

OX/OY Series

Ceramic Composition 10% Tolerance

The 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 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 |
|--------|-------------|------------------|---------------|--------------------|
| OX | 1 | 3.3Ω-100K | 50 | 300 |
| OY | 2 | 3.3Ω-1M | 80 | 400 |

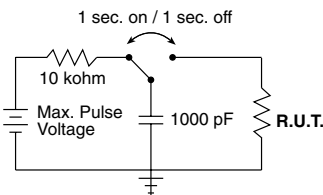
* at 70°C. **For a single impulse.

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. | |

| | OX | OY |
|--------------------------------------|----------------------------|---------------------------|
| Max Working Voltage | 300V | 400V |
| Dielectric Strength | 500V | 700V |
| Max Overload Voltage | 600V | 800V |
| Max Pulse Voltage¹ | 14KV | 20KV |
| Pulse Tolerance, 100 pulses | 1240V @ 52μF, 40J/ 35 sec. | 1640V @ 52μF, 70J/35 sec. |

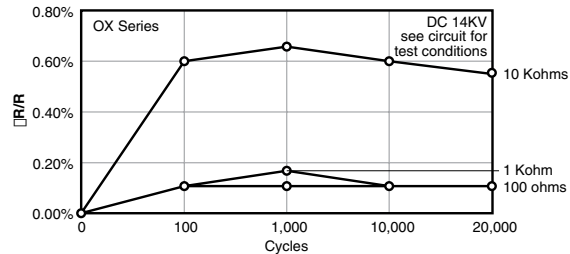
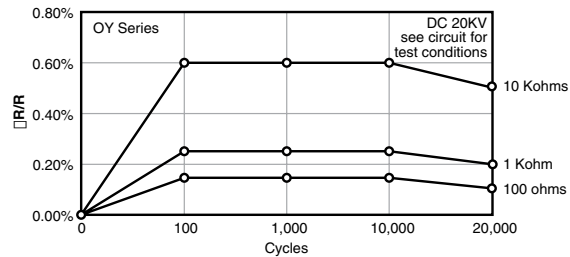
¹See figures



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

| 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 Pulse¹ 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% |

Resistance to Pulse



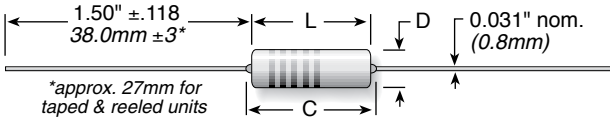
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10% Tolerance

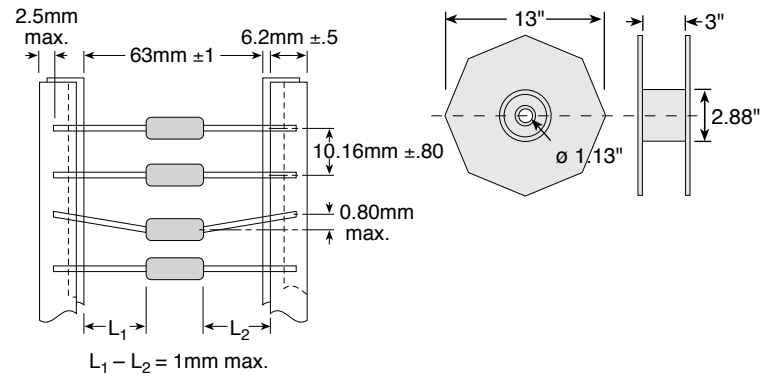
DIMENSIONS

in./mm



| Series | Length L ±.039 (±1.0) | Length C max. | Diameter D ±.039 (±1.0) | Qty. per reel |
|--------|--------------------------|------------------|----------------------------|------------------|
| OX | 0.65 / 16.5 | 0.748 / 19.0 | 0.217 / 5.5 | 1000 |
| OY | 0.748 / 19.0 | 0.886 / 22.5 | 0.276 / 7.0 | 500 |

Tape and Reel Dimensions



ORDERING INFORMATION

Standard part numbers for OX/OY Series

| Ohmic value | Part No. Prefix > Suffix ▼ | Wattage 1 2 | Ohmic value | Part No. Prefix > Suffix ▼ | Wattage 1 2 | Ohmic value | Part No. Prefix > Suffix ▼ | Wattage 1 2 | Ohmic value | Part No. Prefix > Suffix ▼ | Wattage 1 2 | Ohmic value | Part No. Prefix > Suffix ▼ | Wattage 1 2 |
|-------------|----------------------------------|----------------|-------------|----------------------------------|----------------|-------------|----------------------------------|----------------|-------------|----------------------------------|----------------|-------------|----------------------------------|------------------|
| 3.3 | —33GKE | ✓ ✓ | 27 | —270KE | ✓ ✓ | 220 | —221KE | ✓ ✓ | 1800 | —182KE | ✓ ✓ | 15000 | —153KE | ✓ ✓ |
| 3.9 | —39GKE | ✓ ✓ | 33 | —330KE | ✓ ✓ | 270 | —271KE | ✓ ✓ | 2200 | —222KE | ✓ ✓ | 18000 | —183KE | ✓ ✓ |
| 4.7 | —47GKE | ✓ ✓ | 39 | —390KE | ✓ ✓ | 330 | —331KE | ✓ ✓ | 2700 | —272KE | ✓ ✓ | 22000 | —223KE | ✓ ✓ |
| 5.6 | —56GKE | ✓ ✓ | 47 | —470KE | ✓ ✓ | 390 | —391KE | ✓ ✓ | 3300 | —332KE | ✓ ✓ | 27000 | —273KE | ✓ ✓ |
| 6.8 | —68GKE | ✓ ✓ | 56 | —560KE | ✓ ✓ | 470 | —471KE | ✓ ✓ | 3900 | —392KE | ✓ ✓ | 33000 | —333KE | ✓ ✓ |
| 8.2 | —82GKE | ✓ ✓ | 68 | —680KE | ✓ ✓ | 560 | —561KE | ✓ ✓ | 4700 | —472KE | ✓ ✓ | 39000 | —393KE | ✓ ✓ |
| 10 | —100KE | ✓ ✓ | 82 | —820KE | ✓ ✓ | 680 | —681KE | ✓ ✓ | 5600 | —562KE | ✓ ✓ | 47000 | —473KE | ✓ ✓ |
| 12 | —120KE | ✓ ✓ | 100 | —101KE | ✓ ✓ | 820 | —821KE | ✓ ✓ | 6800 | —682KE | ✓ ✓ | 56000 | —563KE | ✓ ✓ |
| 15 | —150KE | ✓ ✓ | 120 | —121KE | ✓ ✓ | 1000 | —102KE | ✓ ✓ | 8200 | —822KE | ✓ ✓ | 68000 | —683KE | ✓ ✓ |
| 18 | —180KE | ✓ ✓ | 150 | —151KE | ✓ ✓ | 1200 | —122KE | ✓ ✓ | 10000 | —103KE | ✓ ✓ | 82000 | —823KE | ✓ ✓ |
| 22 | —220KE | ✓ ✓ | 180 | —181KE | ✓ ✓ | 1500 | —152KE | ✓ ✓ | 12000 | —123KE | ✓ ✓ | 100000 | —104KE | ✓ ✓ |
| | | | | | | | | | | | | | | 1 MEG —105KE ✓ ✓ |

