# OW/OX/OY Series

## Ceramic Composition
## 10% Tolerance

The OW/OX/OY Series of fixed ceramic resistors are ideal for circuitry associated with surges, high peak power or high energy. They offer enhanced performance in high voltage power supplies, R-C snubber circuits, and inrush limiters. The OW/OX/OY resistors can often replace carbon composition resistors which can be difficult to source.

### FEATURES

- Replaces 1 and 2 watt carbon composition resistors
- Meets high energy density demands
- High peak power
- 10% Tolerance

## SERIES SPECIFICATIONS

| Series | Watts max.* | Resistance range | Joules max.** | Max. working volts |
|---|---|---|---|---|
| OW | 0.5 | 4.7Ω-100K | 30 | 200 |
| OX | 1 | 3.3Ω-100K | 50 | 300 |
| OY | 2 | 3.3Ω-1M | 80 | 400 |

* at 70°C. **For a single impulse.

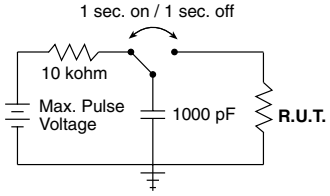
## CHARACTERISTICS

| | |
|---|---|
| **Terminals** | Pb-free solder-coated axial |
| **Coating** | Silicone ceramic |
| **Derating** | Linear from 100% @ +70°C to 0% @ +200°C |
| **Operating Temp. Range** | -40°C to +220°C |
| **Tolerance** | ±10% standard |
| **Power Rating** | Based on 70°C free air rating |
| **Temperature Coefficient** | -1300 ±300ppm/°C. |

| Test | Condition | Maximum ΔR |
|---|---|---|
| **Life Test** | MIL-STD-202, Method 108 | ±5% |
| **Short Time Overload** | 2x rated V, 5 sec ON @ 70°C | ±(2% +0.05Ω) |
| **Resistance to Pulse[1]** | 20,000 cycles. See circuit for test conditions | ±5% |
| **Thermal Shock** | MIL-STD-202, Method 107 | ±(2% ±0.05Ω) |
| **Moisture Resistance** | 1000 hrs @ 40°C, 90 - 95% RH | ±5% |

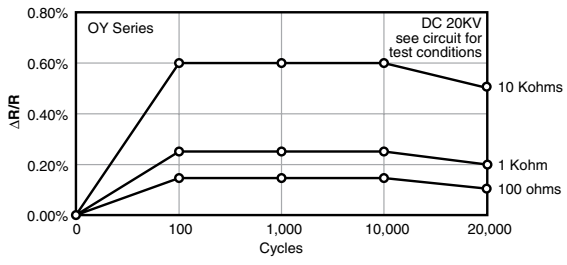
| | OW | OX | OY |
|---|---|---|---|
| **Max Working Voltage** | 200V | 300V | 400V |
| **Dielectric Strength** | 500V | 500V | 700V |
| **Max Overload Voltage** | 400V | 600V | 800V |
| **Max Pulse Voltage[1]** | 10KV | 14KV | 20KV |
| **Pulse Tolerance, 100 pulses** | — | 1240V @ 52µF, 40J/ 35 sec. | 1640V @ 52µF, 70J/35 sec. |

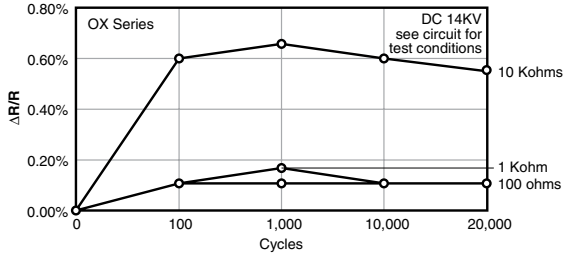
[1]See figures




14KV and 20KV values used in circuit as shown; full voltage not applied directly to resistor.

### Resistance to Pulse




(continued)



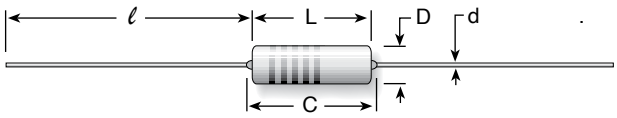
1-866-9-OHMITE • Int'l 1-847-258-0300 • Fax 1-847-574-7522 • www.ohmite.com • info@ohmite.com

# OW/OX/OY Series

## Ceramic Composition
## 10% Tolerance

## DIMENSIONS

in./mm

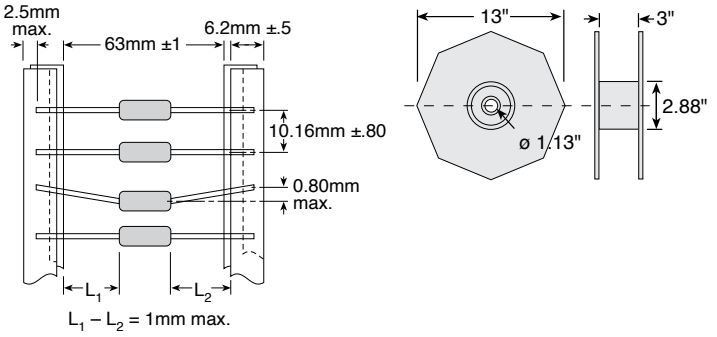



| Series | Length L ±.039 (±1.0) | Length C max. | Diameter D ±.039 (±1.0) | Length ℓ* ±.118 (±3) | Diam. d (nom.) | Qty. per reel |
|---|---|---|---|---|---|---|
| OW | 0.354 / 9 | 0.437/11.1 | 0.138/3.5** | 1.18/30 | 0.028/0.7 | 2000 |
| OX | 0.65/16.5 | 0.748/19.0 | 0.217/5.5 | 1.5/38 | 0.031/0.8 | 1000 |
| OY | 0.748/19.0 | 0.886/22.5 | 0.276/7.0 | 1.5/38 | 0.031/0.8 | 500 |

*Approx. 27mm for taped & reeled units; lead length changes depending on taping type

**±0.02" (0.5mm)

### Tape and Reel Dimensions




## ORDERING INFORMATION

### Standard part numbers for OW/OX/OY Series

| Ohmic value | Part No. Prefix ► Suffix ▼ | Wattage 0.5 OW– | 1 OX– | 2 OY– |
|---|---|---|---|---|
| 3.3 | --33GKE | | ✓ | ✓ |
| 3.9 | --39GKE | | ✓ | ✓ |
| 4.7 | --47GKE | ✓ | ✓ | ✓ |
| 5.6 | --56GKE | ✓ | ✓ | ✓ |
| 6.8 | --68GKE | ✓ | ✓ | ✓ |
| 8.2 | --82GKE | ✓ | ✓ | ✓ |
| 10 | --100KE | ✓ | ✓ | ✓ |
| 12 | --120KE | ✓ | ✓ | ✓ |
| 15 | --150KE | ✓ | ✓ | ✓ |
| 18 | --180KE | ✓ | ✓ | ✓ |
| 22 | --220KE | ✓ | ✓ | ✓ |
| 27 | --270KE | ✓ | ✓ | ✓ |
| 33 | --330KE | ✓ | ✓ | ✓ |
| 39 | --390KE | ✓ | ✓ | ✓ |
| 47 | --470KE | ✓ | ✓ | ✓ |
| 56 | --560KE | ✓ | ✓ | ✓ |
| 68 | --680KE | ✓ | ✓ | ✓ |
| 82 | --820KE | ✓ | ✓ | ✓ |
| 100 | --101KE | ✓ | ✓ | ✓ |
| 120 | --121KE | ✓ | ✓ | ✓ |
| 150 | --151KE | ✓ | ✓ | ✓ |
| 180 | --181KE | ✓ | ✓ | ✓ |
| 220 | --221KE | ✓ | ✓ | ✓ |
| 270 | --271KE | ✓ | ✓ | ✓ |
| 330 | --331KE | ✓ | ✓ | ✓ |
| 390 | --391KE | ✓ | ✓ | ✓ |
| 470 | --471KE | ✓ | ✓ | ✓ |
| 560 | --561KE | ✓ | ✓ | ✓ |
| 680 | --681KE | ✓ | ✓ | ✓ |
| 820 | --821KE | ✓ | ✓ | ✓ |
| 1000 | --102KE | ✓ | ✓ | ✓ |
| 1200 | --122KE | ✓ | ✓ | ✓ |
| 1500 | --152KE | ✓ | ✓ | ✓ |
| 1800 | --182KE | ✓ | ✓ | ✓ |
| 2200 | --222KE | ✓ | ✓ | ✓ |
| 2700 | --272KE | ✓ | ✓ | ✓ |
| 3300 | --332KE | ✓ | ✓ | ✓ |
| 3900 | --392KE | ✓ | ✓ | ✓ |
| 4700 | --472KE | ✓ | ✓ | ✓ |
| 5600 | --562KE | ✓ | ✓ | ✓ |
| 6800 | --682KE | ✓ | ✓ | ✓ |
| 8200 | --822KE | ✓ | ✓ | ✓ |
| 10000 | --103KE | ✓ | ✓ | ✓ |
| 12000 | --123KE | ✓ | ✓ | ✓ |
| 15000 | --153KE | ✓ | ✓ | ✓ |
| 18000 | --183KE | ✓ | ✓ | ✓ |
| 22000 | --223KE | ✓ | ✓ | ✓ |
| 27000 | --273KE | ✓ | ✓ | ✓ |
| 33000 | --333KE | ✓ | ✓ | ✓ |
| 39000 | --393KE | ✓ | ✓ | ✓ |
| 47000 | --473KE | ✓ | ✓ | ✓ |
| 56000 | --563KE | ✓ | ✓ | ✓ |
| 68000 | --683KE | ✓ | ✓ | ✓ |
| 82000 | --823KE | ✓ | ✓ | ✓ |
| 100K | --104KE | ✓ | ✓ | ✓ |
| 120K | --124KE | | | ✓ |
| 150K | --154KE | | | ✓ |
| 180K | --184KE | | | ✓ |
| 220K | --224KE | | | ✓ |
| 270K | --274KE | | | ✓ |
| 330K | --334KE | | | ✓ |
| 390K | --394KE | | | ✓ |
| 470K | --474KE | | | ✓ |
| 560K | --564KE | | | ✓ |
| 680K | --684KE | | | ✓ |
| 820K | --824KE | | | ✓ |
| 1M | --105KE | | | ✓ |

**Packaging**
TR = tape & reel
B = bulk

**RoHS Compliant**

**O X 8 2 G K E -TR**

**Size**
OW=0.5W
OX =1W
OY =2W

**Ohm Value**
Example:
33G = 3.3 Ohms
330 = 33 Ohms
331 = 330 Ohms

**Tolerance**
K= 10% Standard

rev 3/23-1

# Mouser Electronics

Authorized Distributor

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

Ohmite:

OW100KE OW101KE OW102KE OW103KE OW104KE OW120KE OW121KE OW122KE OW123KE OW150KE OW151KE OW152KE OW153KE OW180KE OW181KE OW182KE OW183KE OW220KE OW221KE OW222KE OW223KE OW270KE OW271KE OW272KE OW273KE OW330KE OW331KE OW332KE OW333KE OW390KE OW391KE OW392KE OW393KE OW470KE OW471KE OW472KE OW473KE OW560KE OW561KE OW562KE OW563KE OW56GKE OW680KE OW681KE OW682KE OW683KE OW68GKE OW820KE OW821KE OW822KE OW823KE OW82GKE