Surface Mount -Positive temperature coefficient Fuse PPMM

Description

The PPMM are designed specifically to provide over current protection for sensitive electronic equipment, the over current events are usually caused by voltage transients induced by lightning and other transient overvoltage.

SMD1812

Feature

- For surface mounted application to optimize board space
- Low profile package
- Lead free device size 0.18*0.12 inch/4.5*3.2 mm
- High temperature soldering guaranteed:260℃/40 seconds at terminals

Applications

PPMM device are ideal for the over current protection of I/O interfaces, VCC bus and other vulnerable circuits used in telecom, computer industrial and consumer electronic application, When the current reaches its trip current, its internal impedance will increase rapidly, so as to reduce the over current.

Performance Specification

Model	V_{max}	I_{max}	I_{hold}@25℃	I_{trip}@25℃	P_d typ.	Maximum Time to Trip		Resistance (Ω)	
	(Vdc)	(A)	(A)	(A)	(W)	Current (A)	Time (Sec)	Ri_{min}	$R1_{max}$
PPMM010	30.0	100	0.10	0.30	0.8	0.5	1.50	0.750	15.000
PPMM014	60.0	100	0.14	0.34	0.8	1.5	0.15	0.650	6.000
PPMM020	30.0	100	0.20	0.40	0.8	8.0	0.02	0.350	5.000
PPMM050	15.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.000
PPMM050/33	33.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.000
PPMM050/60	60.0	100	0.50	1.00	0.8	8.0	0.15	0.150	1.400
PPMM075	13.2	100	0.75	1.50	0.8	8.0	0.20	0.090	0.450
PPMM110	8.0	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250
PPMM110/16	16.0	100	1.10	2.20	0.8	8.0	0.30	0.050	0.250
PPMM125	16.0	100	1.25	2.50	0.8	8.0	0.40	0.050	0.140
PPMM150	8.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160
PPMM150/16	16.0	100	1.50	3.00	0.8	8.0	0.50	0.040	0.160
PPMM160	8.0	100	1.60	2.80	0.8	8.0	1.00	0.030	0.130
PPMM200	8.0	100	2.00	4.00	0.8	8.0	2.00	0.020	0.100
PPMM260	8.0	100	2.60	5.00	0.8	8.0	2.50	0.015	0.050
PPMM300	8.0	100	3.00	5.00	0.8	8.0	4.00	0.012	0.040
PPMM350	6.0	100	3.50	6.00	2.0	10.0	4.00	0.008	0.030

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

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

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

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

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

$Ri_{min/max}$ = Minimum/Maximum device resistance prior to tripping at 25℃.

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

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

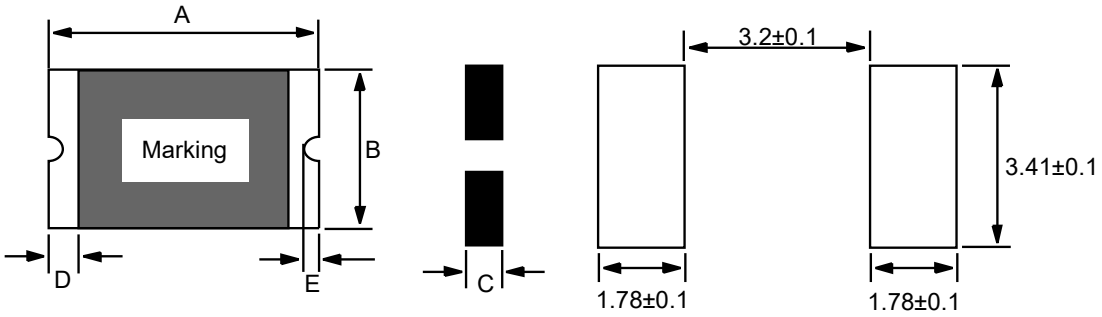
I_{hold} Versus Temperature

Model	Hold current (I_{hold}/A) versus maximum ambient operating temperature (T_{mao}/℃)								
	-40	-20	0	25	40	50	60	70	85
PPMM010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
PPMM014	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
PPMM020	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
PPMM050	0.59	0.57	0.55	0.50	0.45	0.43	0.35	0.30	0.23
PPMM075	1.10	0.99	0.87	0.75	0.63	0.57	0.49	0.45	0.35
PPMM110	1.60	1.45	1.28	1.10	0.92	0.83	0.71	0.66	0.52
PPMM110/16	1.59	1.44	1.27	1.10	0.92	0.82	0.70	0.64	0.50
PPMM125	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53
PPMM150	2.30	2.05	1.77	1.50	1.23	1.09	0.95	0.82	0.61
PPMM150/16	2.28	2.03	1.75	1.50	1.21	1.07	0.93	0.79	0.58
PPMM160	2.10	1.96	1.88	1.60	1.26	1.12	0.98	0.84	0.63
PPMM200	2.88	2.61	2.25	2.00	1.80	1.66	1.45	1.09	0.80
PPMM260	3.90	3.42	2.96	2.60	2.33	2.07	1.94	1.35	1.00
PPMM300	4.15	2.76	3.46	3.00	2.55	2.28	2.01	1.61	1.33
PPMM350	4.84	4.39	4.04	3.50	2.98	2.66	2.35	1.88	1.55

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85℃, 1000hrs.	±5% typical
Humidity aging	+85℃, 85% R.H., 168 hours	±5% typical
Thermal shock	+85℃ to -40℃, 20 times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating condition : -40℃ to +85℃		
Maximum surface temperature of the device in the tripped state is 125℃		

Construction And Dimension (Unit: mm)



Recommended Pad Layout (mm)

Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
PPMM010	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
PPMM014	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.25
PPMM020	4.37	4.73	3.07	3.41	0.50	1.30	0.30	0.25
PPMM050	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
PPMM050/33	4.37	4.73	3.07	3.41	0.70	1.30	0.30	0.25
PPMM050/60	4.37	4.73	3.07	3.41	1.10	1.80	0.30	0.25
PPMM075	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
PPMM110	4.37	4.73	3.07	3.41	0.40	0.90	0.30	0.25
PPMM110/16	4.37	4.73	3.07	3.41	0.60	1.30	0.30	0.25
PPMM125	4.37	4.73	3.07	3.41	0.60	1.30	0.30	0.25
PPMM150	4.37	4.73	3.07	3.41	0.40	1.20	0.30	0.25
PPMM150/16	4.37	4.73	3.07	3.41	0.40	1.20	0.30	0.25
PPMM160	4.37	4.73	3.07	3.41	0.40	1.20	0.30	0.25
PPMM200	4.37	4.73	3.07	3.41	0.50	1.30	0.30	0.25
PPMM260	4.37	4.73	3.07	3.41	0.50	1.50	0.30	0.25
PPMM300	4.37	4.73	3.07	3.41	0.50	1.50	0.30	0.25
PPMM350	4.37	4.73	3.07	3.41	0.50	1.50	0.30	0.25

Termination Pad Characteristics

Terminal pad material: Gold-plated Nickel-Copper or Tin- plated Nickel-Copper

Terminal pad solderability: Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

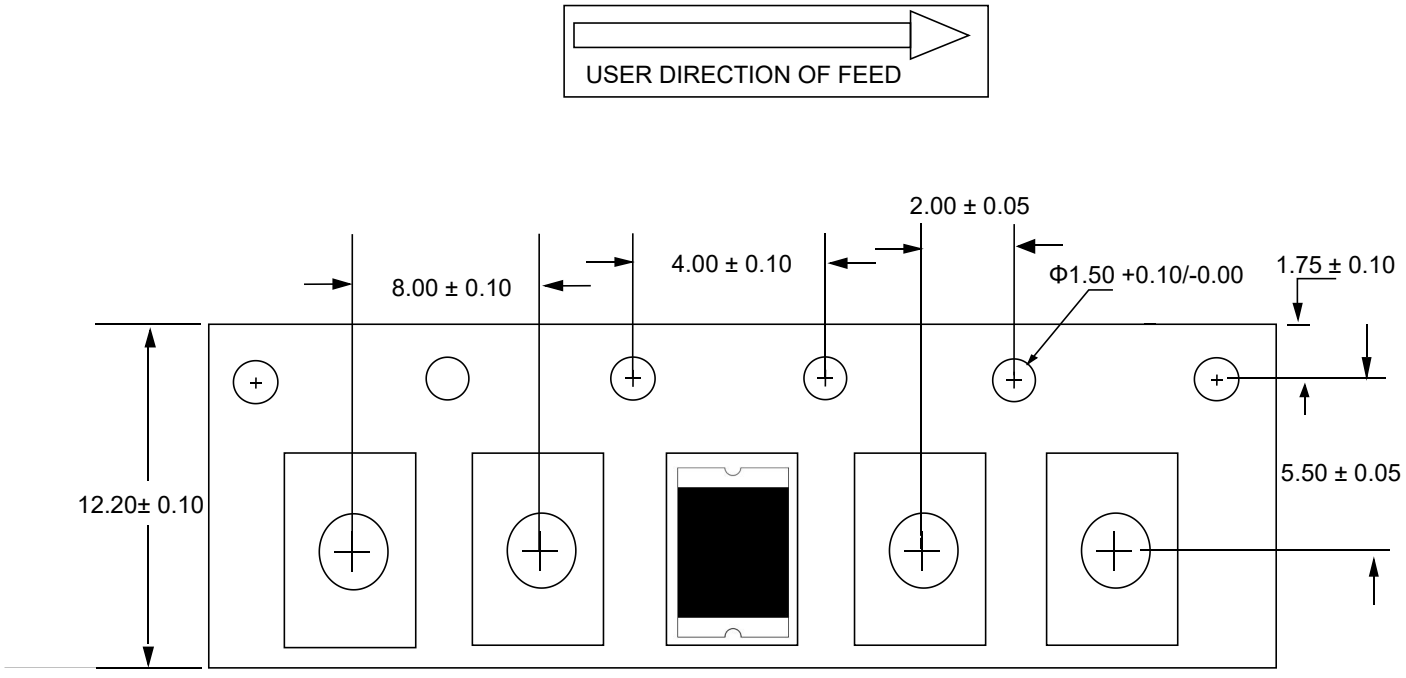
Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

Ordering information

Device	Package	Reel	Shipping
PPMM SERIES	SMD1812	7"	2000 / Tape & Reel

Load with information



Unit：mm

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