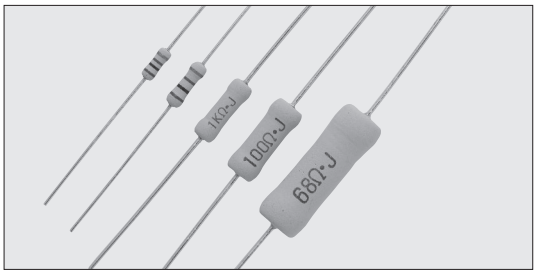
EU RoHS

MOS Fixed Metal Oxide Film Resistors (Small type)
MOSX Fixed Metal Film Resistors (Small type)



Coating color： Lavender
Marking：Color code (0.5W, 1W)
Alphanumeric (2W, 3W, 5W)

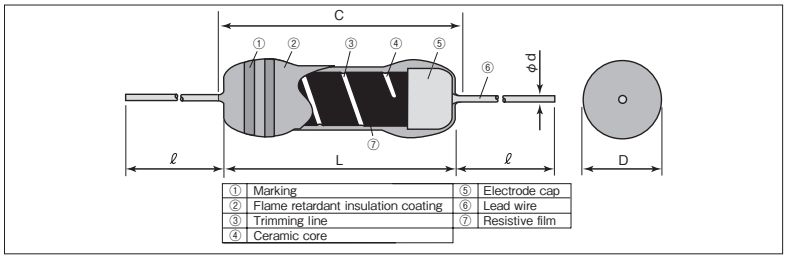
■Features

- Small size power type resistors.
- Flame retardant coating. (Equivalent to UL94 V-0)
- Automatic insertion is applicable.
- Various types of formings are available.
- High reliability.
- Products meet EU-RoHS requirements.
- Automatic mounting machine is applicable by surface mounted device style lead forming.

■Reference Standards

IEC 60115-4
JIS C 5201-4
EIAJ RC-2138

■Construction



■Dimensions

Type	Dimensions (mm)					Weight (g) (1000pcs)
	L	C Max.	D	d (Nominal)※1	ℓ※1	
MOS(X)1/2	6.2±0.5	7.1	2.5±0.5	0.6	24Min.	250
MOS(X)1	9.0±1.0	11.1	3.0±0.5			350
MOS(X)2	12.0±1.0	15.0	4.0±0.5	0.8		800
MOS(X)3	15.5±1.0	18.0	6.0±1.0		30±3	1,400
MOS(X)5	24.5±1.0	28.0	9.0±1.0		38±3	5,240

※1 Lead length changes depending on taping and forming type. Example：1C, 1CT52, 1CT526=0.6mm 1C8, 1CT528=0.8mm

■Type Designation

Example

MOS	1	C	T52	A	103	J
Product Code	Power Rating	Terminal Surface Material	Taping & Forming	Packaging	Nominal Resistance	Resistance Tolerance
MOS：小形酸化金属皮膜固定抵抗器 MOSX：小形金属皮膜固定抵抗器	1/2：0.5W 1：1W 2：2W 3：3W 5：5W	C：SnCu	See table below	A：AMMO R：REEL Nil：BOX TEB・TEG：Plastic embossed (N forming)	F：4 digits G,J：3 digits	F：±1% G：±2% J：±5%

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For further information on taping and forming, please refer to APPENDIX C on the back pages.

■Taping & Forming Matrix

Type	Axial Taping				Stand-off Axial Taping			VT Radial Taping			GT Radial Taping		L Forming						U Forming		M Forming				N Forming		
	T26	T52	T521	T631	L52	L521	L631	VTP	VTE	VTF	GT	GT4	L10A	L12.5A	L15A	L20A	L25A	L30A	U	UCL	M10	M12.5	M15	M20	N14.5	N17	N20
MOS(X)1/2C	○	○	–	–	–	–	–	○	○	–	○	–	○	–	–	–	–	–	–	–	○	–	–	–	–	–	–
MOS(X)1C	–	○	–	–	○	–	–	○	–	–	○	○	–	○	○	–	–	–	○	○	–	○	–	–	○	–	–
MOS(X)2C	–	○	○	–	–	○	–	○	–	○	○	○	–	–	○	○	–	–	○	○	–	–	○	–	–	○	–
MOS(X)3C	–	–	○	○	–	○	○	–	–	–	○	–	–	–	–	○	○	○	○	○	–	–	–	○	–	–	○
MOS(X)5C	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	○	–	–	–	–	–	–	–	–	–

■Ratings

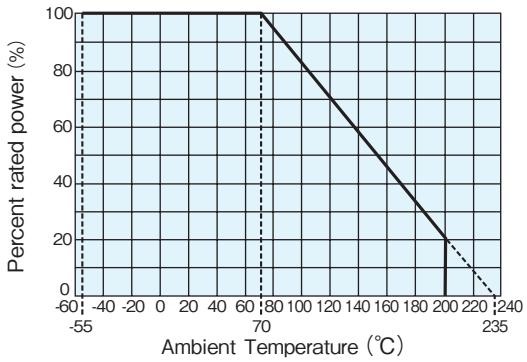
Type	Power Rating	Resistance Range (Ω) F：±1%(E24・E96)※2	Resistance Range (Ω) G：±2%(E24)※2	Resistance Range (Ω) J：±5%(E24)	T.C.R. (×10⁻⁶/K)	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage	Taping&Q'ty/AMMO pack (pcs) T26A	T52A	T521A	T631A
MOS1/2C	0.5W	10～47k	10～47k	10～47k	±300	$E=\sqrt{P\times R}$(V)	600V	400V	2,000	2,000	—	—
MOS1C	1W	10～68k	10～68k	10～100k				500V	—	2,000	—	—
MOS2C	2W	10～100k	10～100k			350V	700V		—	1,000	1,000	—
MOS3C	3W	—						700V	—	—	500	1,000
MOS5C	5W					500V	1000V	800V	—	—	—	—
MOSX1/2C	0.5W	1.0～9.1	0.22～9.1	0.1～9.1		$E=\sqrt{P\times R}$(V)	E×2.5(V)	400V	2,000	2,000	—	—
MOSX1C	1W							500V	—	2,000	—	—
MOSX2C	2W								—	1,000	1,000	—
MOSX3C	3W	—						700V	—	—	500	1,000
MOSX5C	5W							800V	—	—	—	—

※2 Please consult with us for resistance other than catalog specification (tol.F/G)
Rated Ambient Temperature：+70℃
Operating Temperature Range：−55℃～+200℃
Rated voltage=$\sqrt{\text{Power Rating}\times\text{Resistance value}}$ or Max. working voltage, whichever is lower.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.
Contact our sales representatives before you use our products for applications including automotives, medical equipment and aerospace equipment.
Malfunction or failure of the products in such applications may cause loss of human life or serious damage.

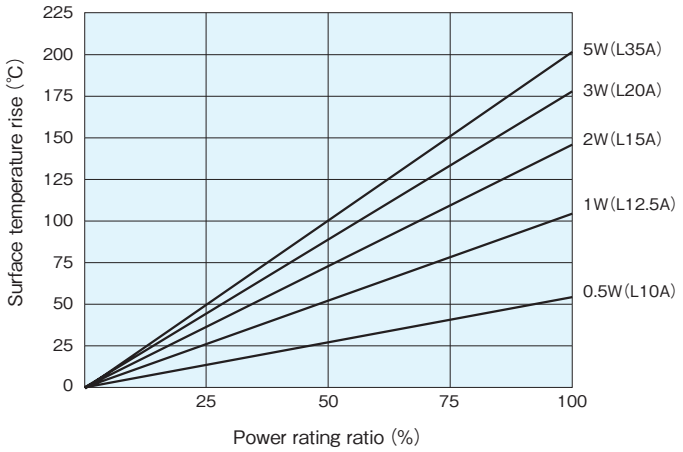
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■Derating Curve



For resistors operated at an ambient temperature of 70℃ or above, a power rating shall be derated in accordance with the above derating curve.

■Surface Temperature Rise



■Performance

Test Items	Performance Requirements ΔR±(%+0.05Ω)		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	Measuring points are 10mm±1mm from the end cap.
T.C.R.	Within specified T.C.R.	—	+25℃/+125℃
Overload (Short time)	±(2%+0.1Ω)	1	Rated voltage×2.5 or Max. overload vol., whichever is lower, for 5s
Resistance to soldering heat	1	0.5	260℃±5℃, 10s±1s, 350℃±10℃, 3.5s±0.5s
Terminal strength	No lead-coming off and loose terminals	—	Twist 360°, 5 times
Rapid change of temperature	1	0.5	−55℃(30min.)/+155℃(30min.) 5 cycles
Moisture resistance	±(5%+0.1Ω)	2.5	40℃±2℃, 90%~95%RH, 1000h 1.5h ON/0.5h OFF cycle
Endurance at 70℃	±(5%+0.1Ω)	2.5	70℃±2℃, 1000h 1.5h ON/0.5h OFF cycle
Resistance to solvent	No abnormality in appearance. Marking shall be easily legible	—	Ultrasonic washing with Isopropyl alcohol for 2 min. Power : 0.3W/cm², f : 28kHz, Temp : 35℃±5℃
Flame retardant	No evidence of flaming or self-flaming.	—	Flame test : The test flame shall be applied and removed for each 15 sec respectively to repeat the cycle 5 times. Overload flame retardant : AC voltage corresponding to 2, 4, 8, 16 and 32 times the power rating shall be applied for each 1min. until disconnection occurs. However the applied voltage shall not exceed the value of 4 times the maximum operating voltage.

■Precautions for Use

- Coating color, marking and dimensions are different depending on the manufacturing base. Verify them on the delivery specification.
- Be careful to handle these resistors because outer coatings are comparatively weak to outer shock due to flameproof special coats. Please wash them to a minimum. No external force is given to the coating films until they are well dried because the coating films become weaker right after washing. The original strength will be returned after they are dried, so please pay attention not to apply any external force onto the coating film of resistors for 20 minutes after drying. Especially no PC boards shall be piled up.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.
Contact our sales representatives before you use our products for applications including automotives, medical equipment and aerospace equipment.
Malfunction or failure of the products in such applications may cause loss of human life or serious damage.

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