

PRODUCT : METAL OXIDE FILM FIXED RESISTOR

TYPE : MOF -12.5/25/50/100/200/300/500

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 :

MIL-STD-105

MIL-STD-202

JIS C 5202

GB 5731-85

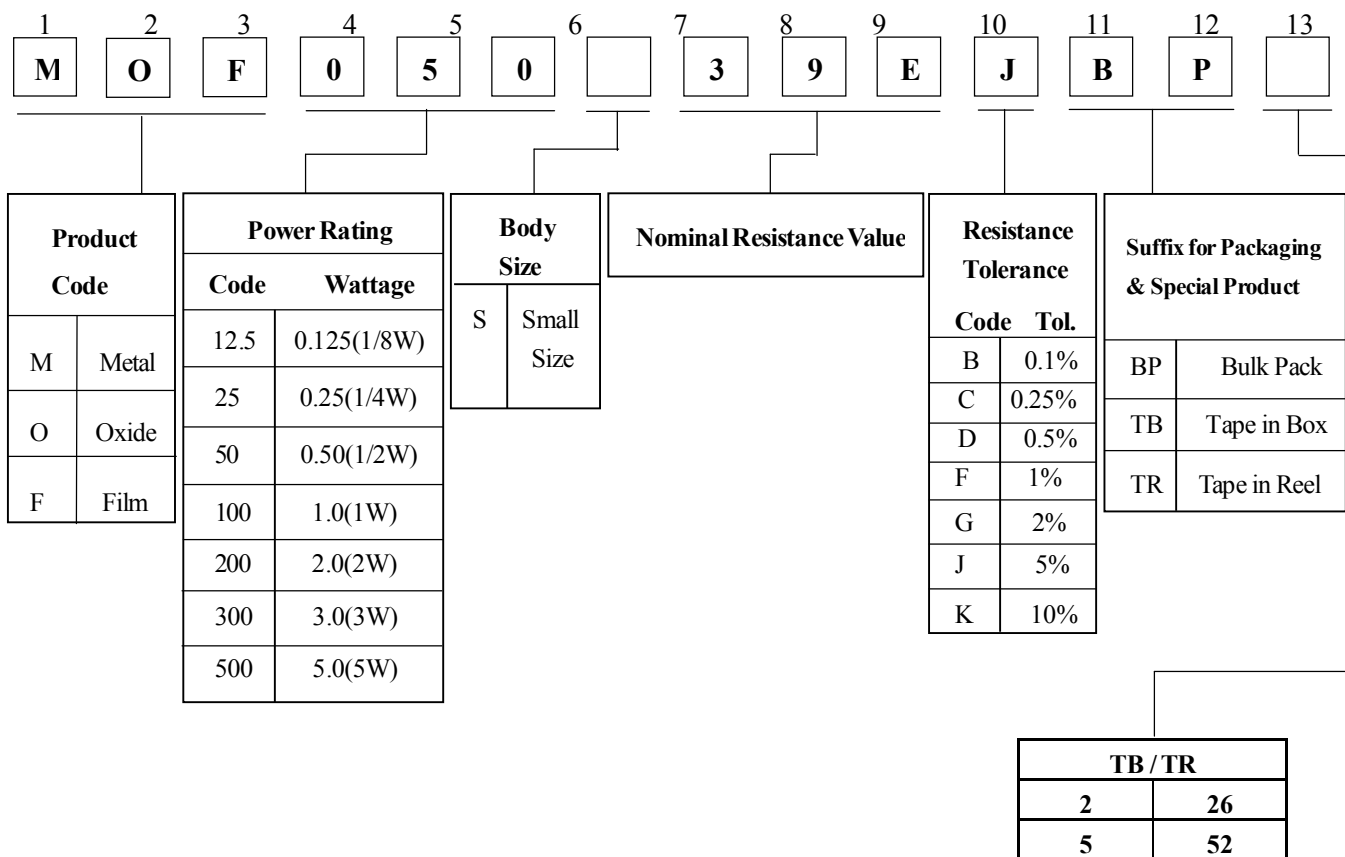
IEC 115-2-1-1982

QC 400101

2. TYPE

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

2.1 Explanation of part numbers :



2.2 Example of expression :

Miniature type (small size) is available.

Part Number

Description

MOF 50 39E J BP

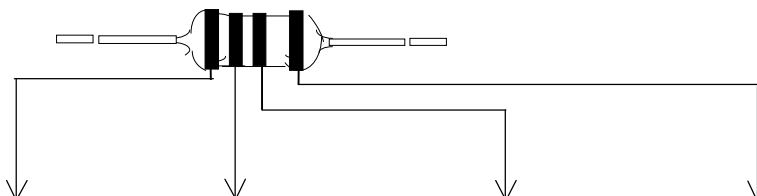
METAL OXIDE FILM FIXED RESISTOR , 1/2W , 39Ω , ±5% tolerance , bulk pack.

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2.3 Color code indication for nominal resistance value and tolerance

Fixed resistors of which the nominal resistance value and tolerance are indicated by color codes following the standard as below:

TABLE - 1

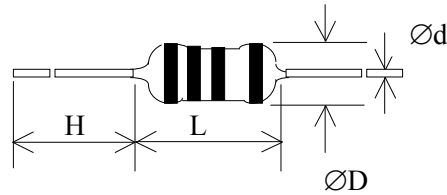


COLOR	1 ST DIGIT	2 ND DIGIT	MULTIPLIER	TOLERANCE
BLACK	0	0	1	
BROWN	1	1	10	F(±1%)
RED	2	2	100	G(±2%)
ORANGE	3	3	1,000	
YELLOW	4	4	10,000	
GREEN	5	5	100,000	D(±0.5%)
BLUE	6	6	1000,000	C(±0.25%)
VIOLET	7	7	10,000,000	B(±0.10%)
GREY	8	8		
WHITE	9	9		
GOLD			0.1	J (±5%)
SILVER			0.01	K (±10%)

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3. DIMENSIONS :

TABLE - 2



Unit : mm

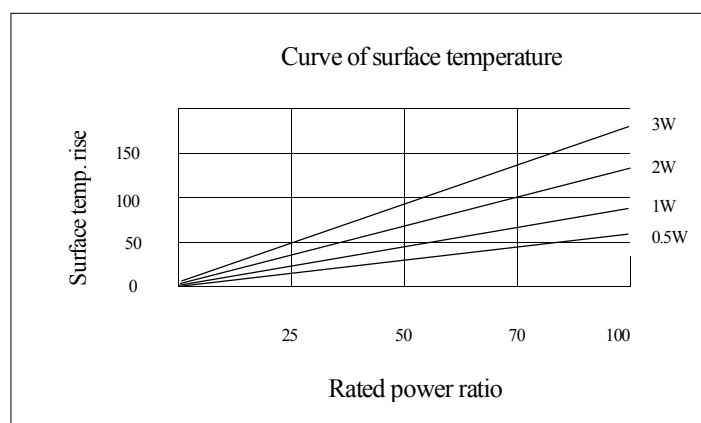
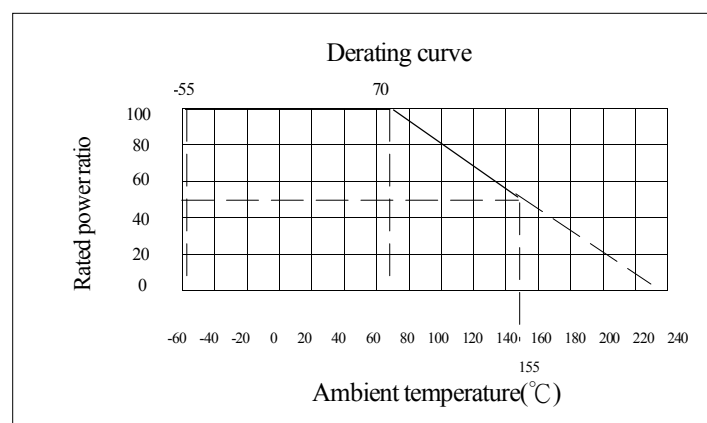
TYPE	BODY		LEAD WIRE	
	L	D	H	d
MOF-12.5(MOF -25S)	3.5±0.5	1.7±0.5	28±1	0.45±0.05
MOF-25(MOF -50S)	6.5±0.5	2.3±0.5	27±1	0.52±0.05
MOF-50(MOF -100S)	9.0±0.5	3.0±0.5	26±1	0.60±0.05
MOF-100(MOF -200S)	11.0±1	4.0±0.5	26(30)±1	0.60±0.05
MOF-200(MOF -300S)	15.0±1	5.0±0.5	24(35)±1	0.78±0.05
MOF-300(MOF -500S)	17.0±1	6.0±0.5	24(35)±1	0.78±0.05
MOF-500	24.0±1	8.5±0.5	20(28)±1	0.78±0.05

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4. SPECIFICATIONS

TABLE - 3

DESCRIPTION 內容	MOF-12.5	MOF-25 (MOF-25S)	MOF-50 (MOF-50S)	MOF-100 (MOF-100S)	MOF-200 (MOF-200S)	MOF-300 (MOF-300S)	MOF-500 (MOF-500S)
STANDARD RESISTANCE VALUE RANGE 標準阻值範圍	1Ω- 510K Ω	1Ω- 510K Ω	1Ω- 510K Ω	1Ω- 510K Ω	1Ω- 510K Ω	1Ω- 510K Ω	1Ω- 510K Ω
POWER RATING AT 70°C 額定功率(70°C)	1/8W	1/4W	1/2W	1W	2W	3W	5W
MAX WORKING VOLTAGE 最高使用電壓	200V	250V	250V	350V	350V	500V	750V
MAX OVERLOAD VOLTAGE 最高過負荷電壓	400V	600V	600V	600V	600V	800V	1,000V
OPERATING TEMPERATURE RANGE 使用溫度範圍	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C
TEMPERATURE COEFFICIENT 溫度特性	±350PPM	±350PPM	±350PPM	±350PPM	±350PPM	±350PPM	±350PPM
TEMPERATURE CYCLING 溫度循環	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)	±(1%R+0.05Ω)
INSULATION RESISTANCE 絕緣電阻	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ
HUMIDITY 耐濕負荷壽命	±(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)
SHORT-TIME OVERLOAD 短時間過負荷	±(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 焊錫性	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED
VIBRATION 耐震性	±(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 負載壽命	±(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)

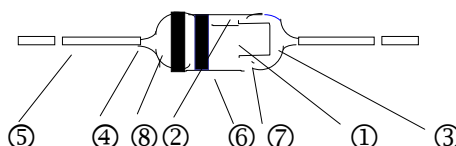


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5. STRUCTURE DIAGRAM

TABLE - 4



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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) UNDERCOAT | ELECTRIC INSULATION VARNISH |
| (7) FINISHING PAINTING | ELECTRIC INSULATION PAINT |
| (8) INDICATION | COLOR CODE INK |

RATED RESISTANCE VALUE	MAX. TESTING VOLTAGE	
	0.125W / 0.25W	0.5W / 1W / 2W / 3W / 5W
$1\ \Omega \leq R < 10\ \Omega$	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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6. CHARACTERISTICS

TABLE - 5

DC RESISTANCE VALUE	TEST METHOD MIL-STD-202 ITEM 303	VOLTAGE AS TABLE -4. TEMPERATURE 25°C±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).
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°C±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°C±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).

NOTE : RESISTORS SHALL BE EXAMINED FOR EVIDENCE OF NO MECHANICAL DAMAGE , ARCING AND BREAKDOWN AFTER THE TEST.

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7. LOT NO. (Coding System)

