

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF25S/ 50S/100S/200S/300S/500S/700S
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1. APPLICABLE SCOPE :

- 1.1 This specification is for use in METAL OXIDE FILM FIXED RESISTORS
- 1.2 Characteristics and specifications are according to those of :
JIS C 5201
- 1.3 RoHS and REACH compliant product

2. PART NUMBER

It is composed of description, rated wattage , nominal resistance value , tolerance and packaging.

2.1 Make Up :

M	O	F	1	0	0	S	4	7	0	R	J	T	B						
Product Code		Power Rating		Body Size		Nominal Resistance Value		Tolerance		Packaging		Lead Wire diameter		Taping width					
M	Metal	Code	Wattage	S	Small Size			Code	Tol.	TB	Taping in box	Code	Size	Code	Size				
O	Oxide	25	0.25(1/4W)					F	1%				25S: 0.40mm		52mm				
F	Film	50	0.50(1/2W)					G	2%			043	25S: 0.43mm	25	26mm				
		100	1.0(1W)					J	5%				50S: 0.40mm	62	62mm				
		200	2.0(2W)									048	50S: 0.48mm	73	73mm				
		300	3.0(3W)										100S:0.48mm						
		500	5.0(5W)									060	100S:0.60mm						
		700	7.0(7W)										200S:0.55mm						
												070	200S:0.70mm						
													300S:0.70mm						
												075	300S:0.75mm						
													500S:0.70mm						
												075	500S:0.75mm						
													700S:0.75mm						

2.2 Explanation :

Part Number

MOF 100S 470R J TB

Description

Metal Oxide Film Fixed Resistor , 1W, small size, 470Ω , ±5% , tape in box,

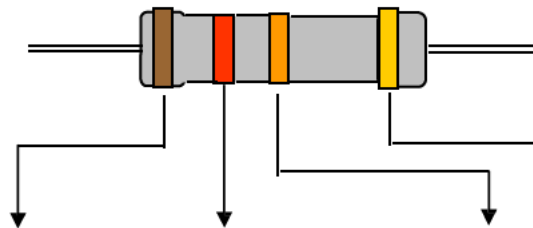
Lead Wire diameter: d=0.48mm, Taping width=52mm.

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2.3 Color code indication

Fixed resistors of which the nominal resistance value and tolerance are indicated by color codes as per Table 1 :

TABLE - 1



COLOR	1 ST DIGIT	2 ND DIGIT	MULTIPLIER	TOLERANCE
BLACK	0	0	1	
BROWN	1	1	10	F (±1%)
RED	2	2	100	G (±2%)
ORANGE	3	3	1,000	
YELLOW	4	4	10,000	
GREEN	5	5	100,000	
BLUE	6	6	1000,000	
VIOLET	7	7	10,000,000	
GREY	8	8		
WHITE	9	9		
GOLD			0.1	J (±5%)
SILVER			0.01	

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3. DIMENSIONS :

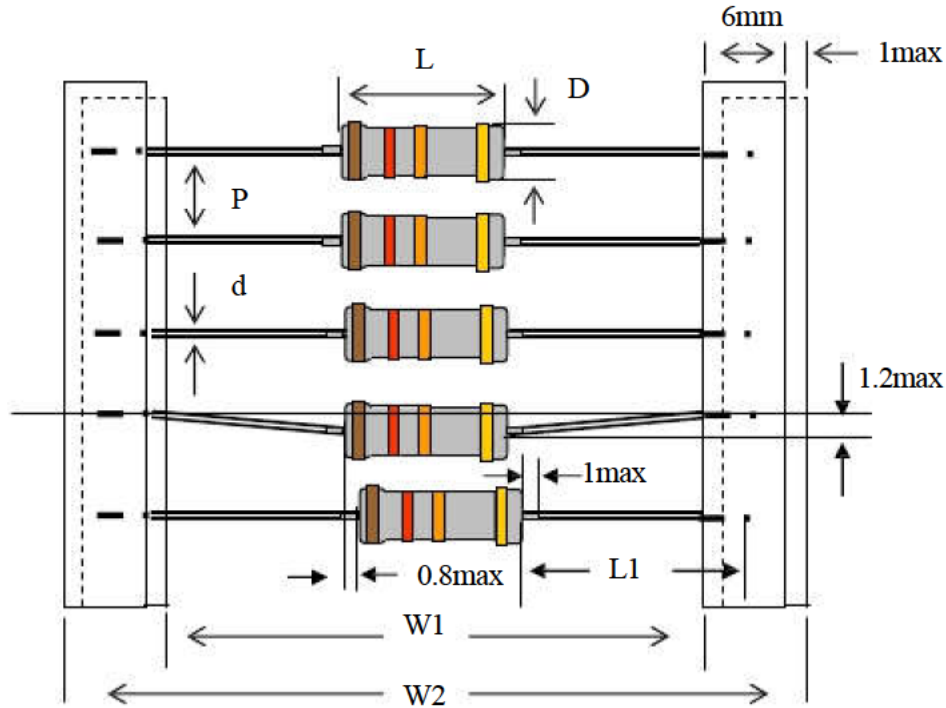


TABLE - 2

Unit : mm

TYPE	L	D	d	P	W1	W2	L1
MOF25S	3.5±0.5	1.7±0.5	0.40 (0.43)±0.05	5±0.3	26±1	38±1	15±1
					52±1	64±1	27±1
MOF50S	6.0±1.0	2.3±0.5	0.40 (0.48)±0.05	5±0.3	26±1	38±1	14±1
					52±1	64±1	26±1
MOF100S	9.0±1.0	3.0±0.5	0.48 (0.60)±0.05	5±0.3	26±1	38±1	12±1
					52±1	64±1	26±1
MOF200S	11.0±1.5	4.5±0.5	0.55(0.70)±0.05	5±0.3	52±1	64±1	25±1
					62±1.5	74±1.5	30±1
MOF300S	15.0±1.5	5.0±0.5	0.70(0.75)±0.05	10±0.3	52±1	64±1	23±1
					73±1.5	85±1.5	34±1
MOF500S	17.0 ± 1.5	6.0 ± 0.5	0.70(0.75)±0.05	10±0.3	73±1.5	85±1.5	33±1
MOF700S	24.5 ± 1.5	8.0 ± 0.5	0.75±0.05	10±0.3	73±1.5	85±1.5	29±2

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4. SPECIFICATIONS

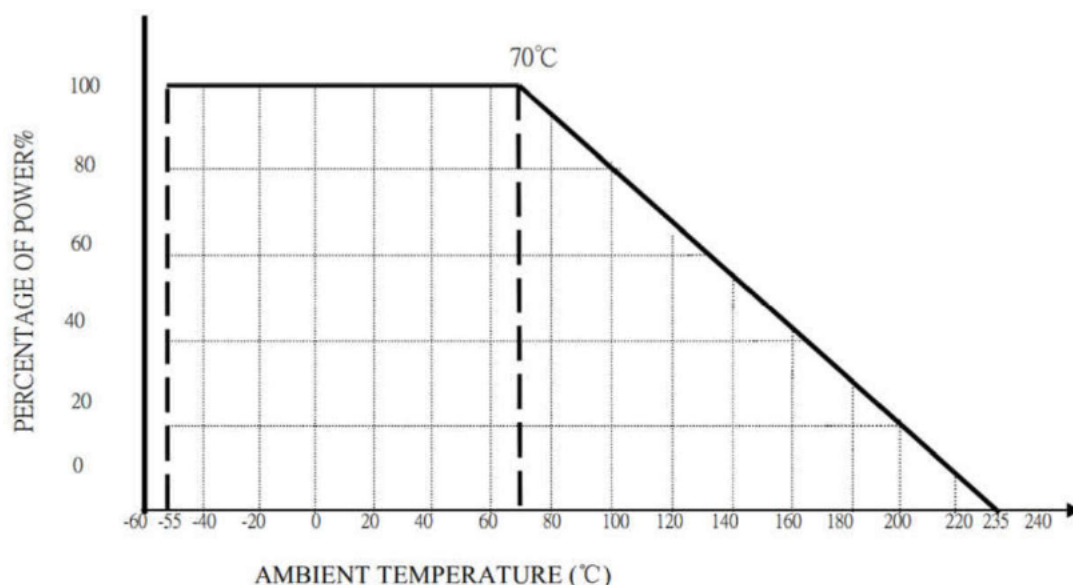
TABLE - 3

DESCRIPTION	MOF-25S	MOF-50S	MOF-100S	MOF-200S	MOF-300S	MOF-500S	MOF-700S
STANDARD RESISTANCE VALUE RANGE	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ
POWER RATING AT 70°C	1/4W	1/2W	1W	2W	3W	5W	7W
*MAX WORKING VOLTAGE	200V	250V	250V	350V	500V	750V	750V
*MAX OVERLOAD VOLTAGE	400V	500V	600V	600V	800V	1,000V	1,000V
OPERATING TEMPERATURE RANGE	-55°C~+235°C	-55°C~+235°C	-55°C~+235°C	-55°C~+235°C	-55°C~+235°C	-55°C~+235°C	-55°C~+235°C
TEMPERATURE COEFFICIENT	<47KΩ : ±350PPM/°C ≥47KΩ : ±500PPM/°C						
TEMPERATURE CYCLING	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)
INSULATION RESISTANCE	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ
HUMIDITY	±(5%R+0.05Ω)	±(5%R+0.05Ω)	±(5%R+0.05Ω)	±(5%R+0.05Ω)	±(5%R+0.05Ω)	±(5%R+0.05Ω)	±(5%R+0.05Ω)
SHORT-TIME OVERLOAD	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)
SOLDERABILITY	MIN.95% COVERED	MIN.95% COVERED	MIN.95% COVERED	MIN.95% COVERED	MIN.95% COVERED	MIN.95% COVERED	MIN.95% COVERED
VIBRATION	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)	±(1.5%R+0.05Ω)
LOAD LIFE	±(5%R+0.15Ω)	±(5%R+0.15Ω)	±(5%R+0.15Ω)	±(5%R+0.15Ω)	±(5%R+0.15Ω)	±(5%R+0.15Ω)	±(5%R+0.15Ω)

* The working voltage is calculated based on the resistance value following the formula of $V = \sqrt{P \cdot R}$ or to its maximum extent as indicated above

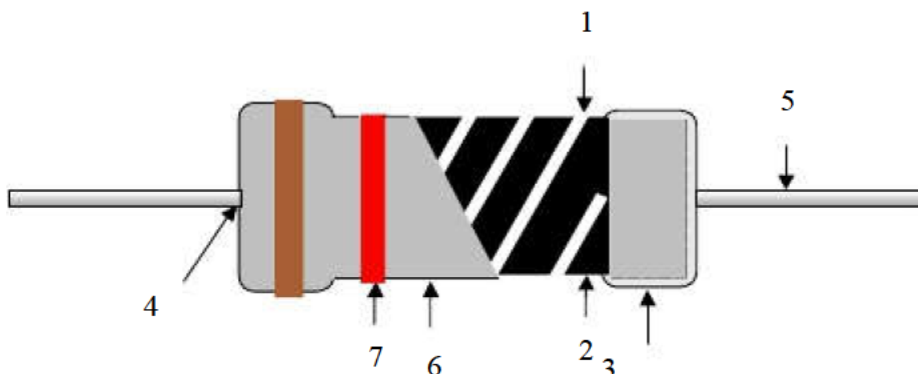
* The overload voltage is calculated based on the resistance value following the formula of $V = 2.5 \cdot \sqrt{P \cdot R}$ or to its maximum extent as indicated above

5. POWER DERATING CURVES



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6. STRUCTURAL DIAGRAM



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|------------------------|---|
| (1) CORE | CERAMIC ROD |
| (2) RESISTANCE FILM | METAL OXIDE FILM |
| (3) TERMINAL | TINNED IRON CAP |
| (4) CONNECTION | ELECTRIC WELDING |
| (5) LEAD WIRE | SOLDERED OR TINNED ANNEALED COPPER WIRE |
| (6) FINISHING PAINTING | FLAMEPROOF SILICON PAINT |
| (7) INDICATION | COLOR CODE INK |

TABLE - 4

RATED RESISTANCE VALUE	MAX. TESTING VOLTAGE	
	0.25W	0.5W/ 1W/ 2W/ 3W/ 5W/7W
$1\Omega \leq R < 10\Omega$	0.3	0.3
$10\Omega \leq R < 100\Omega$	0.3	1
$100\Omega \leq R < 1K\Omega$	1	3
$1K\Omega \leq R < 10K\Omega$	3	10
$10K\Omega \leq R < 100K\Omega$	10	30
$100K\Omega \leq R < 1M\Omega$	30	50
$1M\Omega \leq R$	50	100

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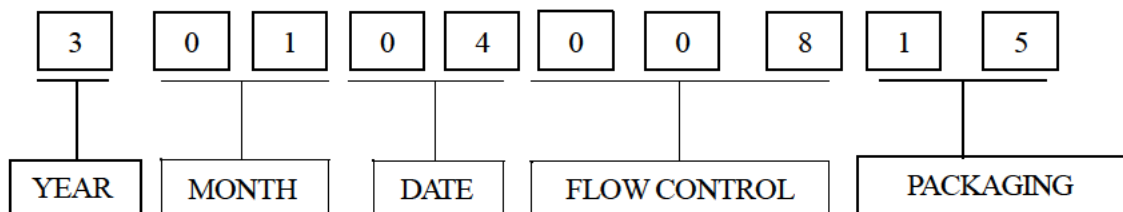
7. CHARACTERISTICS

TABLE – 5

DC RESISTANCE VALUE	TEST METHOD MIL-STD-202 ITEM 303	VOLTAGE AS TABLE -4. TEMPERATURE $25 \pm 2^{\circ}\text{C}$. AQL 0.25%.
VOLTAGE WITHSTAND	TEST METHOD MIL-STD-202 ITEM 301	V-BLOCK METHOD. VOLTAGE AS TABLE -3 $\times 1.42$, 1 MIN. AQL 1%.
SHORT TIME OVERLOAD	TEST METHOD JIS C 5202 ITEM 5.5	RATED VOLTAGE $\times 2.5$ TIMES OR MAX.WORKINGVOLTAGE $\times 2$ TIMES. ABOVE TEST 5 SEC. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(2.5\%R+0.05 \Omega)$.
TERMINAL STRENGTH	TEST METHOD MIL-STD-202 ITEM 211	TENSILE STRENGTH : 1KG TENSIONAL STRENGTH : 180° , 2 CYCLES. BENDING STRENGTH : 0.5KG, 2 TIMES. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(0.5\%R+0.05 \Omega)$.
SOLDERABILITY OF TERMINAL	TEST METHOD MIL-STD-202 ITEM 210	$260 \pm 5^{\circ}\text{C}$ 10 \pm 1SEC. AFTER TESTING, LEAVE FOR 3 HOURS. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(1\%R+0.05 \Omega)$.
TEMPERATURE CYCLE	TEST METHOD MIL-STD-202 ITEM 107	LOW SIDE TEMPERATURE : $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 30MIN. ROOM TEMPERATURE : 10-15MIN. HIGH SIDE TEMPERATURE : $+125^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 30MIN. ROOM TEMPERATURE : 10-15MIN. ABOVE TEST 5 CYCLES AFTER LAST CYCLE, LEAVE FOR 1-3 HOURS. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(1\%R+0.05 \Omega)$.
VIBRATION WITHSTAND	TEST METHOD MIL-STD-202 ITEM 204	X, Y, Z-EACH DIRECTION 2 HOURS. AMPLITUDE 0.75MM. RANGE : 10HZ ~ 500HZ. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(1.5\%R+0.05 \Omega)$.
LOAD LIFE	TEST METHOD MIL-STD-202 ITEM 108	$70^{\circ} \pm 2^{\circ}\text{C}$. 1000 HOURS RATED VOLTAGE (1.5 HOURS ON, 0.5 HOUR OFF). THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(5\%R+0.15 \Omega)$.
RESISTANCE TEMPERATURE COEFFICIENT	TEST METHOD MIL-STD-202 ITEM 304	THE RESISTANCE VALUE CHANGE RATE SHALL BE AS TABLE – 3.
LOAD LIFE IN HUMIDITY	TEST METHOD MIL-STD-202 ITEM 103	THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN $\pm(2.5\%R+0.05 \Omega)$.

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8. LOT NO. (Coding System)



9. PACKING DATA

TYPE	PER BOX	PER CARTON	INNER BOX			EXPORT CARTON		
			L	W	H	L	W	H
MOF25S	5,000PCS	50,000PCS	255mm	81mm	72mm	419mm	264mm	170mm
MOF50S	5,000PCS	50,000PCS	260mm	75mm	105mm	410mm	270mm	238mm
MOF100S	2,000PCS	20,000PCS	260mm	75mm	105mm	410mm	270mm	238mm
MOF200S	1,000PCS	10,000PCS	255mm	81mm	72mm	419mm	264mm	170mm
MOF300S	1,000PCS	10,000PCS	260mm	78mm	87mm	422mm	270mm	200mm
MOF500S	500PCS	5,000PCS	255mm	100mm	90mm	515mm	267mm	203mm
MOF700S	250PCS	2,500PCS	260mm	95mm	110mm	515mm	267mm	203mm

