

Fusible Wire Wound Resistor Surge Withstanding Type

FRE5S-72 series

MERITEK

FEATURE

- Inrush and Surge Withstanding
- Small Linear Temperature Coefficient
- Applications: Smart Meters, Renewable Energy, Power Supplies, LED Drivers, Appliances, White Goods.
- Compliant with UL1412 Requirements
- Construction Designed for Surge Handling Capability up to 7.2KV
- Surge Withstand IEC 61000-4-5 1.2/50 μ s
- UL Safety Approved: Certification No: E528583



ELECTRICAL CHARACTERISTICS

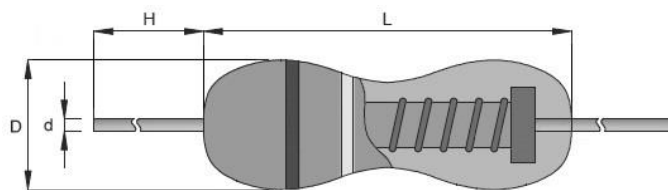


Part Number	Power Rating	Resistance, Tolerance	Surge Withstanding Voltage	T.C.R.	Dielectric Withstanding Voltage
FRE5S330JB20072	5W	33 Ω \pm 5%	7.2KV	\pm 200ppm/ $^{\circ}$ C	500V
FRE5S390JB20072	5W	39 Ω \pm 5%	7.2KV	\pm 200ppm/ $^{\circ}$ C	500V
FRE5S470JB20072	5W	47 Ω \pm 5%	7.2KV	\pm 200ppm/ $^{\circ}$ C	500V
FRE5S680JB20072	5W	68 Ω \pm 5%	7.2KV	\pm 200ppm/ $^{\circ}$ C	500V
FRE5S101JB20072	5W	100 Ω \pm 5%	7.2KV	\pm 200ppm/ $^{\circ}$ C	500V

DIMENSIONS

Power Rating (Code)	L	D	H	d
5W (5S)	17.0 \pm 1.0	7.5 max	32 \pm 2.0	0.8 \pm 0.1

Unit: mm



PART NUMBERING SYSTEM

FRE 5S 330J B 20072
(1) (2) (3) (4) (5)

No	Item	Code	Description	
(1)	Meritek Series	FRE	Fusible Wire Wound Resistor, Surge Withstanding Type	
(2)	Power Rating	5S	5S: 5W Miniature	See Power Rating table below
(3)	Resistance	330J	33 Ω \pm 5%(J)	5% (J): First two digits: significant, Third: multiplier
(4)	Packaging Type	B	Tape and Box	R: Tape and Reel, Blank: Bulk
(5)	Internal Code	20072	200ppm, 7.2KV 1.2/50 μ s, IEC 61000-4-5	

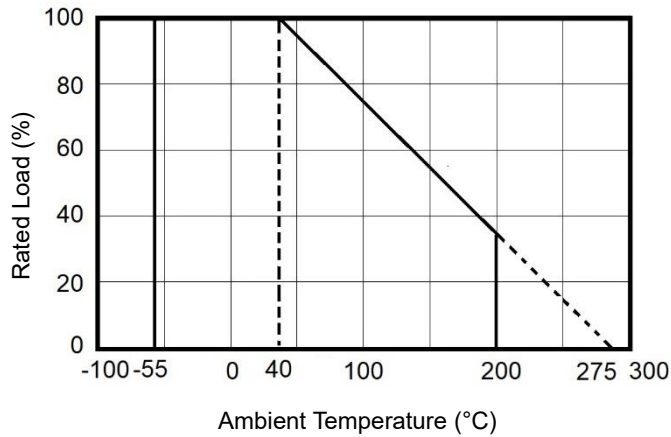
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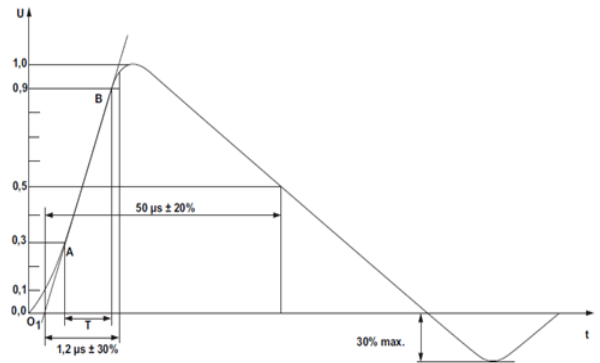
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CHARACTERISTIC CURVES

Power Derating



Surge Standards: IEC 61000-4-5



RELIABILITY TEST CONDITION AND REQUIREMENT – Refer to IEC 60115-1

Test	Condition	Requirement
Short Time Overload	5 times Rated Wattage for 5 seconds	±(2.0% + 0.05Ω)
Temperature Coefficient Resistance (T.C.R.)	$T.C (ppm/°C) = [(R2 - R1) ÷ R1] × [1 ÷ (T2 - T1)] × 10^6$	±200ppm/°C
Dielectric Withstanding Voltage	In V-Block for 60 seconds, Test voltage by type	No Breakdown
Insulation Resistance	In V-Block for DC500V	>1000MΩ
Endurance	40°C at RCWV (or Umax, Whichever less) for 1000 hrs, (1.5 hrs on, 0.5 hrs off)	±(5.0% + 0.05Ω)
Damp Heat Steady State	40±2°C 90~95%RH for 56 days, Loaded with 0.1 times RCWV (or Umax., Whichever Less)	±(5.0% + 0.05Ω)
Temperature Cycling	-55±3°C /30min-> Room Temp /3min -> +200±3°C -> Room Temp/3min. (5 cycles)	±(1.0% + 0.05Ω)
Resistance to Soldering Heat	270±5°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±(1.0% + 0.05Ω)
Solderability	235±5°C for 2±0.5 sec	95% Min Coverage
Terminal Strength	Direct load for 10 sec in the direction of the terminal leads	Tensile: ≥2.5kg
Fusing Characteristics	Apply Power of 16 times Rated Wattage, and shall be fusing within 60 sec. Directly apply 230VAC, shall be fusing within 2 sec	No evidence of flaming or arcing
Anti-Surge Characteristics	7.2KV 1.2/50μs, IEC 61000-4-5 10 pulses per voltage, 30 Sec between pulse.	±(5.0% + 0.05Ω)

Notes:

- Operating Temperature: -55°C ~ +200°C
- Storage Temperature: 25±3°C; Humidity < 80% RH, Rated Continuous Working Voltage (RCWV) = $\sqrt{\text{Power. Rating} * \text{Resistance. Value}}$