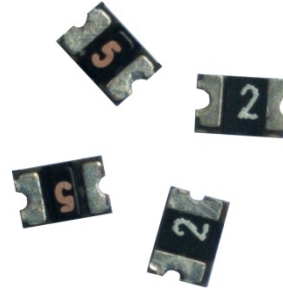


**Description**

The 0805 series provides miniature surface mount resettable Over-current protection with holding current from 0.05A to 1.50A. This series is suitable for ultra portable applications where space is at a premium and the device current is low.



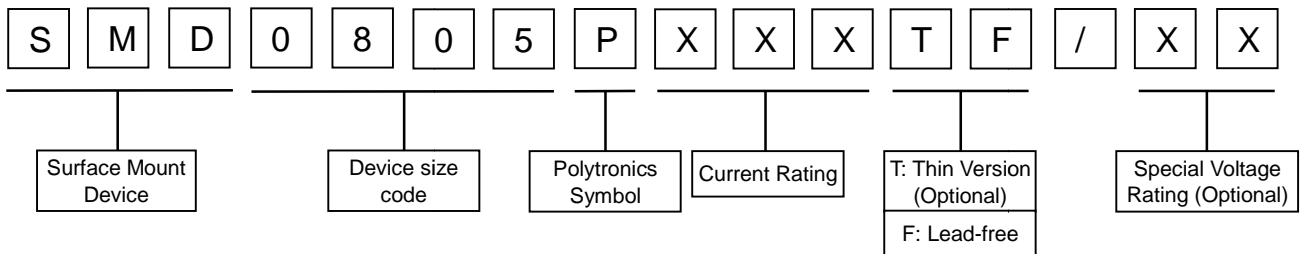
**Features**

- I I(hold): 0.05~1.50A
- I Very high voltage surge capabilities
- I Available in lead-free version
- I Fast response to fault current
- I RoHS compliant, Lead- Free and Halogen-Free
- I Low resistance
- I Compact design saves board space
- I Compatible with high temperature solders

**Applications**

- I USB peripherals
- I Disk drives
- I CD-ROMs
- I General electronics
- I Disk drives
- I Set-top-box and HDMI
- I Mobile Internet Device (MID)
- I PDAs / digital cameras
- I Game console port protection
- I Plug and play protection for motherboards and peripherals
- I Mobile phones - battery and port protection

**Part Number Code**



**Environmental Specifications**

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs	±5% typical
Humidity aging	+85°C, 85%R.H., 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change

Ambient operating conditions : - 40°C to +85°C

Maximum surface temperature of the device in the tripped state is 125 °C



**Performance Specification**

Type Number	$I_{hold}$	$I_{trip}$	$V_{max}$	Max. Time to Trip		$I_{max}$	$P_d$ typ	$R_{i_{min}}$	$R1_{max}$
	A	A	$V_{DC}$	Current A	$T_{max}$ S	A	W	$\Omega$	$\Omega$
SMD0805P005TF	0.05	0.15	15	0.5	1.50	30	0.5	1.50	18
SMD0805P005TF/30	0.05	0.15	30	0.5	1.50	30	0.5	1.50	18
SMD0805P010TF	0.10	0.30	15	0.5	1.50	30	0.5	0.75	6
SMD0805P010TF/24	0.10	0.30	24	0.5	1.50	30	0.5	0.75	6
SMD0805P010TF/30	0.10	0.30	30	0.5	1.50	30	0.5	0.75	6
SMD0805P020TF	0.20	0.50	9	8	0.02	30	0.5	0.50	3.5
SMD0805P020TF/12	0.20	0.50	12	8	0.02	30	0.5	0.50	3.5
SMD0805P020TF/16	0.20	0.50	16	8	0.02	30	0.5	0.50	3.5
SMD0805P020TF/24	0.20	0.50	24	8	0.02	30	0.5	0.55	3.5
SMD0805P035TF	0.35	0.75	6	8	0.10	30	0.5	0.20	1.2
SMD0805P035TF/12	0.35	0.75	12	8	0.10	30	0.5	0.20	1.2
SMD0805P050TF	0.50	1.00	6	8	0.10	30	0.5	0.10	0.85
SMD0805P050TF/12	0.50	1.00	12	8	0.10	30	0.5	0.10	0.85
SMD0805P050TF/16	0.50	1.00	16	8	0.10	30	0.5	0.10	0.85
SMD0805P050TF/24	0.50	1.00	24	8	0.10	30	0.5	0.10	0.85
SMD0805P075TF	0.75	1.50	6	8	0.20	35	0.6	0.07	0.385
SMD0805P075TF/12	0.75	1.50	12	8	0.20	35	0.6	0.07	0.385
SMD0805P100TF	1.00	1.95	6	8	0.30	35	0.6	0.04	0.23
SMD0805P100TF/12	1.00	1.95	12	8	0.30	35	0.6	0.04	0.23
SMD0805P110TF	1.10	2.20	6	8	0.30	35	0.6	0.035	0.21
SMD0805P110TF/12	1.10	2.20	12	8	0.30	35	0.6	0.035	0.21
SMD0805P125TF	1.25	2.50	6	8	0.60	35	1.5	0.025	0.14
SMD0805P150TF	1.50	3.00	6	8	0.50	35	1.0	0.015	0.13

$V_{max}$  = 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 ( $V_{max}$ ).

$I_{hold}$  = 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.

$P_d$  = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

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

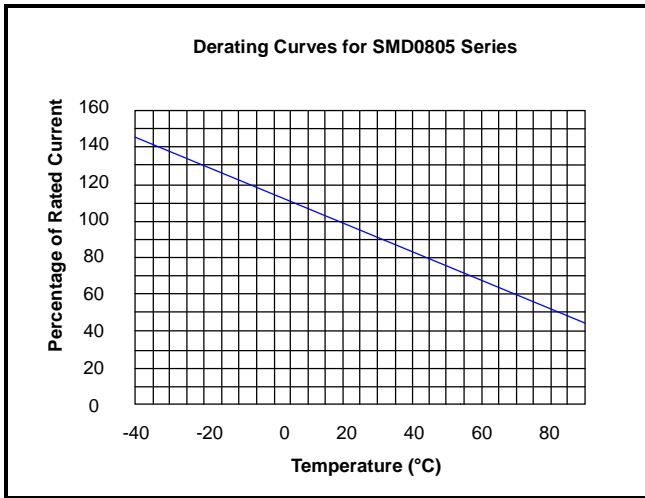
$R1_{max}$  = Maximum device resistance is measured one hour post reflow.

**Thermal Derating Chart-Ih(A)**

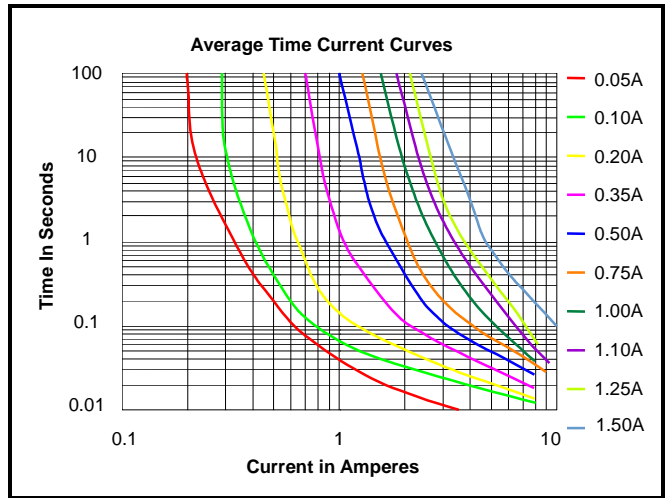
Part Number	Ambient Operation Temperature								
	-40 °C	-20 °C	0 °C	25 °C	40 °C	50 °C	60 °C	70 °C	85 °C
SMD0805P005TF	0.07	0.06	0.055	0.05	0.04	0.035	0.03	0.025	0.015
SMD0805P005TF/30	0.07	0.06	0.055	0.05	0.04	0.035	0.03	0.025	0.015
SMD0805P010TF	0.14	0.12	0.11	0.1	0.08	0.07	0.06	0.05	0.03
SMD0805P010TF/24	0.14	0.12	0.11	0.1	0.08	0.07	0.06	0.05	0.03
SMD0805P010TF/30	0.14	0.12	0.11	0.1	0.08	0.07	0.06	0.05	0.03
SMD0805P020TF	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
SMD0805P020TF/12	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
SMD0805P020TF/16	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
SMD0805P020TF/24	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
SMD0805P035TF	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
SMD0805P035TF/12	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
SMD0805P050TF	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
SMD0805P050TF/12	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
SMD0805P050TF/16	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
SMD0805P050TF/24	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
SMD0805P075TF	1.00	0.90	0.79	0.75	0.63	0.57	0.53	0.41	0.34
SMD0805P075TF/12	1.00	0.90	0.79	0.75	0.63	0.57	0.53	0.41	0.34
SMD0805P100TF	1.35	1.25	1.15	1.00	0.82	0.74	0.65	0.55	0.42
SMD0805P100TF/12	1.35	1.25	1.15	1.00	0.82	0.74	0.65	0.55	0.42
SMD0805P110TF	1.45	1.35	1.20	1.10	0.92	0.84	0.75	0.65	0.52
SMD0805P110TF/12	1.45	1.35	1.20	1.10	0.92	0.84	0.75	0.65	0.52
SMD0805P125TF	1.65	1.53	1.36	1.25	1.05	0.95	0.85	0.74	0.59
SMD0805P150TF	1.98	1.84	1.63	1.50	1.26	1.14	1.02	0.88	0.71



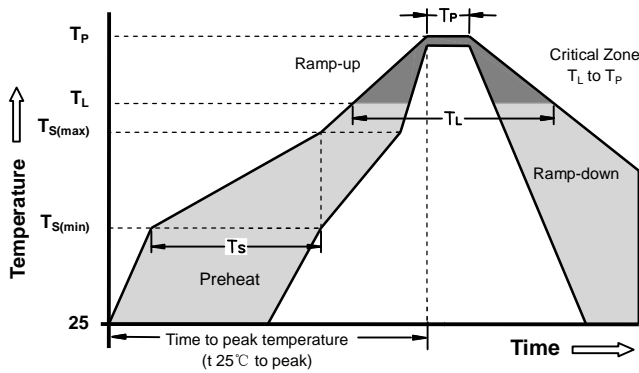
**Thermal Derating Curve**



**Average Time-Current Curve**

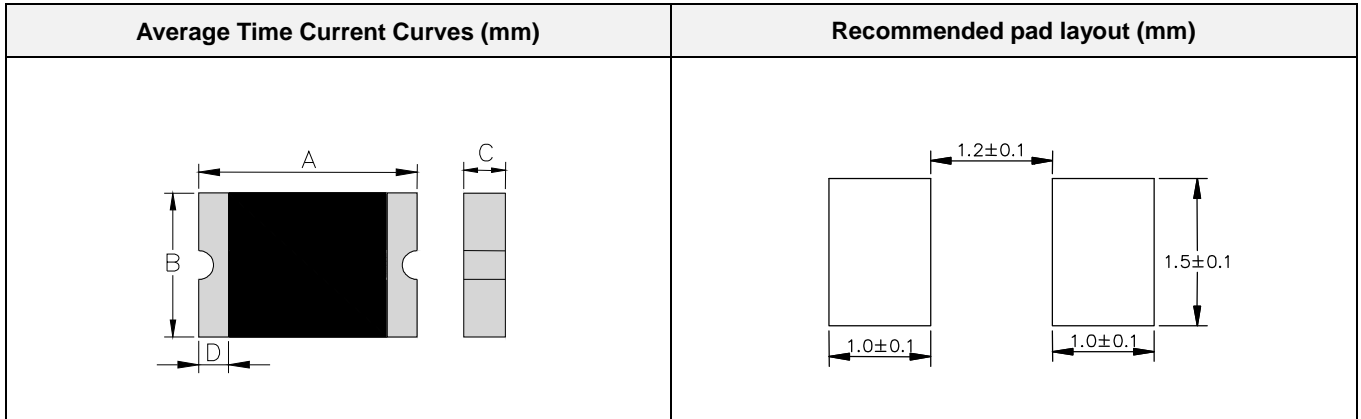


**Soldering Parameters**



Reflow Condition		Pb - Free assembly
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	150°C
	-Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $t_s$ )	60 -180 Seconds
Average ramp up rate ( Liquids Temp $T_L$ ) to peak		3°C/second max
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	- Temperature ( $T_L$ ) (Liquids)	217°C
	- Time (min to max) ( $t_s$ )	60 -150 Seconds
Peak Temperature ( $T_P$ )		260 +0/-5°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 - 40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_P$ )		8 minutes Max
Do not exceed		260°C



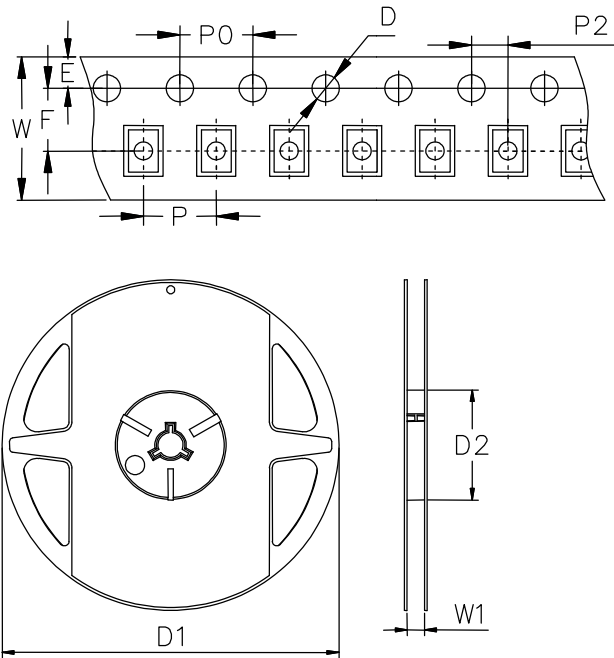


**Dimensions**

Type Number	Package Dimensions (mm)							Package Dimensions (in)						
	A		B		C		D	A		B		C		D
	min	max	min	max	min	max	min	min	max	min	max	min	max	min
SMD0805P005TF	2	2.2	1.2	1.5	0.4	1.0	0.2	0.079	0.087	0.047	0.059	0.016	0.039	0.008
SMD0805P005TF/30	2	2.2	1.2	1.5	0.4	1.0	0.2	0.079	0.087	0.047	0.059	0.016	0.039	0.008
SMD0805P010TF	2	2.2	1.2	1.5	0.4	1.0	0.2	0.079	0.087	0.047	0.059	0.016	0.039	0.008
SMD0805P010TF/24	2	2.2	1.2	1.5	0.4	1.0	0.2	0.079	0.087	0.047	0.059	0.016	0.039	0.008
SMD0805P010TF/30	2	2.2	1.2	1.5	0.4	1.0	0.2	0.079	0.087	0.047	0.059	0.016	0.039	0.008
SMD0805P020TF	2	2.2	1.2	1.5	0.35	1.0	0.2	0.079	0.087	0.047	0.059	0.014	0.039	0.008
SMD0805P020TF/12	2	2.2	1.2	1.5	0.35	1.0	0.2	0.079	0.087	0.047	0.059	0.014	0.039	0.008
SMD0805P020TF/16	2	2.2	1.2	1.5	0.35	1.0	0.2	0.079	0.087	0.047	0.059	0.014	0.039	0.008
SMD0805P020TF/24	2	2.2	1.2	1.5	0.35	0.8	0.2	0.079	0.087	0.047	0.059	0.014	0.032	0.008
SMD0805P035TF	2	2.2	1.2	1.5	0.35	1.0	0.2	0.079	0.087	0.047	0.059	0.014	0.039	0.008
SMD0805P035TF/12	2	2.2	1.2	1.5	0.35	1.0	0.2	0.079	0.087	0.047	0.059	0.014	0.039	0.008
SMD0805P050TF	2	2.2	1.2	1.5	0.30	1.1	0.2	0.079	0.087	0.047	0.059	0.012	0.043	0.008
SMD0805P050TF/12	2	2.2	1.2	1.5	0.30	1.1	0.2	0.079	0.087	0.047	0.059	0.012	0.043	0.008
SMD0805P050TF/16	2	2.2	1.2	1.5	0.5	1.1	0.2	0.079	0.087	0.047	0.059	0.02	0.043	0.008
SMD0805P050TF/24	2	2.2	1.2	1.5	0.5	1.1	0.2	0.079	0.087	0.047	0.059	0.02	0.043	0.008
SMD0805P075TF	2	2.2	1.2	1.5	0.4	1.3	0.2	0.079	0.087	0.047	0.059	0.016	0.051	0.008
SMD0805P075TF/12	2	2.2	1.2	1.5	0.4	1.3	0.2	0.079	0.087	0.047	0.059	0.016	0.051	0.008
SMD0805P100TF	2	2.2	1.2	1.5	0.5	1.3	0.2	0.079	0.087	0.047	0.059	0.02	0.051	0.008
SMD0805P100TF/12	2	2.2	1.2	1.5	0.5	1.3	0.2	0.079	0.087	0.047	0.059	0.02	0.051	0.008
SMD0805P110TF	2	2.2	1.2	1.5	0.5	1.3	0.2	0.079	0.087	0.047	0.059	0.02	0.051	0.008
SMD0805P110TF/12	2	2.2	1.2	1.5	0.5	1.3	0.2	0.079	0.087	0.047	0.059	0.02	0.051	0.008
SMD0805P125TF	2	2.2	1.2	1.5	1.0	1.5	0.2	0.079	0.087	0.047	0.059	0.039	0.059	0.008
SMD0805P150TF	2	2.2	1.2	1.5	1.0	1.5	0.2	0.079	0.087	0.047	0.059	0.039	0.059	0.008



**Taping and Reel Specifications**



Symbol	Millimeters	Inches
W	8±0.3	0.315±0.012
P	4±0.1	0.157±0.004
P0	4±0.1	0.157±0.004
P2	2±0.05	0.079±0.002
F	3.5±0.05	0.138±0.002
E	1.75±0.1	0.069±0.004
D	1.55±0.05	0.061±0.002
D1(max)	178	7.007
D2(min)	60	2.362
W1	9.0±0.5	0.354±0.02

Model	Quantity
SMD0805P005TF~ SMD0805P050TF	5000PCS
SMD0805P050TF/12,SMD0805P050TF/16, SMD0805P050TF/24,075TF,075TF/12	4000PCS
SMD0805P100TF~ SMD0805P150TF	3500PCS

