

mSMD(1812) Series

Polymeric Positive Temperature Coefficient (PPTC)



Agency Approvals

Agency	Agency File Number
UL	E201504 / E319079

Packaging

Packaging Option	Quantity
Tape & Reel	1,500 pieces per box

Electrical Properties

Model	V _{max} (VDC) ¹	I _{max} (A) ²	I _{hold} at 25°C (A) ³	I _{trip} at 25°C (A) ⁴	P _d max (W) ⁵	Maximum Time to Trip		Resistance		Agency Approval	
						Current (A)	Time (Sec)	R _{imin} (Ω) ⁶	R _{1max} (Ω) ⁷	UL	TUV
mSMD010	30.0	100	0.10	0.30	0.8	0.5	1.50	0.750	15.00	•	
mSMD014	60.0	100	0.14	0.34	0.8	1.5	0.15	0.650	6.000		
mSMD020	30.0	100	0.20	0.40	0.8	8.0	0.02	0.350	5.000		
mSMD030	30.0	100	0.30	0.60	0.8	8.0	0.10	0.250	3.000		
mSMD050	15.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.000	•	
mSMD050-33V	33.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.000		
mSMD050-60V	60.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.400		
mSMD075	13.2	100	0.75	1.50	0.8	8.0	0.20	0.090	0.450	•	
mSMD110	8.00	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250	•	
mSMD110-16V	16.0	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250		
mSMD125	16.0	100	1.25	2.50	0.8	8.0	0.40	0.050	0.140		
mSMD150	8.00	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160	•	
mSMD150-16V	16.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160		
mSMD160	8.00	100	1.60	2.80	0.8	8.0	1.00	0.030	0.130		
mSMD200	8.00	100	2.00	4.00	0.8	8.0	2.00	0.020	0.100	•	
mSMD260	8.00	100	2.60	5.00	0.8	8.0	2.50	0.015	0.050		
mSMD300	8.00	100	3.00	5.00	0.8	8.0	4.00	0.012	0.040		
mSMD350	6.00	100	3.50	6.00	2.0	10.0	4.00	0.008	0.030		

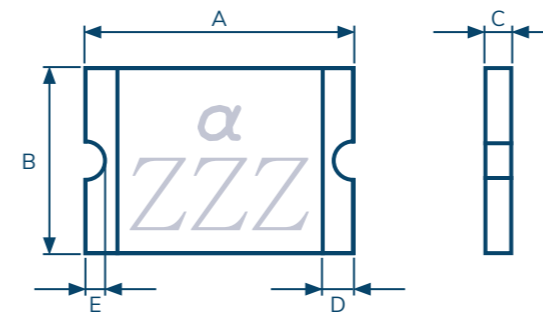
- V_{max} = Maximum voltage that device can withstand without damage at rated current (I_{max})
- I_{max} = Maximum fault current device can withstand without damage at rated voltage (v_{max})
- I_{hold} = hold current: maximum current device with sustain for 4 hours without tripping (at 25 °C, still air)
- I_{trip} = trip current: minimum current at which the device will trip (at 25 °C, still air)
- P_d = power dissipated from device when in the tripped state (at 25 °C, still air)
- R_{imin/max} = minimum/maximum resistance of device in initial (un-soldered) state
- R_{1max} = maximum resistance of device at 25 °C, measured one hour after tripping

CAUTION: operation beyond the specified ratings may result in damage and possible arcing and flame

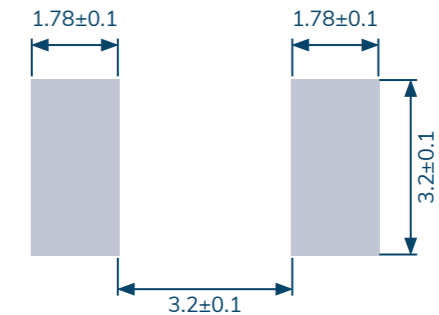
Product Characteristics

Operating Temperature	-40 °C to +85 °C
Maximum Device Surface Temperature	In Tripped State, 125 °C
Passive Aging	85 °C, 1000 hours, ±5% Typical Resistance Change
Humidity Aging	85 °C, 85% R.H., 1000 hours, ±5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 times, ±33% Typical Resistance Change
Vibration	MIL-STD-202, Method 201, No Resistance Change

Mechanical Dimensions



Recommended Layout



Physical Properties

Model	Material	A		B		C		D	E	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	
mSMD010	Tin-Plated Nickel-Copper	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25	
mSMD014		4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25	
mSMD020		4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25	
mSMD030		4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25	
mSMD050		4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25	
mSMD050-33V		4.37	4.73	3.07	3.41	0.70	1.30	0.30	0.25	
mSMD050-60V		4.37	4.73	3.07	3.41	1.10	1.80	0.30	0.25	
mSMD075		4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25	
mSMD110		4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25	
mSMD110-16V		4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.25	
mSMD125		4.37	4.73	3.07	3.41	0.60	1.30	0.30	0.25	
mSMD150		Tin-Plated Nickel-Copper	4.37	4.73	3.07	3.41	0.30	1.30	0.30	0.25
mSMD150-16V			4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
mSMD160			4.37	4.73	3.07	3.41	0.30	0.80	0.30	0.25
mSMD200			4.37	4.73	3.07	3.41	0.40	0.80	0.30	0.25
mSMD260	4.37		4.73	3.07	3.41	0.50	1.10	0.30	0.25	
mSMD300	4.37		4.73	3.07	3.41	0.50	1.20	0.30	0.25	
mSMD350	4.37		4.73	3.07	3.41	0.50	1.20	0.30	0.25	