

Metal Film MELF Resistor High Power AEC-Q200

MFME Series

MERITEK

FEATURE

- Excellent Pulse Withstanding Capability
- Ultra Miniature Size with High Power Rating
- Applications: Industrial, Telecommunication, Medical Equipment, Measurement Equipment, Energy Meter
- AEC-Q200 Compliance



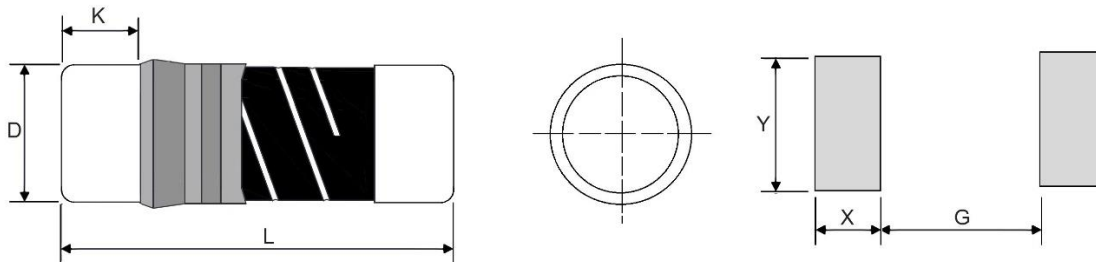
ELECTRICAL CHARACTERISTIC

Size Code	Power Rating at 70°C	Max Operating Voltage	Max Overload Voltage	Voltage Proof on Insulation	Resistance			TCR (PPM/°C)
					±1%	±2%,	±5%	
0207	1W	350V	700V	500V	1Ω ~ 1MΩ			±50 PPM/°C
0309	2W	350V	700V	500V	1Ω ~ 1MΩ			±100 PPM/°C

Note:

1. Operating Voltage= $\sqrt{P \times R}$, or Max. Operating Voltage listed above, whichever is lower
2. Overload Voltage= $2.5 \times \sqrt{P \times R}$, or Max. Overload Voltage listed above, whichever is lower
3. Rated Continuous Working Voltage (RCWV) = $\sqrt{P \times R}$, Operating Voltage whichever is lower

DIMENSIONS



Unit: mm

Size Code	L	D	K	X	Y	G
0207	5.90 ±0.20	2.20 ±0.10	0.5 Min	2.0	3.0	3.0 ±0.1
0309	8.50 ±0.20	3.20 ±0.20	0.5 Min	2.3	4.0	5.5 ±0.2

PART NUMBERING SYSTEM

MFME **0207** **T** **470** **F** **D**
(1) (2) (3) (4) (5) (6)

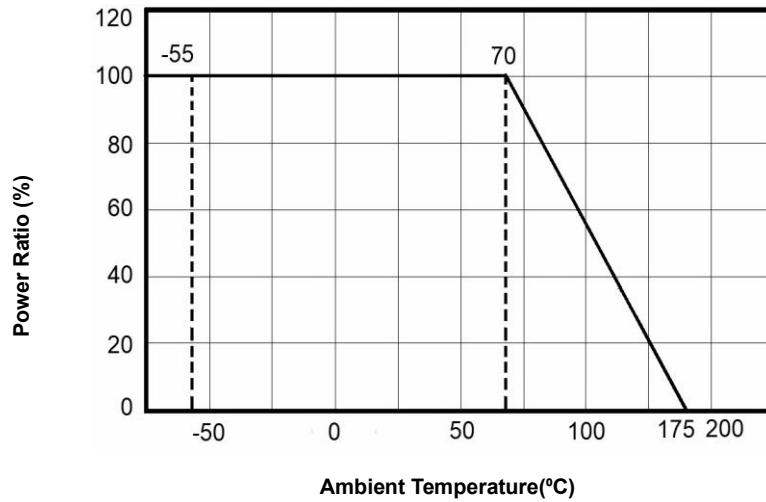
No.	Item	Code	Description	
(1)	Meritek Series	MFME	Metal Film MELF Resistor, High Power type AEC-Q200	
(2)	Size Code	0207	0207: 5.9x2.2mm	0309: 8.5x3.2mm (L x D)
(3)	Power Rating	T	T: 1W	S:2W, Power Rating at 70°C
(4)	Resistance	470	47Ω	First 3 digits: significant, Fourth: multiplier
(5)	Tolerance	F	±1%	±2% (G), ±5% (J)
(6)	TCR (PPM/°C)	D	±50PPM/°C	E: ±100PPM/°C

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POWER DERATING CURVE



PERFORMANCE CHARACTERISTICS

Parameter	Test Method	Requirement
T.C. R	Between -55°C to +155°C	By Type
Endurance	70°C at RCWV for 1000 hrs. (1.5 hrs. ON, 0.5 hrs. OFF)	±(2.0%+0.05Ω)
Voltage Proof on Insulation	In V-Block for 60 sec. test voltage as above table	No Breakdown
Insulation Resistance	In V-Block for 60 sec.	>10,000MΩ
Short Time Overload	2.5 times RCWV for 5 sec. Not more than maximum overload voltage	±(0.5%+0.05Ω)
Periodic-pulse Overload	4*RCWV for 10000 Cycles (1 seconds ON, 25 seconds OFF)	±(1.0%+0.05Ω)
Damp Heat Steady State	40±2°C 90~95%RH for 1000 hrs. (1.5 hrs. ON, 0.5 hrs. OFF)	±(2.0%+0.05Ω)
Temperature Cycling	Room Temp. → -55°C → Room Temp. → +155°C Room Temp. (5 cycles)	±(0.75%+0.05Ω)
Resistance to Solvent	IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Resistance to Soldering Heat	260±3°C for 10±1 seconds, immersed to a point 3±0.5mm from the body	±(0.5%+0.05Ω)
Solderability	245±5°C for 3±0.5 Sec.	95% Min. coverage

Note:

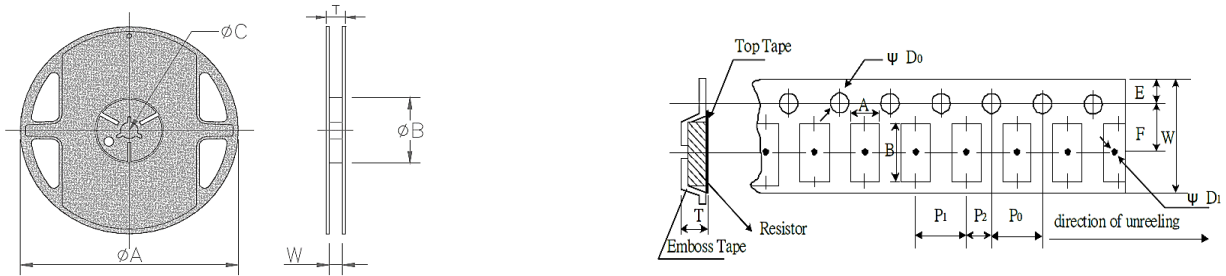
1. Reference Standard: IEC 60115
2. Storage Temperature: 15~28°C; Humidity < 80%RH
3. Operating Temperature: -55~+155°C

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PACKAGING SPECIFICATION



Size	Reel Diameter	A	B	C	W	T	Plastic Tape (EA)
0207	7"	178.5±1.5	60±1.0	13.0±0.5	13.0±0.5	15.5±0.5	2,000
0309	13"	330±1.5	100±1.0	17.0±0.5	19.0±0.5	17.8±1	2,500

Size	A	B	W	E	F	P ₀	P ₁	P ₂	D ₀	T	D ₁
0207	2.4±0.1	6.3±0.1	12.0±0.2	1.75±0.1	7.5±0.05	4.0±0.1	4.0±0.1	2.0±0.05	1.5±0.1	2.50±0.1	1.4 Min.
0309	3.3±0.1	9.0±0.1	16.0±0.3	1.75±0.1	9.5±0.1	4.0±0.1	8.0±0.1	2.0±0.05	1.5±0.1	3.30±0.1	1.4 Min.

*Specifications subject to change without notice.