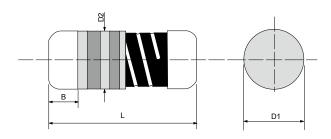
RMM102

Metal Film MELF Resistor



Specifications Per

- IEC 60115-1
- EN140401-803

Features

- SMD enabled structure
- Excellent solderability termination
- Products meet RoHS requirements and do not contain
- substances of very high concern identified by European Chemicals Agency

DIMENSIONS

Туре	Body Length	Cap Diameter	Body Diameter	Soldering spot	Net Weight
	(L , mm)	(D1 , mm)	(D2 , mm)	(B, mm)	Per 1000 pcs
RMM102	2.1 ± 0.1	1.1 ± 0.1	D1+0.02/-0.1	0.5 Min.	7 grams

GENERAL SPECIFICATIONS

Туре	Power Rating at 70°C	Maximum Working Voltage	Maximum Overload Voltage	Minimum Resistance	Maximum Resistance	Resistance Tolerance	Available Resistance Value
BMM102			300V	0Ω, 10Ω	221KΩ	±0.5%	E-192
RIVIIVITU2 C	0.200	0.2W 150V	3000	0.22Ω	2.2ΜΩ	±1%~±5%	E-24 / E-96

Special sizes and specifications available on request.

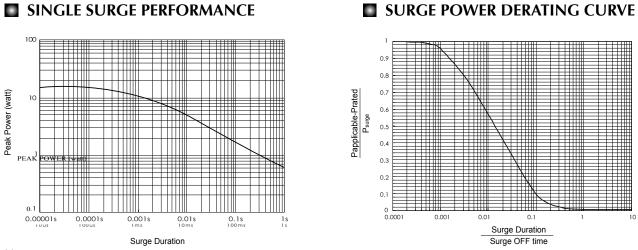
TECHNICAL SUMMARY

Characteristics	Limits		
Operating Temperature Range, °C	-55 ~ +125		
Temperature Coefficient, PPM / °C*	±1%, ±2%	±25, ±50, ±100	
	±5%	±100	
Dielectric Withstanding Voltage, VAC or DC	150		
Insulation Resistance, MΩ	>104		
Tin Whisker (JESD201 Temperature Cycling & High Temp./Humidity Storage), µm	<5		

* Not applicable to all resistance values. Please check with us regarding the PPM of specific resistance value(s).

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Notes:

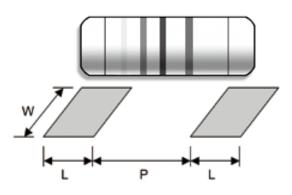
• SINGLE SURGE PERFORMANCE graph is good for NON REPETITIVE applications operating in an ambient temperature of 70°C or less. For temperatures above 70°C, the graph power must be derated further linearly down to zero at 125°C.

• To determine applicable surge power in continuous-surge applications:

- 1. Identify allowable duration and peak power P_{surge} of single surge;
- 2. Determine ratio of surge duration/surge OFF time in application;

3. Calculate Papplicable backwardly according to Y-axis of SURGE POWER DERATING CURVE.

SUGGESTED PAD LAYOUT

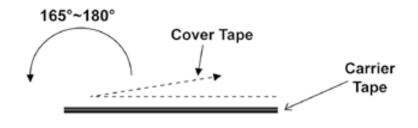


Туре	Soldering Mode	Pad Length (L, mm, Min.)	Pad Spacing (P, mm)	Pad Width (W, mm, Min.)	
DMM100	Reflow	0.8	0.9 ± 0.05	1.3	
RMM102	Wave	1.2	0.7 ± 0.05	1.5	

For better heat dissipation / lower heat resistance, increase W & L.

COVER TAPE PEELING SPECIFICATION

Recommended peeling force: 50gf±5gf



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PERFORMANCE SPECIFICATIONS

Characteristics	Test Conditions	Limits			
	IEC 60115-1 4.13	0.22Ω to 221KΩ		± 0.5%	
Short Time Overload	5 seconds 2.5x rated voltage (not over max. overload voltage)	>221Kg	± 0.75%		
			ο 100Ω	± 5%	
Load Life			to 221KΩ	± 2.5%	
0.5 hours OFF, at (70±2)°C		>221KS	2	± 3.0%	
	IEC 60115-1 4.24	0.22Ω t	0.22Ω to 100Ω		
Load Life In Humidity	56 days rated load (not over max. working voltage) at $(40\pm2)^{\circ}$ C and $(93\pm3)^{\circ}$ relative humidity	>100Ω		± 2.5%	
	IEC 60115-1 4.37	0.22Ω to 100Ω		± 5%	
Load Life In Humidity (accelerated mode)	1,000 hours at 85°C and 85% relative humidity with 0.1x rated voltage	>100Ω	to 221KΩ	± 3.5%	
(accolorated meas)	(not over 100V)	>221KS	2	± 5%	
Periodic Electric Overload	IEC 60115-1 4.39 3.9x rated voltage (not over max. overload voltage) with 0.1s ON, 2.5s OFF for 1,000 cycles		± 1.5%		
Resistance To	IEC 60115-1 4.18.2 Dip the resistor into a solder bath measured (260±5)°C and hold	0.22Ω t	ο 100Ω	± 2.5%	
Soldering Heat	it for a 10 ± 1 seconds	>100Ω		± 0.5%	
	IEC 60115-1 4.25.3 1,000 hours at without load		0.22Ω to 100Ω	± 5.0%	
Thermal Endurance			>100Ω to 221KΩ >221KΩ	± 1.5% ± 2.0%	
	IEC 60115-1 4.19		5 cycles	±0.5%	
Thermal Shock	-55°C 30minutes, +125°C 30minutes			±2.0%	
Single pulse high voltage overload	 IEC 60115-1 4.27 5 pulses of 1.2/50µs at 10x rated voltage (not over max. overload voltage) with interval of 12 sec. 10 pulses of 10/700µs at 10x rated voltage (not over max. overload voltage) with interval of 60 sec. 		± 1.0% ± 1.0%		
Electrostatic discharge (Human body model)	IEC 60115-1 4.38 3 positive & 3 negative discharges with 1.5KV (For continuous surge application please see Surge Performance paragraph)	± 1.0%			
Climatic test	IEC 60115-1 4.23 4.23.2 - dry heat: 16 hours 125°C 4.23.3 - damp heat: 24 hours 55°C with 95% relative humidity 4.23.4 - cold: 2 hours -55°C 4.23.5 - negative air pressure: 2 hour 8.5KPa at (25±10)°C 4.23.6 - damp heat cyclic: 5 days 55°C with 95% relative humidity 4.23.7 - DC load: rated voltage at -55°C and 125°C each 1 Min.	± 2.0%			
Solderability	IEC 60115-1 4.17.2 Solder area covered after $(235\pm3)^{\circ}C/(2\pm0.2)$ seconds with flux applied	95% min. coverage			
Vibration	IEC 60115-1 4.22 Six hours in each parallel and axial direction with a simple harmonic motion having an amplitude of 1.52mm and 10 to 2,000 Hz.	±1.0%			
Bending test	IEC 60115-1 4.33 Pressing depth 2mm, 3 times		± 0.25%		
Flammability	mmability IEC 60115-1 4.35 Needle flame test 10s No burning after 30s			0s	

Metal Film MELF Resistor

PART NUMBER

Example: RMM1021/5W22RF25ppmNIL

RMM102	1/5W	22R	F	25ppm	NIL
Туре	Power	Resistance	Tolerance	TCR	Packaging
	1/5W	$22R=22\Omega 22K=22K\Omega 1M=1M\Omega R = 1 K = 103 M = 106 G = 109$	F (1%) J (5%) K (10%) M (20%)	3-7-character code TYL=Typical ±25 ppm=25ppm ± 1000ppm=1000ppm	Nil = Bulk T/R = Tape and Reel T/B = Tape and Box