Type SMV Series

Key Features

Flameproof UL94V0 molded package, resistant to sulfuration, heat and humidity.

Metal-glaze elements provide high stable performance against environmental conditions and overload.

High surge withstanding & pulse withstanding performance.

Excellent mechanical strength & electrical stability.

Moisture sensitivity level - MSL1

TE Connectivity is pleased to introduce our Metal Glaze high voltage power resistor, the sister to our SM series power resistor, giving UL94V0 flame resistance and resistance to sulfur along with high surge and pulse withstand capabilities

Note: *SMD (Surface mount devices) resistors and inductors should be kept in their original packaging to protect them from ESD (Electrostatic Discharge). The full reels can be broken into smaller quantities, without exposing them to ESD, as long as the components are still in the plastic or paper tape. These resistors and inductors should not be removed from the plastic or paper tape unless they are in an ESD protected environment.*

Characteristics – Electrical

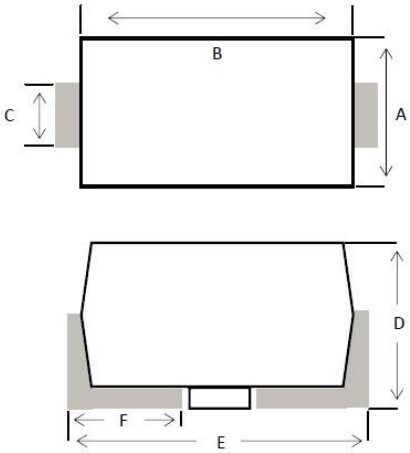
Characteristics	Standards	Test Methods
Resistance Tolerance	±5% (J) ±1% (F)	
Resistance Temp. Coeff	±200ppm / ℃	-65℃ ~ 200℃
Power Rating Load	Surface Temp. 275℃ Max. △R/R≦±1%	Rated voltage for 30 minutes
Short Time Overload	△R±1%	2.5 times of rated voltage for 5 sec.
Dielectric Withstanding Voltage	No evidence of mechanical damage or insulation breakdown	AC 1000V for 1min.
Insulation Resistance	10,000 MΩ	DC 500V megger
Pulse Loading Capability	△R/R≦±2%	IEC 60065 14.1
Solderability	Minimum 95% coverage	235℃±5℃ for 2 seconds
Resistance to Soldering Heat	No evidence of mechanical damage. △R/R≦±1%	270 ±5℃ for 10±1 seconds

Environmental Characteristics

Characteristics	Standards	Test Methods
Temp. cycle	△R/R≦±2%	-65°C(30mins) → Room Temp.(3mins) → +275°C(30mins) → Room Temp.(3mins) / (5 cycles)
Load life	△R/R≦±5%	Rated power load 90 minutes ON 30 minutes OFF 70℃ 1000 hours
Moisture-proof Load Life	△R/R≦±5%	Rated power load 90 minutes ON 30 minutes OFF 40℃ 95% RH 1000 hours

Reference Standards: JIS C 5201

Dimensions and Resistance Range:



Rated Power @20°C	A ±0.3 (mm)	B ±0.3 (mm)	C ±0.3 (mm)	D ±0.3 (mm)	E max. (mm)	F ±0.3 (mm)	Resistance Range(Ω)	Max. Working Voltage	
								DC	RMS
1W	4.0	6.7	1.4	3.55	7.9	1.5	100K~10M	1600V	1150V
2W	5.5	10.5	1.7	5.0	12	2.3	100K~10M	3500V	2500V
3W	7.3	13.5	1.7	6.8	17	2.5	100K~10M	5000V	3500V

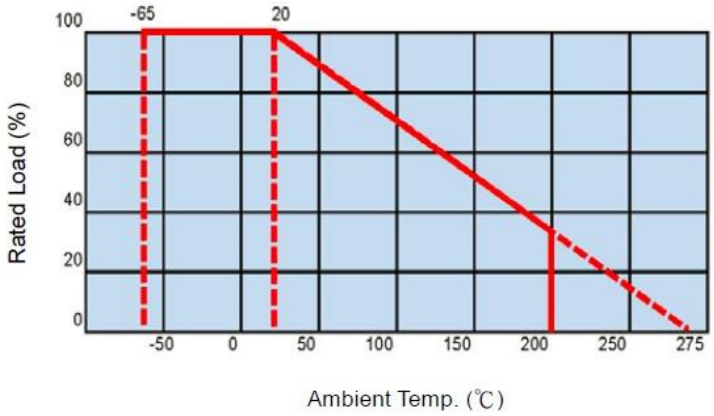
Rated Continuous Working Voltage (RCWV) shall be determined from

RCWV = √Rated Power x Resistance Value or Max. Permissible Voltage listed above

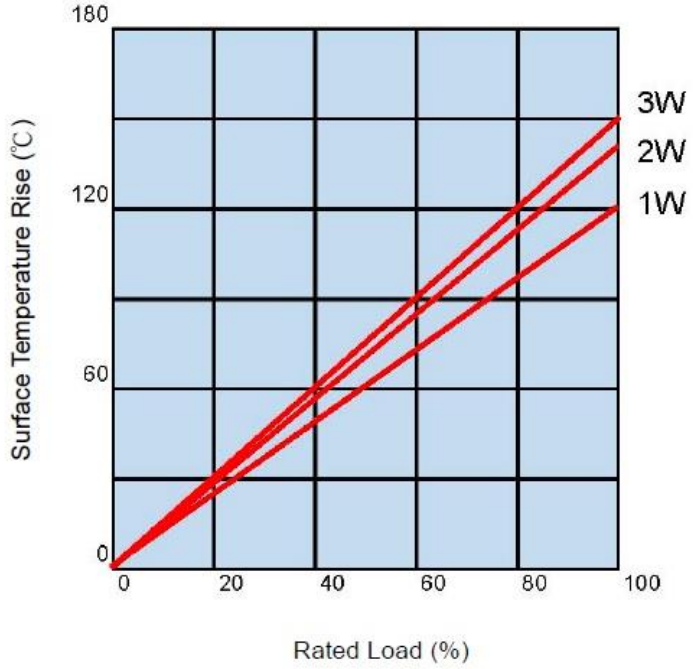
Whichever is lowest

Derating Curve

For resistors operated in ambient temperatures above 20℃, power rating must be derated in accordance with the curve below

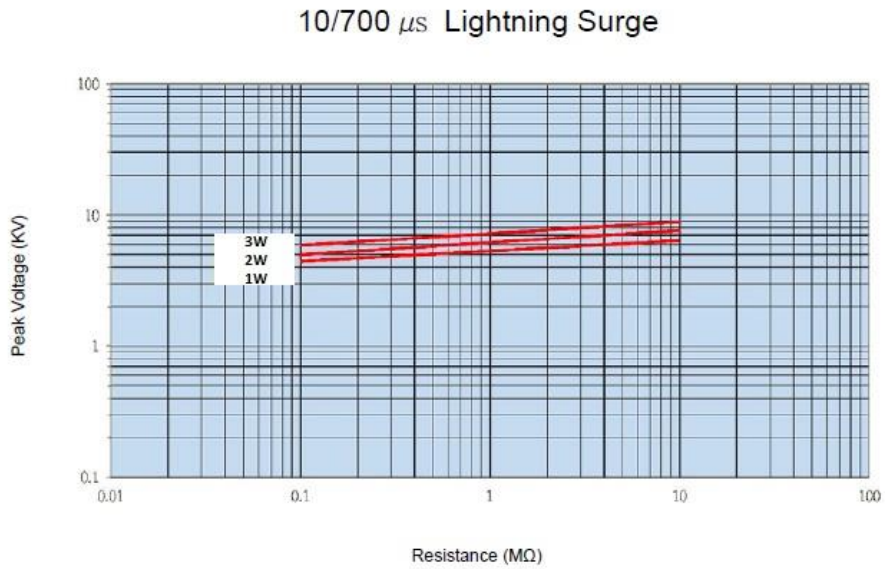


Surface Temperature rise

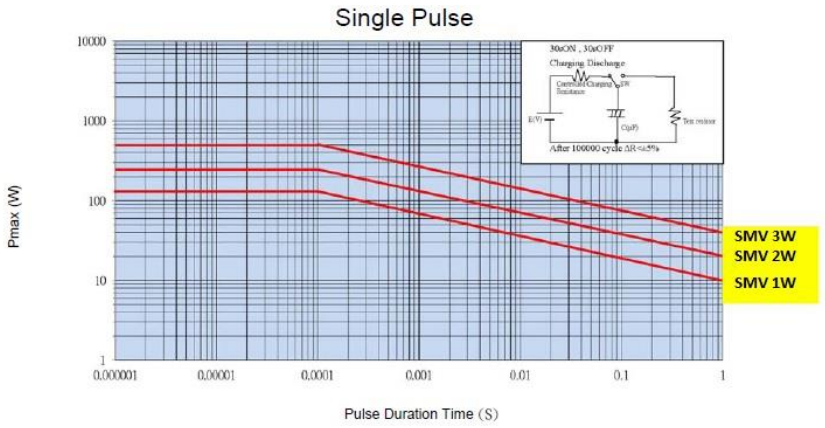


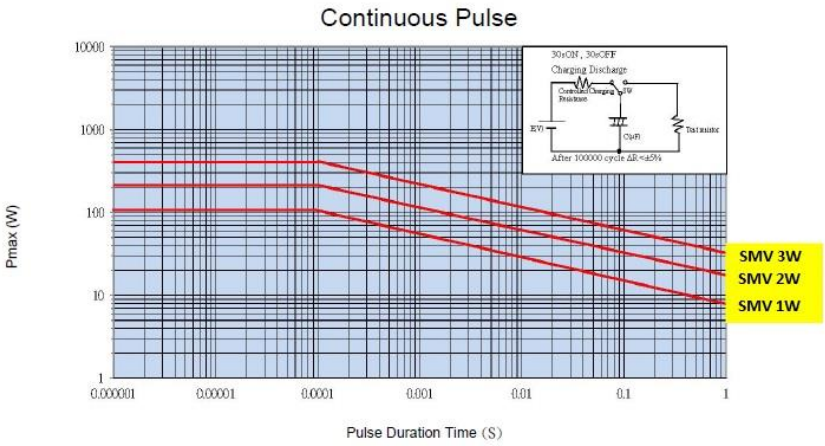
Lightning Surge

The resistors are designed to withstand 1.2/50 μs pulse & 10/700 μs according to IEC61000-4-5, 30 pulse per voltage, 30 seconds between each pulse. The resistance value change rate between pre- and post-test shall be within ±5%



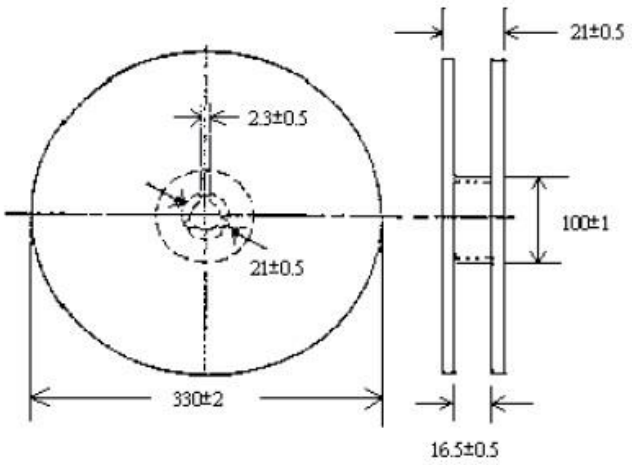
Pulse Characteristics



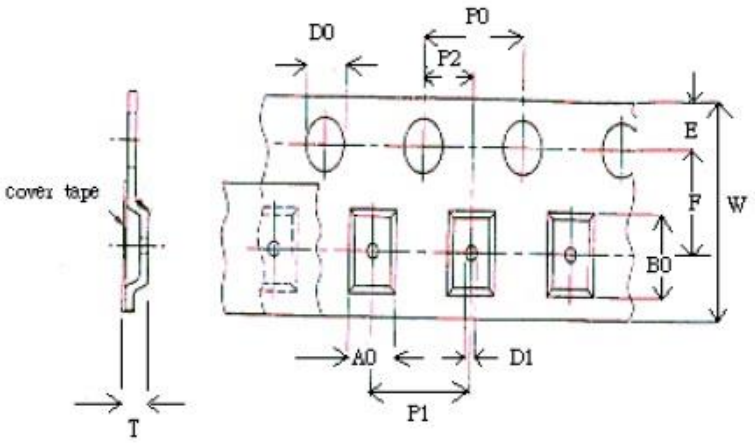


Packaging

Reel Dimensions (mm)



Tape dimensions (mm)



PWR	B0 ±0.2	A0 ±0.2	P1 ±0.1	P2 ±0.1	P0 ±0.1	D0 ±0.1	E ±0.1	F ±0.1	W ±0.3	D1 ±0.1	T ±0.1	RL QTY
1W	8	4.3	8	2	4	1.5	1.75	7.5	16	1.5	4.15	2000
2W	11.8	5.8	12	2	4	1.5	1.75	11.5	24	1.5	5.8	1000
3W	17.5	7.8	16	2	4	1.5	1.75	14.2	32	1.5	7.5	500

How To Order

SMV	2W	100K	J	T
Common Part	**Power rating**	**Resistance Value**	**Tolerance**	**Pack Style**
SMV	1W 2W 3W	100 K ohms 100,000 ohm s100K 1 M ohm 1,000,000 ohms 1M0 10 M ohms 10,000,000 ohms 10M	F – 1% J – 5%	T – Tape & Reel

Dimensions in millimetres unless otherwise specified

Dimensions Shown for reference purposes only. Specifications subject to change