



香港電阻製造廠

香港柴灣安業街十二號長益工業大廈10字樓A座

HONG KONG RESISTORS MANUFACTORY

(wholly owned by Hong Kong Resistors Manufactory International Ltd.)

AN ISO 9001:2008 CERTIFIED MANUFACTURER

AN OHSAS 18001:2007 MANUFACTURER

AN ISO 14001 : 2004 MANUFACTURER

10A Cheong Yick Industrial Building, 12 On Yip St., Chai Wan, Hong Kong

Tel.: (852) 2896 2782 Fax.: (852)2896 5291

國內工廠一: 東莞溢輝電子有限公司

地址: 東莞市虎門鎮懷德社區蔗寮工業區4號

Tel.: (86 769) 8331 5373 Fax.: (86 769) 8331 1603

國內工廠二: 恆輝電阻(益陽)有限公司

地址: 湖南省益陽市資陽區長春工業園五福路

Tel.: (86 737) 3800 399 Fax.: (86 737) 3800 199

DATA SHEET

Name of Product : METAL OXIDE FILM FIXED RESISTOR – (PR型)

Sales Executive : _____

Date: _____

製造 Prepared by	檢驗 Inspected by	審核 Audited by	核准 Authorized by
客戶 customer approval	客戶 customer approval	客戶 customer approval	客戶 customer approval

Spec. No. MOFPR 2015

Rev. No.: 2015 May.(1)

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

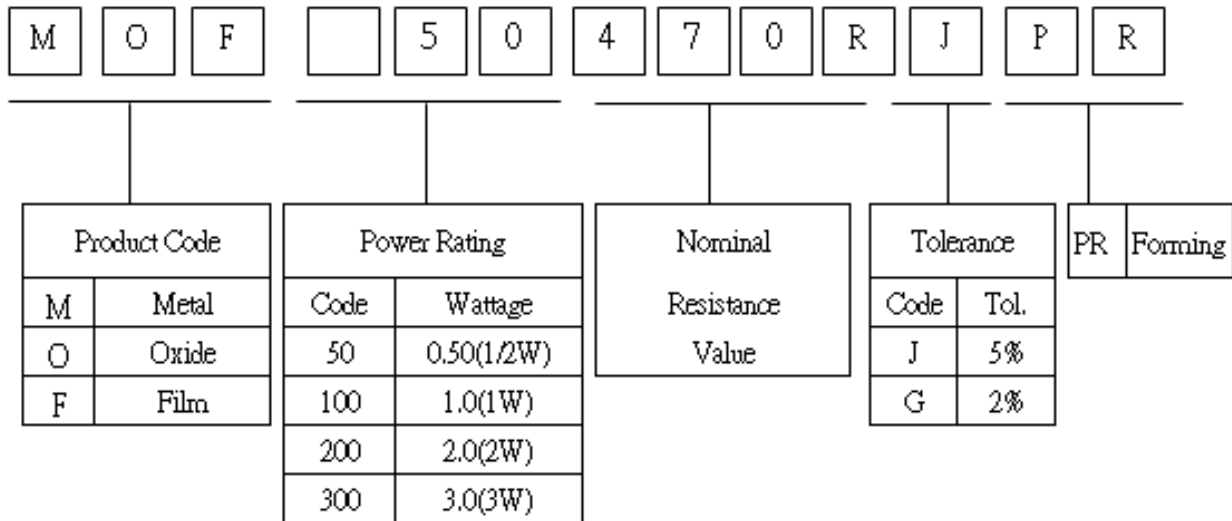
1. APPLICABLE SCOPE :

- 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 5202
- 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 :



2.2 Explanation :

Part Number

Description

MOF 50 470R J PR

Metal Oxide Film Fixed Resistor , 1/2W , 470Ω , ±5% tolerance , Forming.

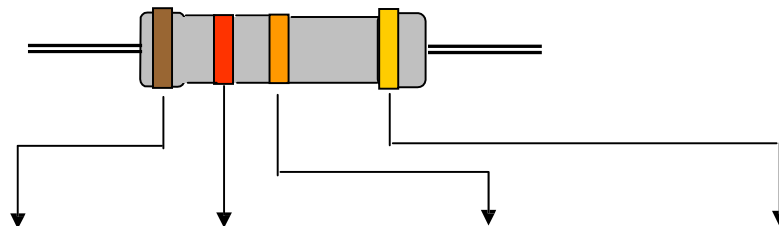
* Remarks : The power rating of 1/8 W is coded as 125

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

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

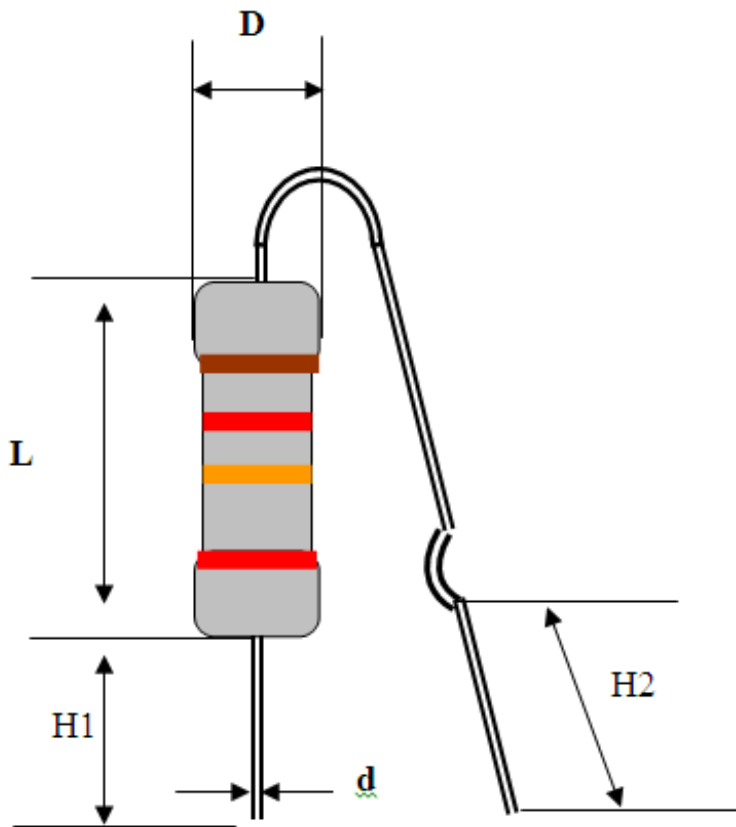


COLOR	1 ST DIGIT	2 ND DIGIT	MULTIPLIER	TOLERANCE
BLACK	0	0	1	
BROWN	1	1	10	
RED	2	2	100	G (±2%)
ORANGE	3	3	1,000	
YELLOW	4	4	10,000	
GREEN	5	5	100,000	
BLUE	6	6	1000,000	
VIOLET	7	7	10,000,000	
GREY	8	8		
WHITE	9	9		
GOLD			0.1	J (±5%)
SILVER			0.01	

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

3. DIMENSIONS :

TABLE - 2



Unit : mm

TYPE	BODY		LEAD WIRE		
	L	D	H1	H2	d
MOF50	9.0±1.0	3.0±0.5	(4~4.5) ±0.5	(4~4.5) ±0.5	0.48 ±0.05
MOF100	11.0±1.5	4.0±0.5	(4~4.5) ±0.5	(4~4.5) ±0.5	0.55 ±0.05
MOF200	15.0±1.5	5.0±0.5	(4~4.5) ±0.5	(4~4.5) ±0.5	0.70 ±0.05
MOF300	17.0 ± 1.5	6.0 ± 0.5	(4~4.5) ±0.5	(4~4.5) ±0.5	0.70 ±0.05

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

4. SPECIFICATIONS

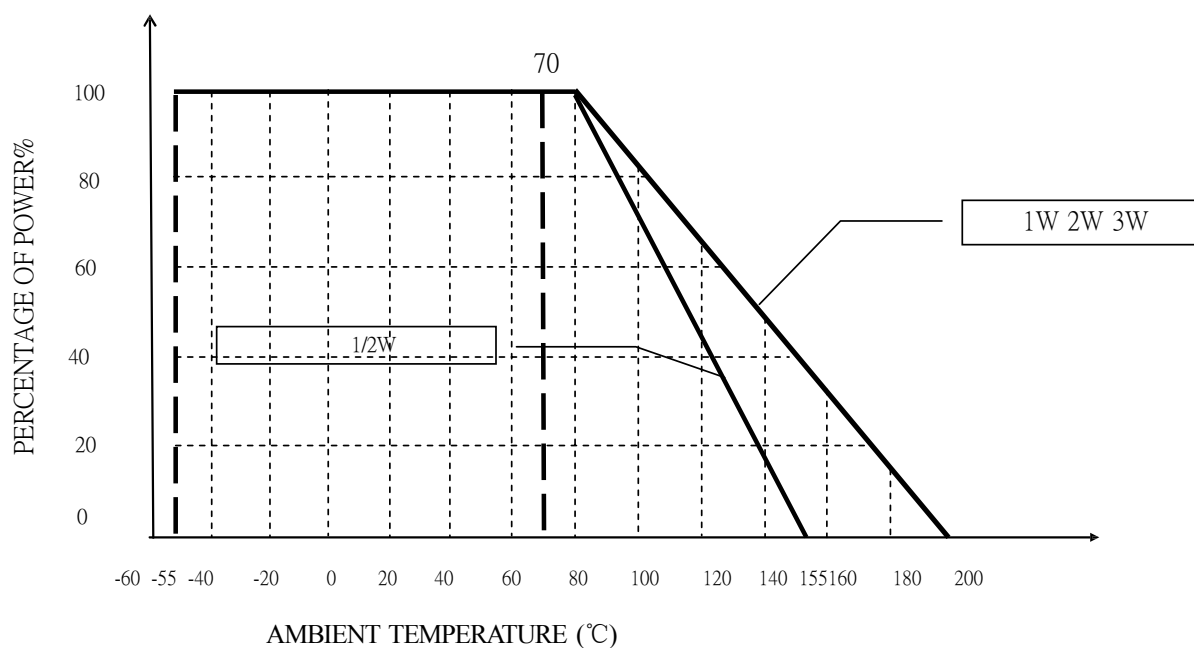
TABLE - 3

DESCRIPTION	MOF-50	MOF-100	MOF-200	MOF-300
STANDARD RESISTANCE VALUE RANGE	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ	1Ω- 510KΩ
POWER RATING AT 70°C	1/2W	1W	2W	3W
*MAX WORKING VOLTAGE	250V	350V	350V	500V
*MAX OVERLOAD VOLTAGE	600V	600V	600V	800V
OPERATING TEMPERATURE RANGE	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C
TEMPERATURE COEFFICIENT	±350PPM	±350PPM	±350PPM	±350PPM
TEMPERATURE CYCLING	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)
INSULATION RESISTANCE	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ	MIN.1,000MΩ
HUMIDITY	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%R+0.05Ω)	±(2.5%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)
SOLDERABILITY	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED
VIBRATION	±(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)

* 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

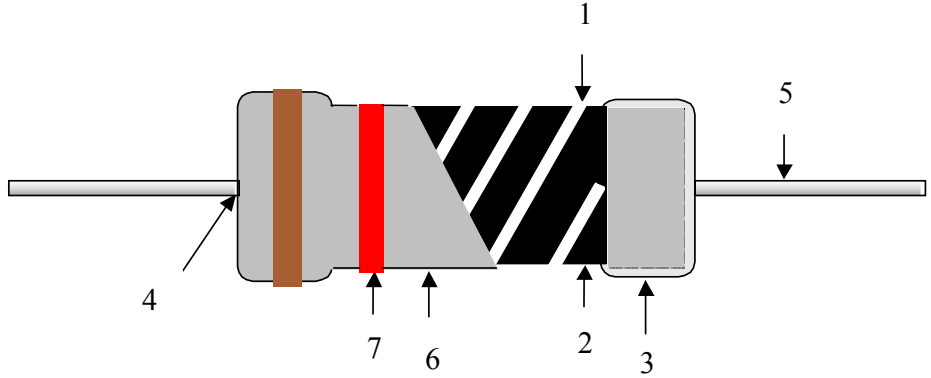
* The overload voltage is calculated based on the resistance value following the formula of $V= 2.5 \cdot \sqrt{P \cdot R}$ or to its maximum extent as indicated above

5. POWER DERATING CURVES



PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

6. STRUCTURAL DIAGRAM



- | | |
|------------------------|---|
| (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
	0.5W / 1W / 2W / 3W
$0.1\Omega \leq R < 10\Omega$	0.3
$10\Omega \leq R < 100\Omega$	1
$100\Omega \leq R < 1K\Omega$	3
$1K\Omega \leq R < 10K\Omega$	10
$10K\Omega \leq R < 100K\Omega$	30
$100K\Omega \leq R < 1M\Omega$	50
$1M\Omega \leq R$	100

PRODUCT : METAL OXIDE FILM FIXED RESISTOR	TYPE : MOF 50/100/200/300
--	----------------------------------

7. CHARACTERISTICS

TABLE – 5

DC RESISTANCE VALUE	TEST METHOD MIL-STD-202 ITEM 303	VOLTAGE AS TABLE -4. TEMPERATURE 25 ±2°C. AQL 0.25%.
VOLTAGE WITHSTAND	TEST METHOD MIL-STD-202 ITEM 301	V-BLOCK METHOD. VOLTAGE AS TABLE -3 ×1.42, 1 MIN. AQL 1%.
SHORT TIME OVERLOAD	TEST METHOD JIS C 5202 ITEM 5.5	RATED VOLTAGE × 2.5 TIMES OR MAX.WORKINGVOLTAGE × 2 TIMES. ABOVE TEST 5 SEC. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN ±(2.5%R+0.05 Ω).
INTERMITTENT OVERLOAD	TEST METHOD JIS C 5202 ITEM 5.8	RATED VOLTAGE×4 TIMES, (1 SEC ON, 25 SEC OFF). ABOVE TEST 10,000 CYCLES. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN ±(1%R+0.05 Ω).
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 ±(0.5%R+0.05 Ω).
SOLDERABILITY OF TERMINAL	TEST METHOD MIL-STD-202 ITEM 210	260±5°C 10±1SEC. AFTER TESTING LEAVE FOR 3 HOURS. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN ±(1%R+0.05 Ω).
TEMPERATURE CYCLE	TEST METHOD MIL-STD-202 ITEM 107	LOW SIDE TEMPERATURE : -55°C±3°C 30MIN. ROOM TEMPERATURE : 10-15MIN. HIGH SIDE TEMPERATURE : +125°C±3°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 ±(1%R+0.05 Ω).
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 ±(1.5%R+0.05 Ω).
LOAD LIFE	TEST METHOD MIL-STD-202 ITEM 108	70±2°C. 1000 HOURS RATED VOLTAGE (1.5 HOURS ON, 0.5 HOUR OFF). THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN ±(5%R+0.15 Ω).
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 ±(2.5%R+0.05 Ω).

PRODUCT : METAL OXIDE FILM FIXED RESISTOR

TYPE : MOF 50/100/200/300

8. LOT NO. (Coding System)

