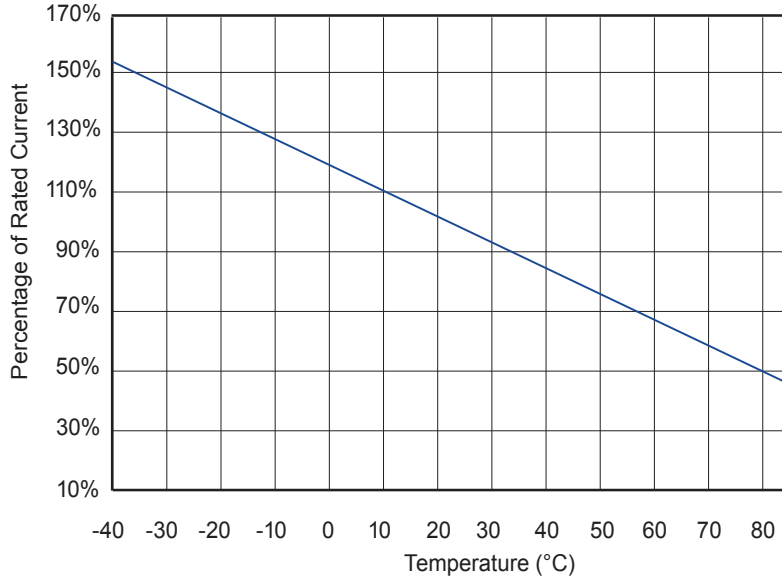


Fig.3

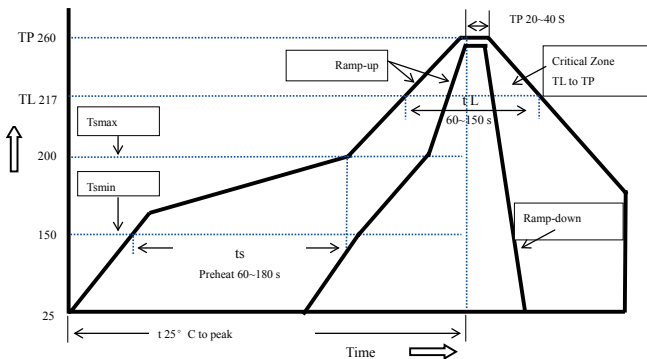
Type Number	Ihold	Vmax	Itrip	Imax	Rmax	Rmin	Pdtyp	Package Dimensions (mm)					Circuit Figure
	A	V	A	A	Ω	Ω	W	A	B	C	D	E	
RL250-060	0.06	250	0.12	3	40	26	1	7.4	12.7	5.1	3.8	0.8	Fig.1
RL250-080	0.08	250	0.16	3	22	14	1	7.4	12.7	5.1	3.8	0.8	Fig.1
RL250-090	0.09	250	0.18	3	20	10	1	7.4	12.7	5.1	3.8	0.8	Fig.1
RL250-110	0.11	250	0.22	3	12	6	1	7	12.6	5.1	3.8	0.8	Fig.2
RL250-120	0.12	250	0.29	3	10	5	1	5.5	12.6	5.1	2.6	0.8	Fig.2
RL250-145	0.145	250	0.36	3	6.5	3.5	1	7	10	5.1	3.8	0.8	Fig.2
RL250-180	0.18	250	0.39	10	3	1	1	11.2	14.5	5.1	3.8	0.8	Fig.2
RL250-200	0.2	250	0.4	10	6	3	1	10.5	17	5.1	3.8	0.8	Fig.3
RL250-400	0.4	250	0.8	10	3	1	1	10.5	17	5.1	3.8	0.8	Fig.3
RL250-600	0.6	250	1.2	10	2	0.6	1	16	18	5.1	4.5	0.8	Fig.3
RL250-800	0.8	250	1.6	10	1	0.4	1	20	22	5.1	4.5	0.8	Fig.3

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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

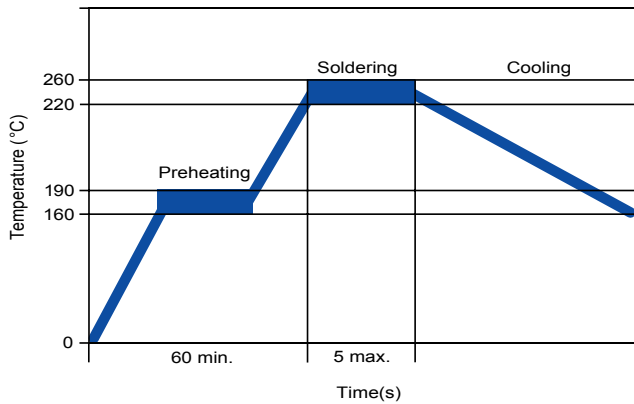
Devices can be cleaned using standard industry methods and solvents.

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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Soldering Parameters-Wave Soldering



Condition	Wave Soldering
Peak Temp/ Duration Time	260°C < 5 Sec
> 220°C	2 Sec ~ 20 Sec
Preheat 140°C ~ 180°C	180 Sec ~ 210 Sec
Storage Condition	0°C~35°C < 70%RH

- Recommended soldering methods: heat element oven or N2 environment for lead-free.
- Devices are designed to be wave soldered to the bottom side of the board.
- Devices can be cleaned using standard industry methods and solvents.
- This profile can be used for lead-free device

Note: If soldering temperatures exceed the recommended profile, devices may not meet the performance requirements

Ihold Versus Temperature

Type Number	-20°C	0°C	23°C	40°C	50 °C	60°C	70°C	85°C
RL250-060	0.079	0.070	0.060	0.051	0.046	0.041	0.037	0.029
RL250-080	0.106	0.094	0.080	0.068	0.062	0.054	0.049	0.038
RL250-090	0.119	0.105	0.090	0.077	0.069	0.061	0.055	0.043
RL250-110	0.145	0.129	0.110	0.094	0.085	0.075	0.067	0.053
RL250-120	0.158	0.140	0.120	0.102	0.092	0.082	0.073	0.058
RL250-145	0.191	0.170	0.145	0.123	0.112	0.099	0.088	0.070
RL250-180	0.238	0.211	0.180	0.153	0.139	0.122	0.110	0.086
RL250-200	0.264	0.234	0.200	0.170	0.154	0.136	0.122	0.096
RL250-400	0.528	0.468	0.400	0.340	0.308	0.272	0.344	0.192
RL250-600	0.792	0.702	0.600	0.510	0.462	0.408	0.366	0.288
RL250-800	1.056	0.936	0.800	0.680	0.616	0.544	0.488	0.384

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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