

ELECTRONICS



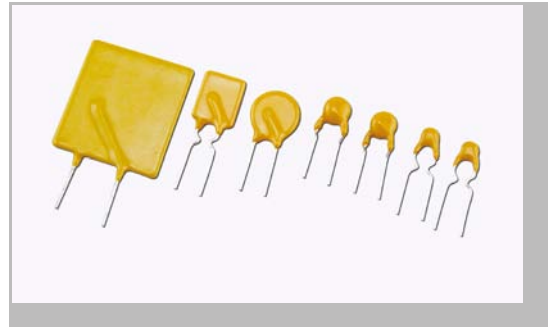
Positive Thermal Coefficient

RL30 Series

Positive Thermal Coefficient - RL30 Series

Features

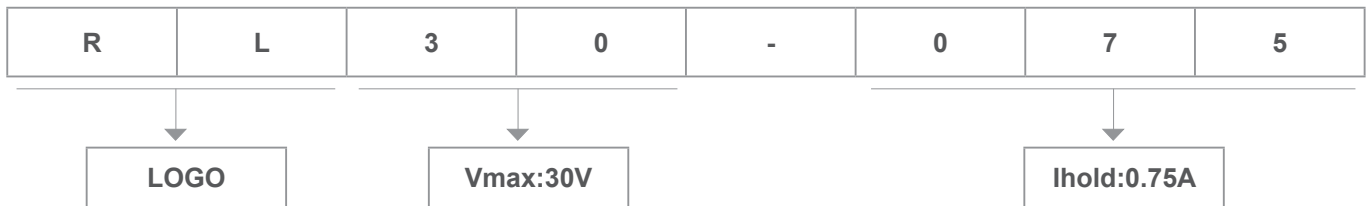
- 1. I(hold):0.75-9A
- 2. 30V Operating voltages
- 3. Radial leaded devices.
- 4. Very high voltage surge capabilities.
- 5. Available in lead-free version.
- 6. Fast time-to-trip
- 7. RoHS compliant, Lead- Free and Halogen-Free



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 - RL30 Series

Dimension

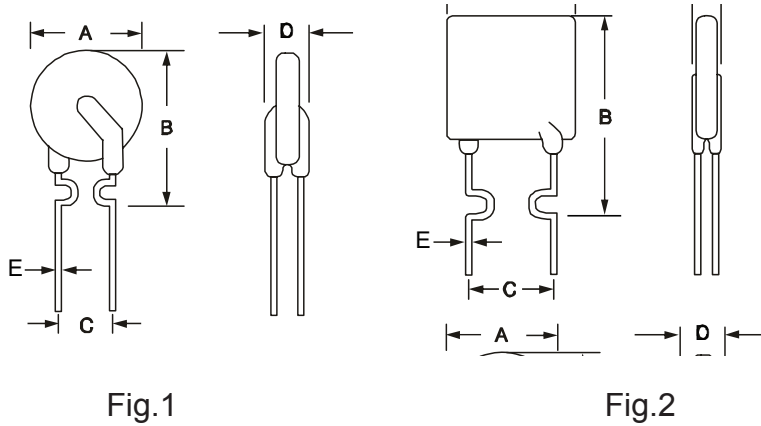


Fig.1

Fig.2

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	
RL30-075	0.75	30	1.5	40	0.2	0.37	0.6	7.4	12.2	5.1	3	0.8	Fig.1
RL30-090	0.9	30	1.8	40	0.13	0.22	0.7	7.4	14	5.1	3	0.8	Fig.2
RL30-110	1.1	30	2.2	40	0.09	0.2	0.7	7.4	14	5.1	3	0.8	Fig.2
RL30-135	1.35	30	2.7	40	0.07	0.16	0.8	9.2	13.5	5.1	3	0.8	Fig.2
RL30-160	1.6	30	3.2	40	0.06	0.14	0.9	9.2	15.2	5.1	3	0.8	Fig.2
RL30-185	1.85	30	3.7	40	0.05	0.12	1	9.2	15.2	5.1	3	0.8	Fig.2
RL30-200	2	30	4	40	0.04	0.1	1.2	15.2	15.2	5.1	3	0.8	Fig.2
RL30-250	2.5	30	5	40	0.03	0.08	1.2	13.2	18.3	5.1	3	0.8	Fig.2
RL30-300	3	30	6	40	0.03	0.07	2	13.2	17.3	5.1	3	0.8	Fig.1
RL30-400	4	30	8	40	0.01	0.06	2.5	14	20.1	5.1	3	0.8	Fig.1
RL30-500	5	30	10	40	0.01	0.05	3	14	20.1	10.5	3	0.8	Fig.1
RL30-600	6	30	12	40	0.005	0.04	3.5	17.2	24.9	10.5	3	0.8	Fig.1
RL30-700	7	30	14	40	0.005	0.03	3.8	17.2	24.9	10.5	3	0.8	Fig.1
RL30-800	8	30	16	40	0.005	0.25	4	23.5	29.2	10.5	3	0.8	Fig.1
RL30-900	9	30	18	40	0.005	0.2	4.2	23.5	29.2	10.5	3	0.8	Fig.1

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

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

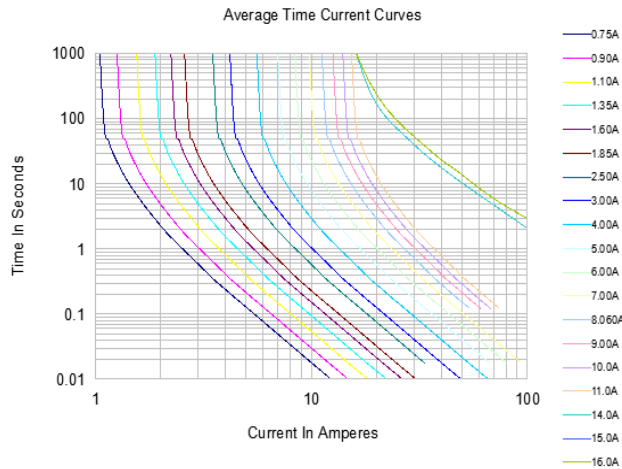
I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

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

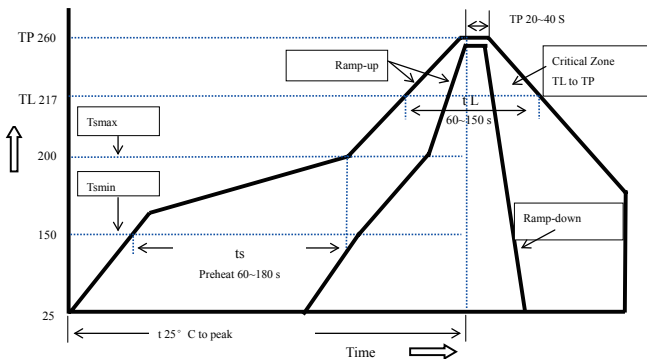
R_{typ} = Typical resistance of device in initial (un-soldered) state.

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Average Time Current Curves



Soldering Parameters



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate(Ts max to T p)	3°C/second mac.
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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Ihold Versus Temperature

Type Number	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
RL30-030	0.44	0.39	0.35	0.30	0.25	0.23	0.20	0.18	0.16
RL30-040	0.58	0.52	0.46	0.40	0.33	0.31	0.27	0.24	0.21
RL30-050	0.73	0.65	0.58	0.50	0.42	0.38	0.34	0.31	0.26
RL30-065	0.95	0.85	0.75	0.65	0.54	0.50	0.44	0.40	0.34
RL30-075	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
RL30-090	1.31	1.17	1.04	0.90	0.75	0.69	0.61	0.55	0.47
RL30-110	1.60	1.43	1.27	1.10	0.91	0.85	0.75	0.67	0.57
RL30-135	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.70
RL30-160	2.32	2.08	1.84	1.60	1.33	1.23	1.09	0.98	0.83
RL30-185	2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96
RL30-250	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
RL30-300	4.35	3.90	3.45	3.00	2.49	2.31	2.04	1.83	1.56
RL30-400	5.80	5.20	4.60	4.00	3.32	3.08	2.72	2.44	2.08
RL30-500	7.25	6.50	5.75	5.00	4.15	3.85	3.40	3.05	2.60
RL30-600	8.70	7.80	6.90	6.00	4.98	4.62	4.08	3.66	3.12
RL30-700	10.15	9.10	8.05	7.00	4.81	5.39	4.76	4.27	3.64
RL30-800	11.60	10.40	9.20	8.00	6.64	6.16	5.44	4.88	4.16
RL30-900	13.05	11.70	10.35	9.00	7.47	6.93	6.12	5.49	4.68

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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