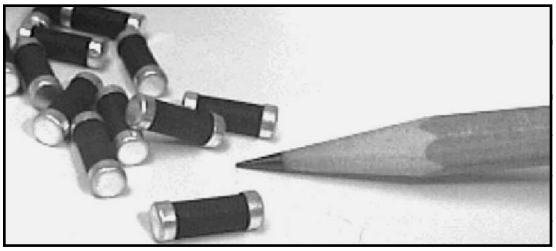
Series: RM/RO

The RM, (carbon-ceramic) and RO, (carbon-polymer) series of carbon composite resistors are designed specifically for surface mounting, and are ideal for replacing 1 watt and 2 watt carbon composition resistors. They offer enhanced surge performance over other resistor types, and provide improved environmental stability in circuitry subjected to high peak power or high energy. Under pulsed applications, these compact resistors distribute the energy uniformly throughout their structure, resulting in low thermal stress. The result is increased reliability and reduced size, when compared to other resistor types. RM / RO series resistors are available in a range of values to suit most applications.



FEATURES

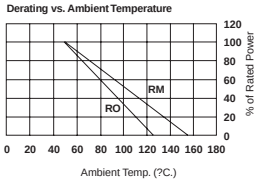
- Surface Mount
- Non-inductive
- Replace Carbon Composition

Part Number	Resistance (Ω)	Pavg (watts)	Energy (joules)	Max Temp (C°)	Peak Voltage (V)	Temp Coeff. Of R (in ppm)
RM613AxxxK	10 to 10K	2	70@1500V	150	4000	-750
RM313AxxxK	47 to 47K	1	30@1500V	150	5000	-750
RO313AxxxK	1 to 10M	0.8	30@1000V	120	3000	-350

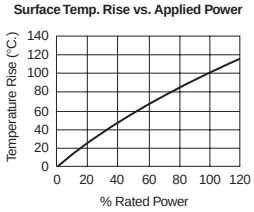
TECHNICAL DATA

Parameter	Maximum ΔR	Test Method
Life Test	+5%	MIL-STD-202F, method 108A. except 50ºC. 1000 hrs. @ rated power; 1.5 hrs. ON, .5 hrs OFF
Single Pulse Energy	+/-2.0%	Single pulse capacitor discharge of 100% Rated Energy @1000v DC
Repetitive HV Pulsing	+/-5.0%	5.0 joules @ max. impulse voltage, 10,000 cycles
Short-time Overload	+/-2.5%	5x rated power. 2 seconds ON, 5 seconds OFF, 5 cycles.
Short-term High Temperature	+/-1.5%	250 ºC for 30 seconds
Long-term High Temperature	+/-2.5%	1000 hours @ 150 ºC
Thermal Shock Cycle	+/-2.0%	MIL-STD-202F, method 107D. -55 ºC to +125 ºC, 5 cycles
Temperature Coefficient of R	+/- 1000ppm	Maximum; Two point measurement, 20ºC and 100ºC

DERATING VS. AMBIENT TEMPERATURE



SURFACE TEMP. RISE VS. APPLIED POWER

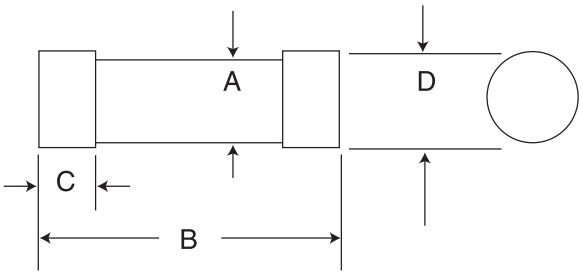


GUIDELINES FOR HAND-SOLDERING FOR RM STYLE RESISTORS

In order to reduce the degree of possible resistance drift in RM resistors due to hand-soldering operations, the following guidelines should be followed when hand soldering RM resistors

Materials: 67/37 Sn/Pb, or similar temperature range solder
Mildly activated flux
700°F solder iron tip

Comments: It is recommended that hand-soldering of RM resistors be done with a minimum of mildly activated flux or, if possible, no flux at all. The flux and the solder iron tip should only come in contact with the metal endcap of the resistor, avoiding any contact with the ceramic body of the resistor. Avoid prolonged exposure of the RM resistor to the hot iron tip.

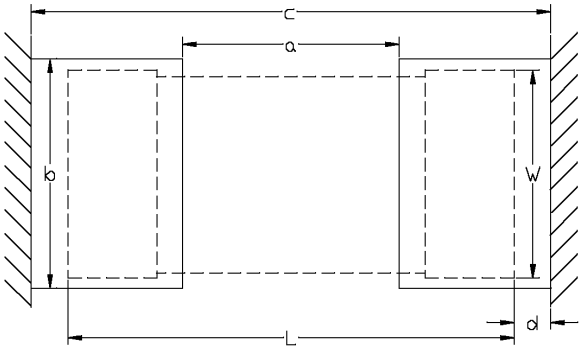


DIMENSIONS

A	B	C	D
Body O.D.	Length (max)	Cap L.	Length (max)
5.9	13	2.7	6.4
3.75	13	2.1	4.25
3.75	13	2.1	4.25

All dimensions are in mm

BOARD LAYOUT



Part Number	L	W	a	b	c	d
RM613	11.43-12.7	6.35-6.45	6.60-8.64	5.72-7.0	15.24-17.78	1.27-3.18
RM/RO313	11.3-12.7	4.11-4.27	6.60-8.64	3.81-4.57	15.24-17.78	1.27-3.18

All dimensions are in mm