

# Metal Film Resistors

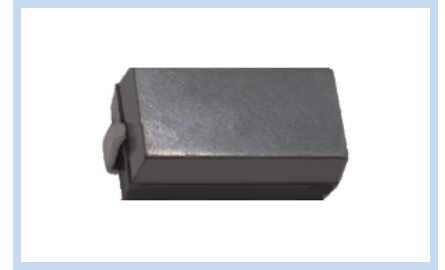
## Surface Mount Molded Type

MSMF Series

MERITEK

### FEATURE

- High Power Rating up to 7W
- Superior Surge Capability
- Excellent Stability at Environmental Conditions
- Excellent Mechanical Strength and Electrical Stability
- Flameproof Classification: UL94-V0

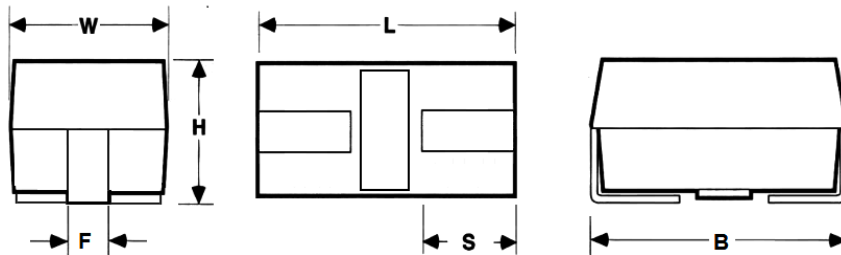


### ELECTRICAL CHARACTERISTICS AND DIMENSIONS

Rated Power	Resistance Range	Max Working Voltage	Max Overload Voltage	TCR ppm/°C	Dimensions (mm)					
					W ±0.3	L ±0.3	F ±0.3	H ±0.3	B Max	S ±0.3
2W	10~2MΩ	300V	600V	±100	4.0	6.7	1.4	3.55	7.9	1.5
3W	10~2MΩ	500V	1000V	±100	5.5	10.5	1.7	5.0	12.0	2.3
5W	10~2MΩ	500V	1000V	±100	7.3	13.5	1.7	6.8	17.0	2.5
7W	10~2MΩ	750V	1500V	±100	9.5	23.0	5.0	9.6	24.5	4.5

**Notes:**

1. Operating Temperature: -55 °C~200 °C
2. Rated Continuous Working Voltage (RCWV) =  $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$ , or Max Permissible Voltage, Whichever less



### PART NUMBERING SYSTEM

**MSMF** **7W** **331** **J**  
 (1) (2) (4) (5)

No	Item	Code	Description
(1)	Meritek Series	MSMF	Metal Film Resistor, Surface Mount Molded Type
(2)	Power Rating	7W	7W 2W, 3W, 5W
(4)	Resistance	331	331: 330Ω 5R0: 5.0Ω
(5)	Tolerance	J	±5% F: ±1%

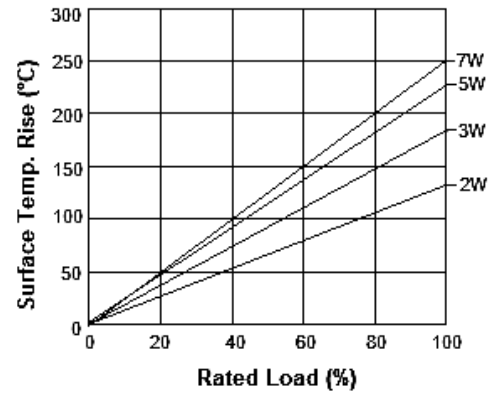
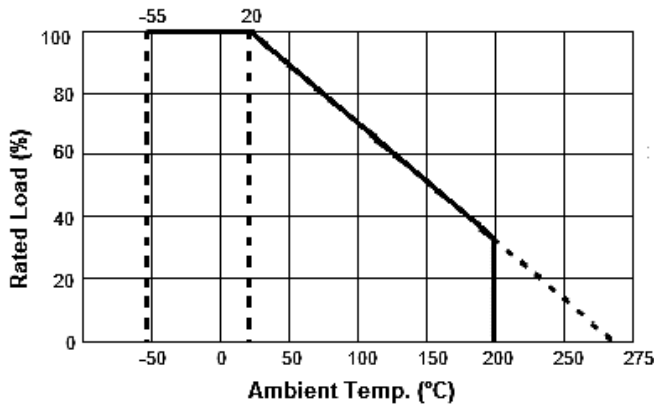
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### POWER DERATING CURVE AND SURFACE TEMPERATURE RISE



### RELIABILITY TEST CONDITION AND REQUIREMENT

Item	Condition	Requirement
Resistance Tolerance	J: ±5%, F: ±1%	--
Temperature Coefficient (TCR)	-55°C~200°C	±100ppm/°C
Power Rating Load	Rated Voltage for 30 minutes	ΔR/R ≤ ±3%, Surface temp. 275°C Max
Short Time Overload	5 times rated power for 5 seconds	ΔR/R ≤ ±1%
Dielectric Withstanding Voltage	500VAC for 1 minute	No evidence of mechanical damage or insulation breakdown.
Insulation Resistance	500VDC megger	10,000MΩ
Solderability	235 ±5°C for 2 seconds	95% minimum coverage
Resistance to Soldering Heat	270 ±5°C for 10±1 second	ΔR/R ≤ ±1%, No evidence of mechanical damage
Temperature Cycle	55 °C(30min), Room Temp.(3min), 200 °C(30min), Room Temp.(3min) 5 Cycles	ΔR/R ≤ ±1%: 2W, 3W, 5W ΔR/R ≤ ±1%: 7W
Load Life	Rated power load 90min ON, 30min OFF 70°C for 1000 hours	ΔR/R ≤ ±1%: 2W, 3W, 5W ΔR/R ≤ ±5%: 7W
Load Life in Humidity	Rated power load 90min ON, 30min OFF 40°C, 95% R.H. for 500 hours	ΔR/R ≤ ±1%: 2W, 3W, 5W ΔR/R ≤ ±5%: 7W

Reference Standard: IEC 60115-1, JIS C 5201-1

### LEGACY PART NUMBERING SYSTEM

MFS    5W    5R0    F  
 (1)      (2)      (3)      (4)

No	(1)	(2)	(3)	(4)
Item	Meritek Series	Power Rating	Resistance	Tolerance

\*Specifications subject to change without notice.