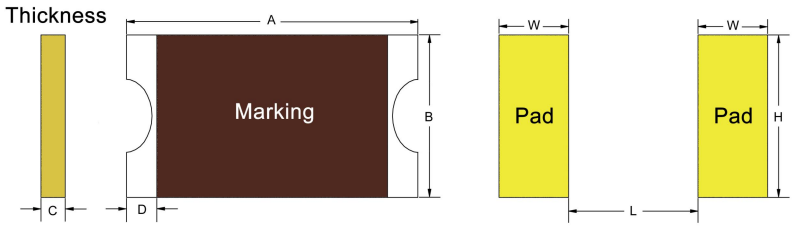
Resettable PTCS - 0603 Series

Features

- Surface mount overcurrent protection.
- Resettable protection is desired
- Protecting against over-current and over-temperature faults
- RoHS compliant , lesd-free and halogen free .

PACKAGEDIMENSIONS



Part number	A		B		C		D	E	W	H	L
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min	± 0.1	± 0.1	± 0.1
SMD0603-010Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-020Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-025Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-035Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-050Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-075Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8
SMD0603-100Y	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.06	1.0	1.0	0.8

Electrical Characteristics

Part number	V_{max}(dc)	I_{max}(A)	I_{hold} @25℃ (A)	I_{trip} @ 25℃ (A)	Pd Max(W)	Max Time to trip		Resistance	
						Current (A)	Time (Sec)	Rmin (Ω)	R1max(Ω)
SMD0603-010Y	15.0	40	0.10	0.30	0.5	0.5	1.00	0.900	6.000
SMD0603-020Y	9.0	40	0.20	0.50	0.5	1.0	0.60	0.550	3.500
SMD0603-025Y	9.0	40	0.25	0.55	0.5	8.0	0.08	0.500	3.000
SMD0603-035Y	6.0	40	0.35	0.75	0.5	8.0	0.10	0.200	1.400
SMD0603-050Y	6.0	40	0.50	1.00	0.5	8.0	0.10	0.100	0.800
SMD0603-075Y	6.0	40	0.75	1.40	0.5	8.0	0.10	0.060	0.450
SMD0603-100Y	6.0	40	1.00	2.00	0.5	8.0	0.10	0.040	0.300

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- Ih=Hold current: maximum current at which the device will not trip at 25 still air .
- It =Trip current minimum current at which the device will always trip at 25℃ still air .
- Vmax=Maximum voltage device can withstand without damage at rated current.
- Imax=Maximum fault current device can withstand without damage at rated voltage.
- Ttrip=Maximum time to trip at 5 times hold current
- Rmax=Maximum device resistance at 25 prior to tripping.
- Rmin=Minimum device resistance at 25 prior to tripping.
- Pd_{typ}=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

Thermal Deration Chart-Ihold

MODEL	Max ambient operating temperature Vs.hold current (Ihold)								
	-40℃	-20℃	0℃	25℃	40℃	50℃	60℃	70℃	85℃
SMD0603-010Y	0.13	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
SMD0603-020Y	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
SMD0603-025Y	0.32	0.29	0.27	0.25	0.21	0.18	0.16	0.14	0.10
SMD0603-035Y	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14
SMD0603-050Y	0.67	0.59	0.54	0.50	0.41	0.37	0.34	0.29	0.20
SMD0603-075Y	0.98	0.86	0.81	0.75	0.62	0.51	0.46	0.39	0.27
SMD0603-100Y	1.33	1.18	1.08	1.00	0.80	0.74	0.68	0.57	0.40

Test Procedures and Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25℃	Rmin≤R≤R1max
Time to Trip	Vmax, 25℃, In still air @ 25℃	T≤max. time to trip(seconds)
Hold Current	30 min. at IH, In still air @ 25℃	No trip
Trip Cycle Life	Vmax, Imax, 100 cycles, In still air @ 25℃	No arcing or burning
Trip Endurance	Vmax, 1 hours, In still air @ 25℃	No arcing or burning

Environmental Specifications

Operating/Storage Temperature	-40℃ to +85℃
Maximum Device Surface Temperature in Tripped State	125℃
Passive Aging	Passive Aging +85℃,1000 hours ±5% typical resistance change
Humidity Aging	+85℃, 85%R.H. 1000 hours ±5% typical resistance change
Thermal Shock	MIL-STD-202 Method 107G +85℃/-40℃ 20 times -30% typical resistance change
Solvent Resistance	MIL-STD-202, Method 215 No change
Vibration	MIL-STD-883C, Method 2007.1, Condition A No change

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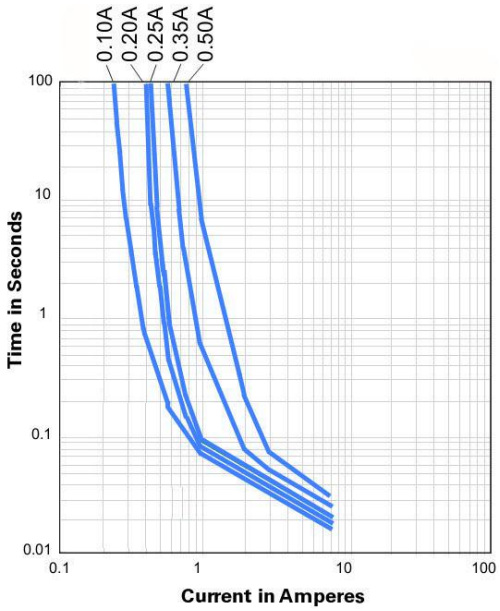
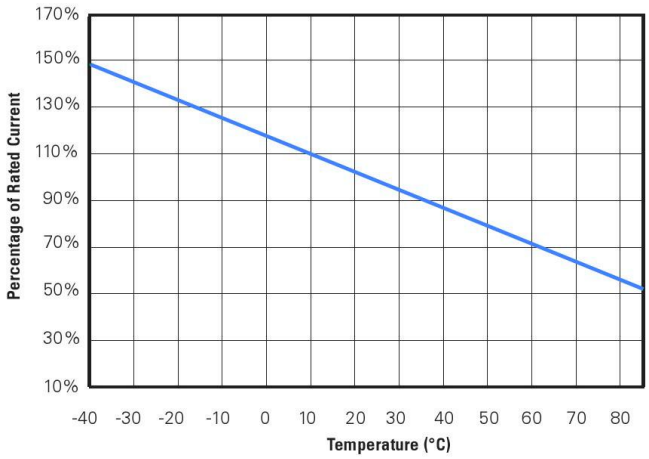
Typical time-to-trip charts @25℃



Temperature rating Curve



Warning :

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions ,and should not be used when repeated fault conditions are anticipated . Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame .

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