

OU/OUM Series



Composite Film Ceramic Composition

FEATURES

- Innovative and cost-effective composite film technology
- Conforms to ANSI/AAMI EC53:2013/ IEC 60601-2-27:2011
- Suitable replacement for ceramic composition resistors, which are required in many pulse applications
- Available in two packages to suit different board designs: through hole axial, and SMD MELF



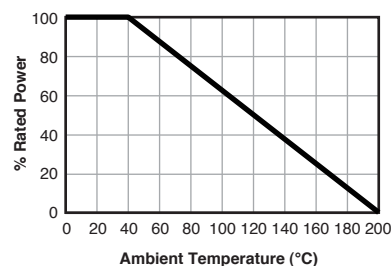
SERIES SPECIFICATIONS

Type	Power Rating (at 40°C)	Maximum Working Voltage	Maximum Permissible Surge Voltage	Resistance Range	Resistance Tolerance	Available Resistance Values
OU	1W	300V	15KV	33Ω - 22KΩ	±10%, ±20%	E-6 / E-12
OUM	1W	400V	15KV	33Ω - 22KΩ	±10%, ±20%	E-6 / E-12

CHARACTERISTICS

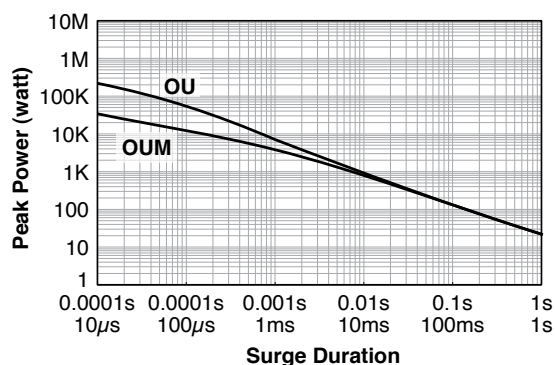
Dielectric Withstanding Voltage	800 VAC or DC
Temperature Coefficient	-3000 ppm/°C (Typical)
Operating Temperature Range	-55 ~ +200°C
Insulation Resistance	>10 ⁴ MΩ
Failure Rate (OUM)	<1pcs/10 ⁹ device hours

Derating

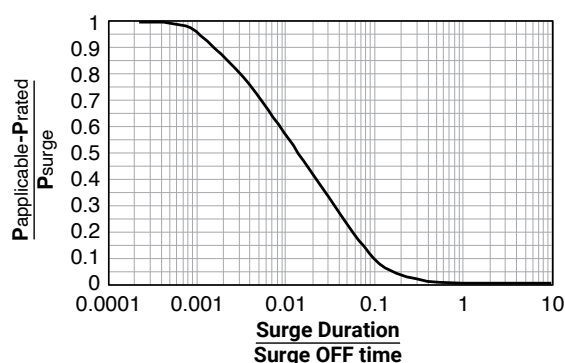


SURGE PERFORMANCE

Single Surge Performance



Surge Power Derating Curve



- SINGLE SURGE PERFORMANCE graph is good for NON REPETITIVE applications operating in an ambient temperature of 40°C or less. For temperatures above 40°C, the graph power must be derated further linearly down to zero at 200°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 $P_{\text{applicable}}$ backwardly according to Y-axis of SURGE POWER DERATING CURVE.

(continued)

OU/OUM Series

Composite Film Ceramic Composition

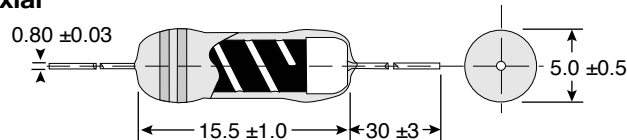
PERFORMANCE

Test	Condition	Max. ΔR
Short Time Over Load	IEC 60115-1 4.13; 5 seconds 2.5x rated voltage (not over 2x max working voltage)	$\pm 2\%$
Load Life In Humidity	IEC 60115-1 4.24; 56 days rated load at $(40 \pm 2)^\circ\text{C}$ and $(93 \pm 3)\%$ relative humidity	$\pm 5\%$
Load Life	IEC 60115-1 4.25.1; Rated load (not over max. working voltage) 1,000 hours with 1.5 hours ON, 0.5 hours OFF, at $(40 \pm 2)^\circ\text{C}$	$\pm 5\%$
Resistance To Soldering Heat	IEC 60115-1 4.18.2; Leads immersed till 3mm from the body in $(260 \pm 5)^\circ\text{C}$ solder for 10 ± 1 seconds	OU: $\pm 2\%$ OUM: $\pm 2.5\%$
Solderability	IEC 60115-1 4.17.2; Solder area covered after $(235 \pm 3)^\circ\text{C}$ / (2 ± 0.2) 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 0.75mm and 10 to 500 Hz.	$\pm 2\%$
Thermal Endurance	IEC 60115-1 4.25.3; 1000 hours at 200°C without load	$\pm 5\%$
Thermal Shock	IEC 60115-1 4.19; -55°C 30minutes, $+155^\circ\text{C}$ 30minutes, 5 cycles	$\pm 3\%$
Surge Test	Surge voltage = $\sqrt{40,000 \times P \times R}$ DC (P is power rating, R is resistance value); surge voltage is not more than 15KV. Surge duration 1.2/50 μs , period 60s, 100 surges	$\pm 5\%$

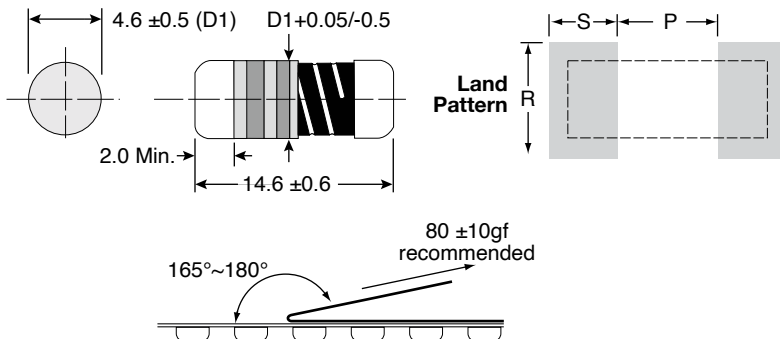
DIMENSIONS

mm

OU: Axial



OUM: MELF



ORDERING INFORMATION

RoHS compliant			
O U M 4 7 1 K E			
OU Series	Construction	Resistance	Tolerance
	M = MELF blank = axial	first two digits are significant; third is multiplier 471 = 470 Ω	K = 10%

Standard Part Numbers

Axial	MELF
OU470KE	OUM560KE OUM820KE
OU101KE OU151KE	OUM101KE OUM181KE
OU221KE OU471KE	OUM471KE OUM821KE
OU102KE OU152KE	OUM102KE OUM182KE OUM332KE OUM472KE
OU472KE OU822KE	
OU103KE OU153KE OU223KE	OUM103KE OUM183KE OUM223KE

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Ohmite:](#)

[OU101KE](#) [OU102KE](#) [OU103KE](#) [OU151KE](#) [OU152KE](#) [OU153KE](#) [OU221KE](#) [OU470KE](#) [OU471KE](#) [OU472KE](#)
[OU822KE](#) [OUM101KE](#) [OUM102KE](#) [OUM103KE](#) [OUM181KE](#) [OUM182KE](#) [OUM183KE](#) [OUM332KE](#) [OUM471KE](#)
[OUM472KE](#) [OUM560KE](#) [OUM820KE](#) [OUM821KE](#) [OU223KE](#) [OUM223KE](#)