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
- Non-Inductive

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.

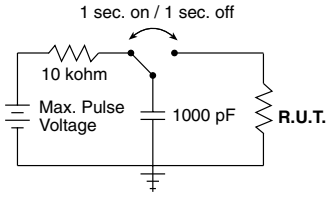
CHARACTERISTICS

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%

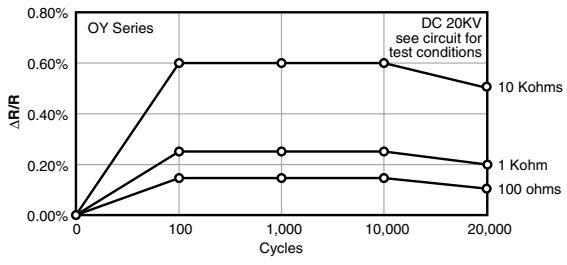
	OW	OX	OY
Max Working Voltage	200V	300V	400V
Dielectric Strength	500V	500V	700V
Max Overload Voltage	400V	600V	800V
Max Pulse Voltage[1]	10KV	14KV	20KV
Pulse Tolerance, 100 pulses	—	1240V @ 52µF, 40J/ 35 sec.	1640V @ 52µF, 70J/35 sec.

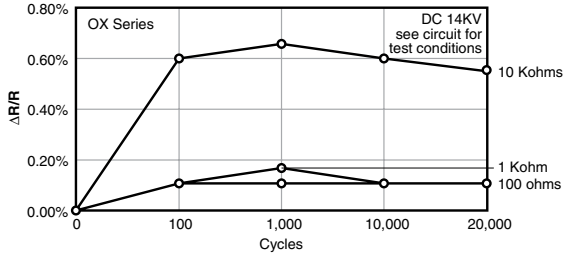
[1]See figures



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

Resistance to Pulse





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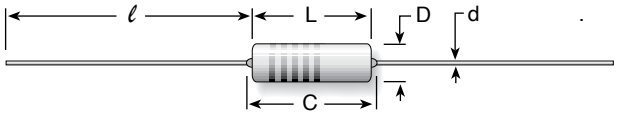
DIMENSIONS

in./mm

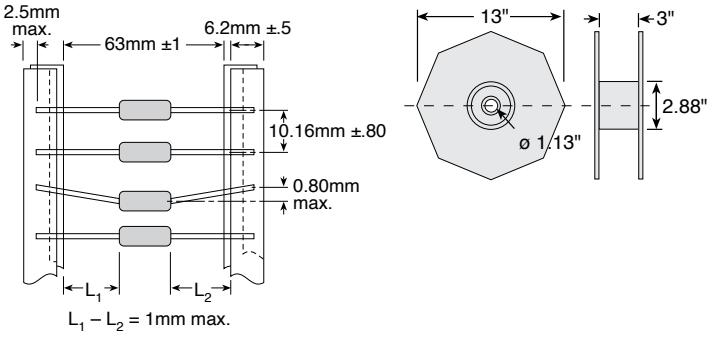


Series	Length L ±.039 (±1.0)	Length C max.	Diameter D ±.039 (±1.0)	Length ℓ* ±.118 (±3)	Diam. d (nom.)	Qty. per reel
OW	0.354 / 9	0.437/11.1	0.138/3.5**	1.18/30	0.028/0.7	2000
OX	0.65/16.5	0.748/19.0	0.217/5.5	1.5/38	0.031/0.8	1000
OY	0.748/19.0	0.886/22.5	0.276/7.0	1.5/38	0.031/0.8	500

*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 7/23-1