Innovative Service Around the Globe YAGEO

# DATA SHEET

## METAL FILM RESISTORS

Professional

MF0 Series

±0.5%, ±1%, ±2%, ±5%

**0.4W AND 0.6W**

**RoHS compliant & Halogen Free**

YAGEO

Product specification – January 13, 2026 V.4

## APPLICATIONS

- All general purpose applications
- Power applications

## FEATURES

- AEC-Q200 qualified
- Wide resistance range
- Miniature & high power rating
- High stability
- RoHS compliant & halogen-free

## ORDERING INFORMATION

Part number of the professional t metal film resistor are identified by the series, power rating, tolerance, packing, temperature coefficient, forming and resistance value.

## PART NUMBER

| MF0 | 204 | F | T | F | 52- | 100R |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

### (1) SERIES

MF0 Series

### (2) POWER RATING

204 = 0.4W
207 = 0.6W

### (3) TOLERANCE

D = ±0.5%
F = ±1%
G = ±2%
J = ±5%
- = for 0R

### (4) PACKAGING

R = Reel Pack
T = Box Pack
B = Bulk

### (5) TEMPERATURE COEFFICIENT OF RESISTANCE

E=±50ppm/°C
F=±100ppm/°C
- = for 0R

### (6) FORMING

26- = 26mm
52- = 52.4mm
52B = 52.4mm, Φd =0.45±0.02mm
52C = 52.4mm, Φd= 0.5±0.02mm
52H = 52.4mm, non-painting on soldering spots
52N = 52.4mm without lacquer on soldering spots and Φd=0.6±0.02mm
PN = PANAsert
AV = AVIsert
M = M-Type Forming
MB = M-form W/flat
MT = MT Type Forming
FT = FT Type Forming

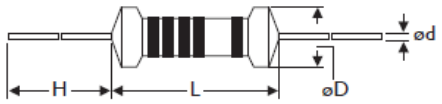
Note: 26mm and 52.4mm represent dimension A of the axial type, please refer to the category of AXIAL/REEL TAPE SPECIFICATION for the detail.

### (7) RESISTANCE VALUE

E24 & E96 Series
Example:
100R = 100Ω, 10K = 10,000Ω, 1M = 1,000,000Ω

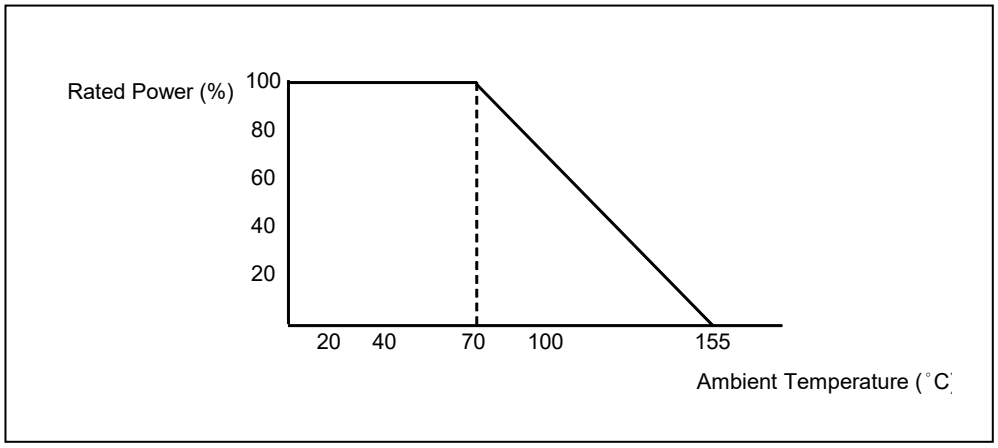
## DIMENSIONS

Unit: mm




| Miniature | L | ψD | H | ψd |
|---|---|---|---|---|
| MF0204 | 3.4 ± 0.3 | 1.9 ± 0.2 | 28 ± 2.0 | 0.45 ± 0.05 |
| MF0207 | 6.3 ± 0.5 | 2.4 ± 0.2 | 28 ± 2.0 | 0.55 ± 0.05 |

## DERATING CURVE




## ELECTRICAL CHARACTERISTICS

| CHARACTERISTICS | MF0204 | MF0207 |
|---|---|---|
| Power Rating at 70 °C | 0.4W | 0.6W |
| Maximum Working Voltage | 250V | 350V |
| Maximum Overload Voltage | 500V | 700V |
| Voltage Proof on Insulation | 300V | 500V |
| Resistance Range | 1Ω ~4M7Ω for E24&E96 series value | |
| Operating Temp. Range | - 55°C to +155°C | |
| Temperature Coefficient | ±50ppm/°C, ±100ppm/°C | |

Note: For resistance value out of above range is by request.

## ELECTRICAL CHARACTERISTICS FOR 0R

| TYPE | MF0204 | MF0207 |
|---|---|---|
| Power Rating at 70 °C | 0.4W | 0.6W |
| Maximum Current Rating at 70 °C | 1.5A | 2.5A |
| Voltage Proof on Insulation | 300V | 500V |
| Resistance Range | 0R | |
| Operating Temp. Range | - 55°C to +155°C | |

## TEST AND REQUIRMENTS

| TEST | TEST METHOD | PROCEDURE | APPRAISE |
|---|---|---|---|
| Short Time Overload | IEC 60115-1 4.13 | 2.5 times RCWV for 5 sec.(Not more than maximum overload voltage) | ±0.25%+0.05Ω for MF0207 type<br>±1.0 % +0.05Ω for MF0204 type |
| Voltage Proof on Insulation | IEC 60115-1 4.7 | In V-Block for 60 sec. test voltage as above table | No Breakdown |
| Temperature Coefficient | IEC 60115-1 4.8 | Between -55°C to +155°C | By Type |
| Insulation Resistance | IEC 60115-1 4.6 | In V-Block for 60 sec. | >10,000MΩ |
| Solderability | IEC 60115-1 4.17 | 245±5°C for 3±0.5 Sec. | 95% Min. coverage |
| Solvent Resistance of Marking | IEC 60115-1 4.30 | IPA for 5±0.5 Min. with ultrasonic | No deterioration of coatings and markings |
| Robustness of Terminations | IEC 60115-1 4.16 | Direct load for 10 Sec. in the direction of the terminal leads | ≥2.5Kg(24.5N) |
| Periodic-pulse Overload | IEC 60115-1 4.39 | 4 times RCWV(or Umax., whichever less) 10,000 cycles (1 Sec. on, 25 Sec.off) | ±1.0%+0.05Ω |
| Damp Heat Steady State | IEC 60115-1 4.24 | 40±2°C,90-95% RH for 56 days, loaded with 0.1 times RCWV(or Umax., whichever less) | ±1.5%+0.05Ω |
| Endurance at 70°C | IEC 60115-1 4.25 | 70±2°C at RCWV(or Umax., whichever less) for 1,000 Hr.(1.5 Hr.on,0.5 Hr. off) | ±1.5%+0.05Ω |
| Temperature Cycling | IEC 60115-1 4.19 | -55°C ➔ Room Temp. ➔ +155°C ➔ Room Temp.(5 cycles) | ±0.75%+0.05Ω |
| Resistance to Soldering Heat | IEC 60115-1 4.18 | 260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body | ±0.25%+0.05Ω |

Note:.

**RCWV (Rated Continuous Working Voltage ):**

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$V=\sqrt{(P \times R)}$
or max. working voltage whichever is less

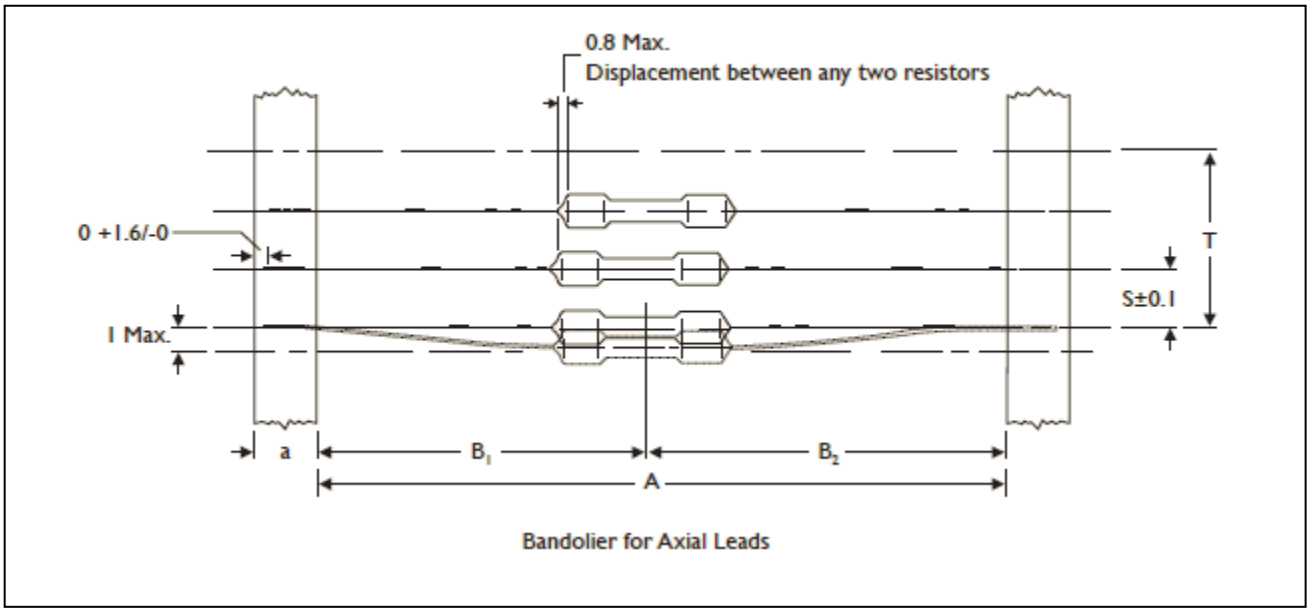
Where

V=Continuous rated DC or
AC (rms) working voltage (V)

P=Rated power (W)

R=Resistance value (Ω)

## AXIAL / REEL TAPE SPECIFICATION

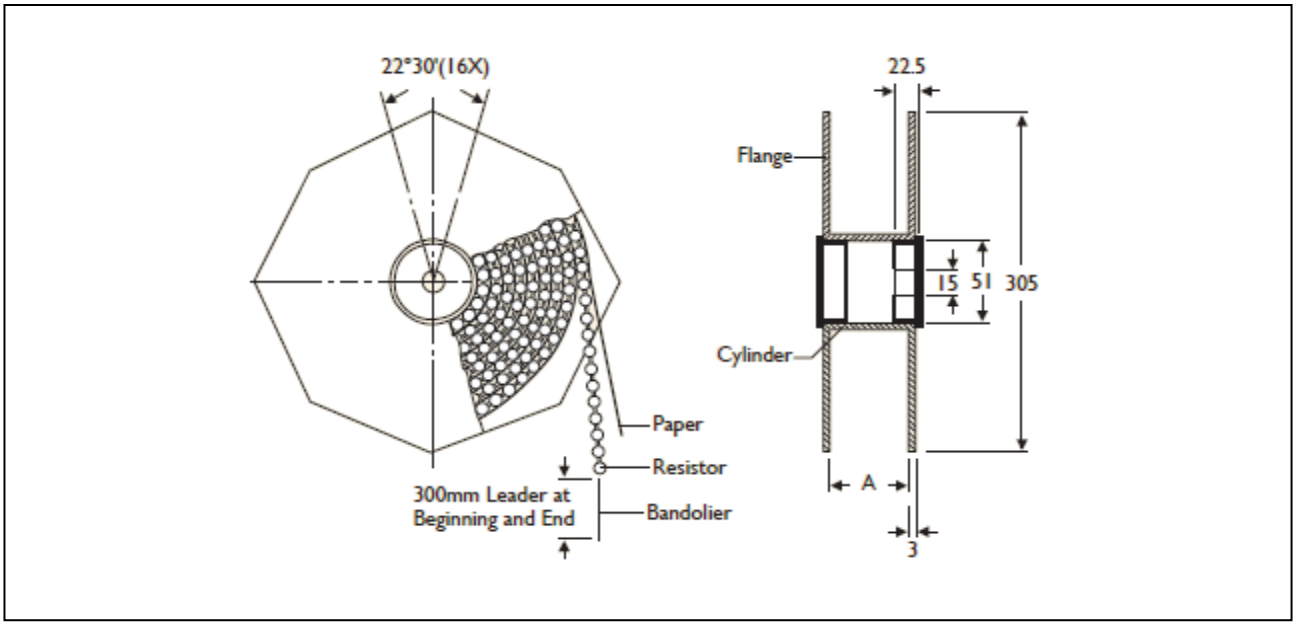



Bandolier for Axial Leads

**Unit: mm**

| Miniature | a | A | B1-B2 (Max.) | S (spacing) | T (max. deviation of spacing) |
|---|---|---|---|---|---|
| MF0204 | 6 ± 0.5 | 52.4 ± 1.5 | 1.2 | 5 | 0.5 mm per 5 spacing |
| | | 26.0 ± 1.5 | 1 | | |
| MF0207 | 6 ± 0.5 | 52.4 ± 1.5 | 1.2 | 5 | |
| | | 26.0 ± 1.5 | 1 | | |

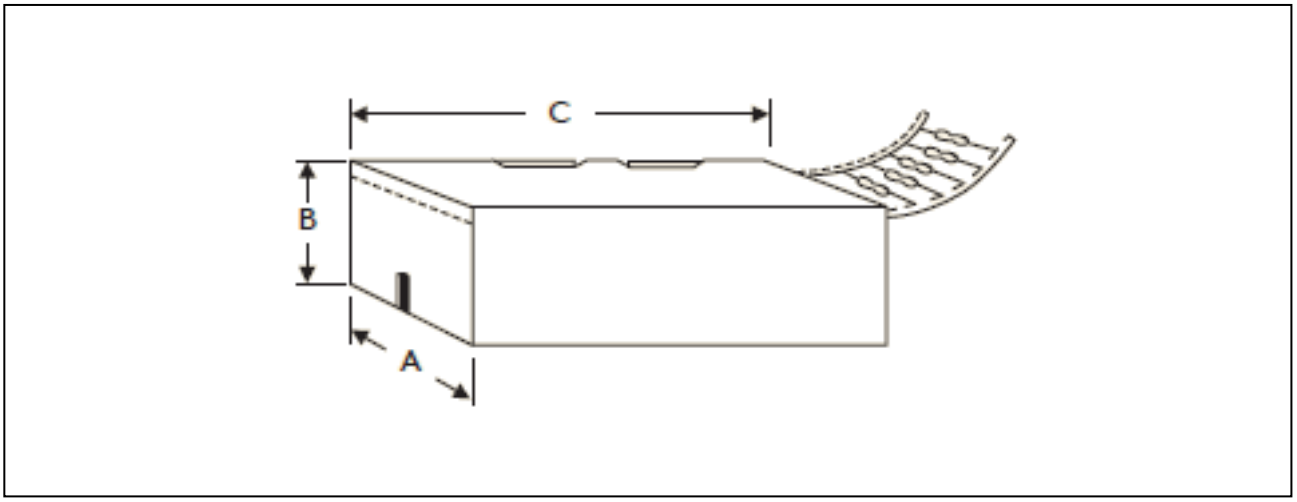
## TAPE ON REEL PACKING




TYPE Unit: mm/piece

| Miniature | Across Flange(A) | B | Quantity Per Reel |
|---|---|---|---|
| MF0204 | 66.5 | 75.5 | 5,000 |
| MF0207 | 66.5 | 75.5 | 5,000 |

## TAPE ON BOX PACKING




TYPE DIMENSIONS Unit: mm/piece

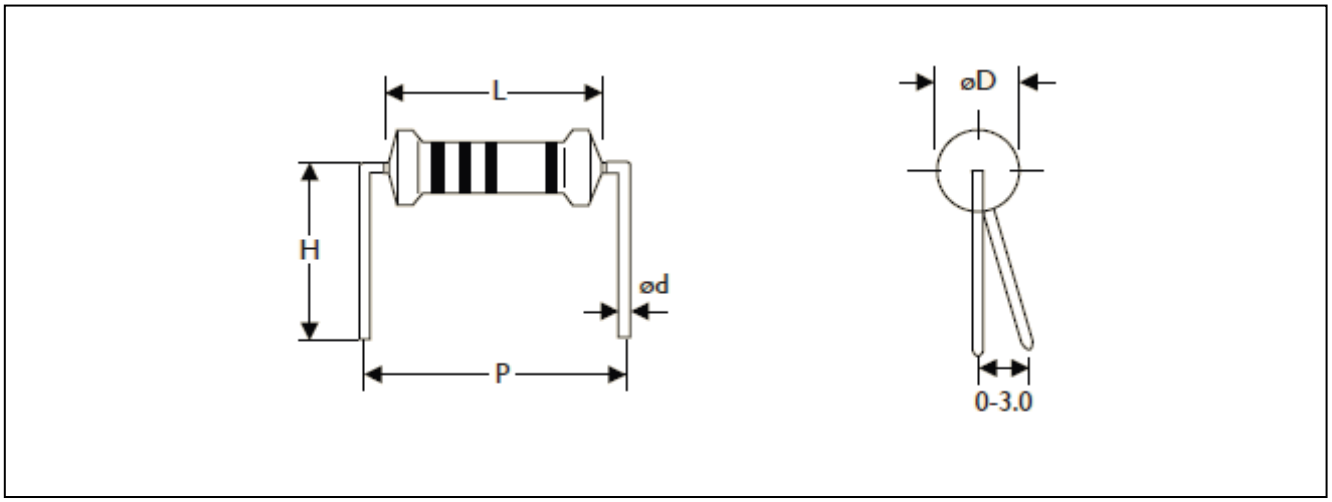
| Miniature | A | B | C | Quantity Per Box |
|---|---|---|---|---|
| MF0204 | 48 | 102 | 255 | 5,000 |
| MF0204 | 81 | 70 | 260 | 5,000 |
| MF0207 | 48 | 102 | 255 | 5,000 |
| MF0207 | 81 | 104 | 260 | 5,000 |

## BULK PACKING

| Miniature | Piece/Per Inner Box | Bag/Per Inner Box | Piece Per Bag |
|---|---|---|---|
| MF0204 | 10,000 | 10 | 1,000 |
| MF0207 | 10,000 | 10 | 1,000 |

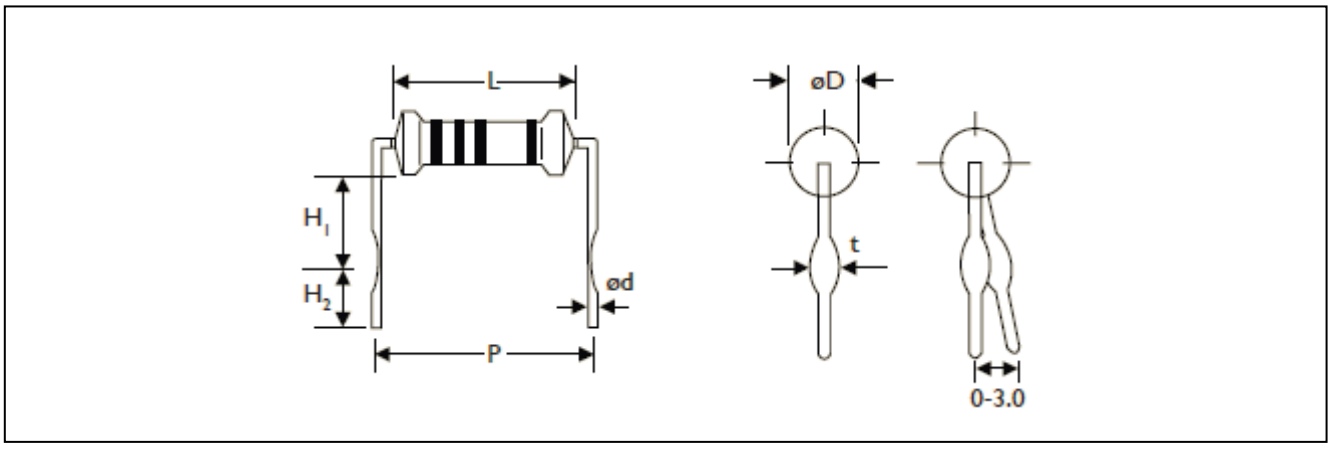
## FORMING

### M TYPE



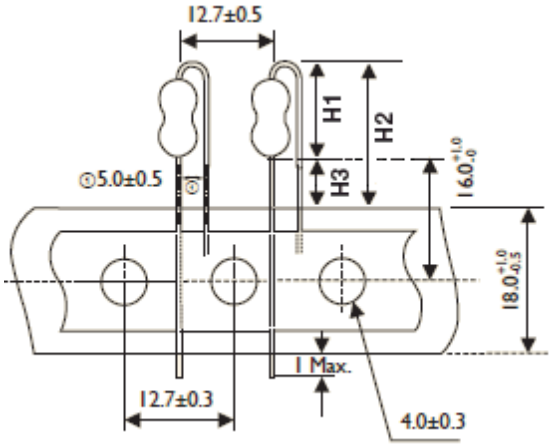

| TYPE | DIMENSIONS | | | | Unit: mm |
|---|---|---|---|---|---|
| **Miniature** | **L** | **ψD** | **ψd** | **P** | **H** |
| MF0204 | 3.4± 0.3 | 1.9 ± 0.2 | 0.45 ± 0.05 | 6.0 ± 1 | 10.0 ±1 |
| MF0207 | 6.3 ± 0.5 | 2.4 ± 0.2 | 0.55 ± 0.05 | 10.0 ± 1 | 10.0 ± 1 |

### MB TYPE




| TYPE | DIMENSIONS | | | | | | Unit: mm |
|---|---|---|---|---|---|---|---|
| **Miniature** | **L** | **ψD** | **ψd** | **P** | **H1** | **H2** | **t** |
| MF0207 | 6.3 ± 0.5 | 2.4 ± 0.2 | 0.55 ± 0.05 | 10.0 ± 1 | 6.0 ± 1 | 5.0 ± 1 | 1.2 ± 0.2 |

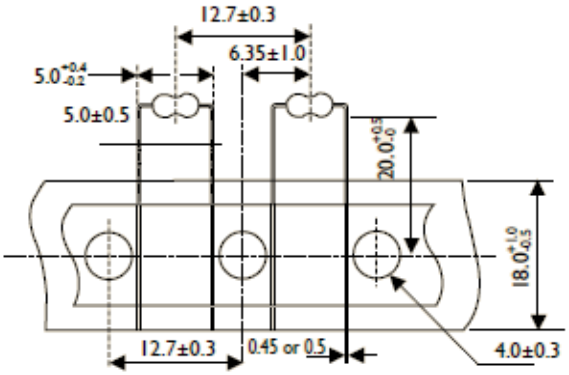
## FT TYPE (Taping Pack)



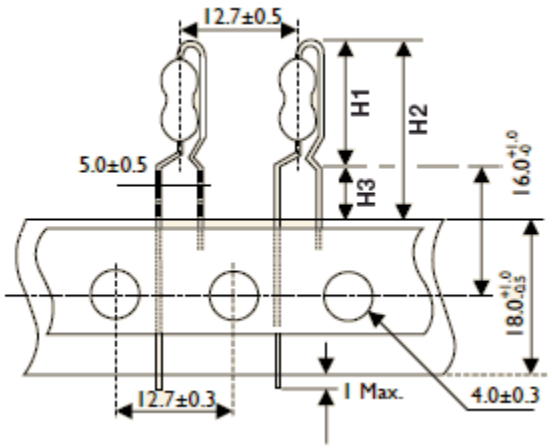

| TYPE | DIMENSIONS | | Unit: mm |
|---|---|---|---|
| **Miniature** | **H1 Max.** | **H2 Max.** | **H3 Max.** |
| MF0207 | 10 | 18.5 | 8.5 |

## MT TYPE (Taping Pack)

Rated Watts : 0.4W

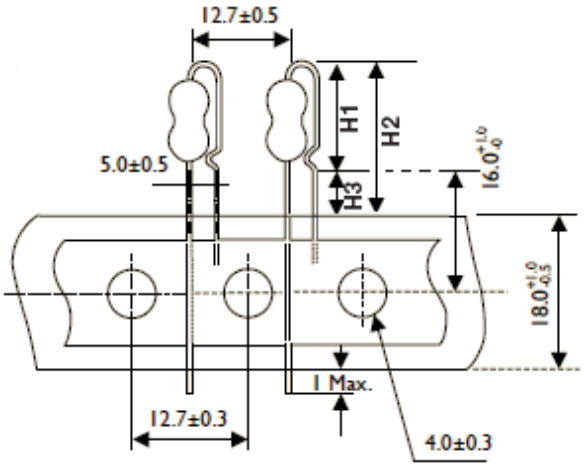



## PN TYPE (Taping Pack)




| TYPE | DIMENSIONS | | Unit: mm |
|---|---|---|---|
| **Miniature** | **H1 Max.** | **H2 Max.** | **H3 Max.** |
| MF0207 | 13 | 21.5 | 8.5 |

## AV TYPE (Taping Pack)




| TYPE | DIMENSIONS | | Unit: mm |
|---|---|---|---|
| **Miniature** | **H1 Max.** | **H2 Max.** | **H3 Max.** |
| MF0207 | 11.5 | 20 | 8.5 |

## MARKING


| COLOR | 1st BAND | 2nd BAND | 3rd BAND | MULTIPLIER | TOLERANCE |
|---|---|---|---|---|---|
| BLACK | 0 | 0 | 0 | 1Ω | |
| BROWN | 1 | 1 | 1 | 10Ω | ± 1% ( F ) |
| RED | 2 | 2 | 2 | 100Ω | ± 2% ( G ) |
| ORANGE | 3 | 3 | 3 | 1KΩ | |
| YELLOW | 4 | 4 | 4 | 10KΩ | |
| GREEN | 5 | 5 | 5 | 100K | ± 0.5 % ( D ) |
| BLUE | 6 | 6 | 6 | 1MΩ | |
| VIOLET | 7 | 7 | 7 | 10MΩ | |
| GREY | 8 | 8 | 8 | 0.001Ω | |
| WHITE | 9 | 9 | 9 | 0.0001Ω | |
| GOLD | | | | 0.1Ω | ± 5 % ( J ) |
| SILVER | | | | 0.01Ω | |

## REVISION HISTORY

| REVISION | DATE | CHANGE NOTIFICATION | DESCRIPTION |
|---|---|---|---|
| Version 4 | Jan.13, 2026 | - | - Added 52N type |
| Version 3 | Apr.2, 2024 | - | - Added forming code description for part number |
| Version 2 | Sep.5, 2023 | - | - Update legal disclaimer and footer version numbers |
| Version 1 | Mar.1, 2022 | | -1. Updated power rating on second page<br>-2. Independent electrical characteristics of 0R |
| Version 0 | Aug.2, 2021 | - | - First issue of this specification |

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