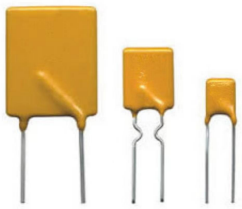
ZP30 Series

Positive Temperature Coefficient

Features

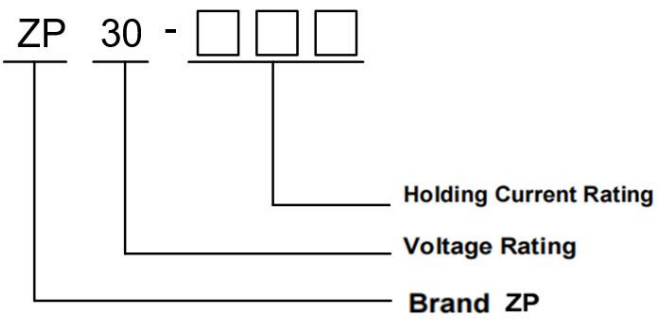


- Radial leaded devices
- Over-current protection
- High voltage surge capabilities
- Flame retardant epoxy polymer insulating material meets UL94 V-0 requirement
- Available in lead-free version.
- Meets MSL level 1, per J-STD-020
- Operating Temperature: -40℃~+85℃

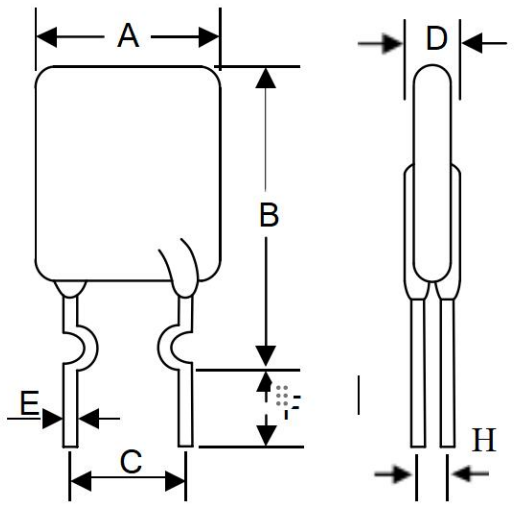
Applications

- Computer&peripherals
- Powered USB for POS and IPC
- USB hubs,ports and peripherals
- General electronic
- Computers & peripherals
- Automotive applications
- Motor protection

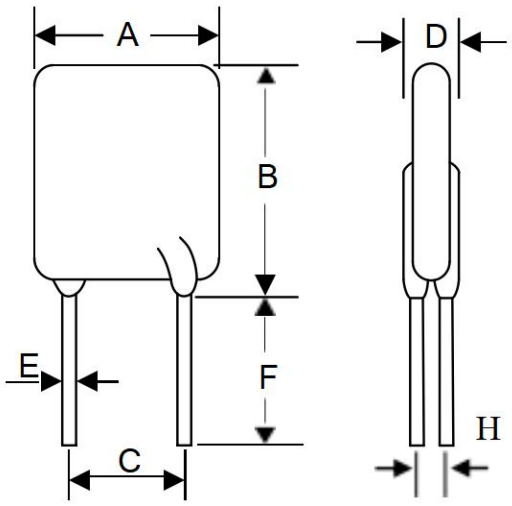
Part Number Code and Making



Dimensions (unit:mm)



SI



SZ

Part Number	A	B	C	D	E	F	H	Style
	Max.	Max.	±0.6	Max.	Typ.	Min.	±0.5	
ZP30-090	7.4	14.5/14.2	5.1	3.1	0.5	4.6 / 7.6	1.0	SI / SZ
ZP30-110	7.4	17.8/14.2	5.1	3.1	0.5	4.6 / 7.6	1.0	SI / SZ
ZP30-135	9.2	16.8	5.1	3.1	0.5	4.6	1.0	SI
ZP30-160	9.5	16.5	5.1	3.1	0.5	4.6	1.0	SI
ZP30-185	9.8	18.6	5.1	3.1	0.5	4.6	1.0	SI
ZP30-200	11.0	18.6	5.1	3.1	0.5	4.6	1.0	SI
ZP30-250	13.2	20.5	5.1	3.1	0.5	4.6	1.0	SI
ZP30-300	13.2	20.5	5.1	3.1	0.8	7.6	1.3	SZ
ZP30-400	14.0	23.6	5.1	3.1	0.8	7.6	1.3	SZ
ZP30-500	14.0	23.6	10.5	3.1	0.8	7.6	1.3	SZ
ZP30-600	17.5	27.5	10.5	3.1	0.8	7.6	1.3	SZ
ZP30-700	17.5	27.5	10.5	3.1	0.8	7.6	1.3	SZ
ZP30-800	23.5	31.0	10.5	3.1	0.8	7.6	1.3	SZ
ZP30-900	24.3	31.5	10.5	3.1	0.8	7.6	1.3	SZ

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number	I_H (A)	I_T (A)	U_{Max} (V)	I_{Max} (A)	P_{DTYP} (W)	Time-To-trip		R_{Min} (Ω)	R_{Max} (Ω)
						I_{Trip}(A)	T_{Max}(S)		
ZP30-090	0.90	1.80	30	40	0.6	4.50	5.90	0.09	0.22
ZP30-110	1.10	2.20	30	40	0.7	5.50	6.60	0.07	0.20
ZP30-135	1.35	2.70	30	40	0.8	6.75	7.30	0.055	0.160
ZP30-160	1.60	3.20	30	40	0.9	8.00	8.00	0.045	0.140
ZP30-185	1.85	3.70	30	40	1.0	9.25	8.70	0.035	0.120
ZP30-200	2.0	4.0	30	40	1.2	10.0	9.80	0.040	0.100
ZP30-250	2.5	5.0	30	40	1.2	12.5	10.30	0.027	0.080
ZP30-300	3.0	6.0	30	40	2.0	15.0	10.80	0.022	0.070
ZP30-400	4.0	8.0	30	40	2.5	20.0	12.70	0.010	0.060
ZP30-500	5.0	10.0	30	40	3.0	24.0	14.50	0.010	0.050
ZP30-600	6.0	12.0	30	40	3.5	30.0	16.00	0.005	0.040
ZP30-700	7.0	14.0	30	40	3.8	35.0	17.50	0.005	0.030
ZP30-800	8.0	16.0	30	40	4.0	40.0	18.80	0.005	0.025
ZP30-900	9.0	18.0	30	40	4.2	45.0	20.00	0.005	0.020

Notes:

I_H = Hold current: maximum current device will pass without tripping in 25°℃ still air.

I_T =Trip current minimum current at which the device will trip in 25 ℃ still air.

U_{Max}= Maximum 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}).

P_{DTYP} = Typical Power dissipated from device when in the tipped state at 25 ℃ still air.

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

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

R_{1max} = Maximum resistance of device at 25 ℃ measured one hour after tripping or reflow soldering of 260 ℃ for 20 sec.

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Figure 1. Thermal Derating Curve

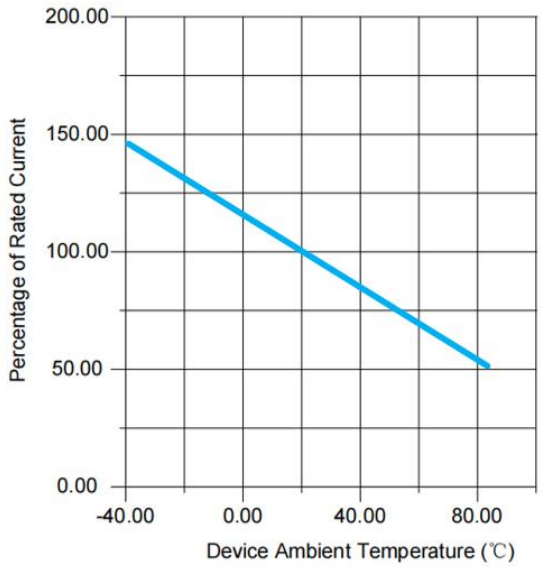
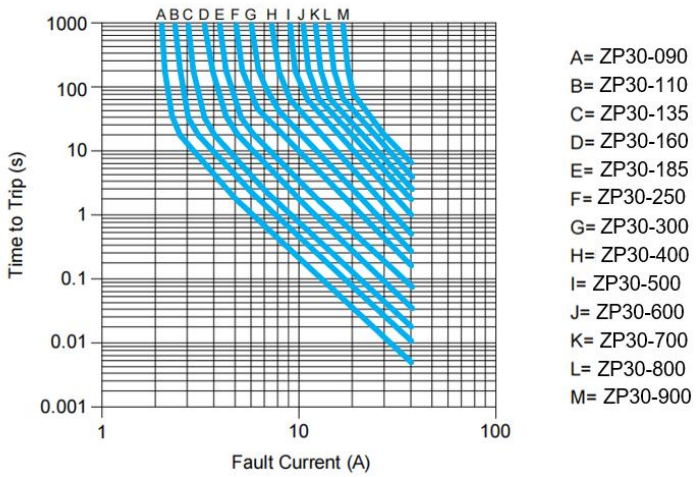
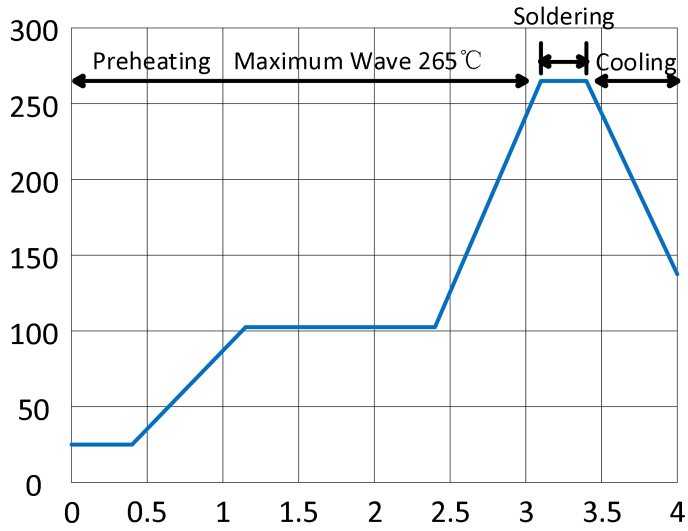


Figure 2. Typical Time-to-Trip Charts



Part Number	Ambient Operation Temperature									
	-40℃	-20℃	0℃	25℃	30℃	40℃	50℃	60℃	70℃	85℃
ZP30-090	1.25	1.17	1.04	0.90	0.82	0.75	0.69	0.61	0.55	0.47
ZP30-110	1.50	1.43	1.27	1.10	1.00	0.91	0.85	0.75	0.67	0.57
ZP30-135	1.90	1.76	1.55	1.35	1.23	1.12	1.04	0.92	0.82	0.70
ZP30-160	2.20	2.08	1.84	1.60	1.46	1.33	1.23	1.09	0.98	0.83
ZP30-185	2.62	2.41	2.13	1.85	1.68	1.54	1.42	1.26	1.13	0.96
ZP30-200	2.80	2.60	2.30	2.00	1.82	1.66	1.54	1.36	1.22	1.04
ZP30-250	3.50	3.25	2.88	2.50	2.28	2.08	1.93	1.70	1.53	1.30
ZP30-300	4.20	3.90	3.45	3.00	2.73	2.49	2.31	2.04	1.83	1.56
ZP30-400	5.60	5.20	4.60	4.00	3.64	3.32	3.08	2.72	2.44	2.08
ZP30-500	7.10	6.50	5.75	5.00	4.55	4.15	3.85	3.40	3.05	2.60
ZP30-600	8.50	7.80	6.90	6.00	5.46	4.98	4.62	4.08	3.66	3.12
ZP30-700	9.90	9.10	8.05	7.00	6.37	5.81	5.39	4.76	4.27	3.64
ZP30-800	11.30	10.40	9.20	8.00	7.28	6.64	6.16	5.44	4.88	4.16
ZP30-900	12.70	11.70	10.35	9.00	8.19	7.47	6.93	6.12	5.49	4.68

Wave Soldering Parameters



Condition	Lead-free Assembly
Peak Temperature	265℃
Dipping Time	10 seconds
Soldering	1 time