



MELF-MFR TYPE



Coating color: Blue.

塗裝色: 藍色

Dimensions:

| Type | Size | Dimensions(mm) | | | |
|----------|------|----------------|------------|----------|----------|
| | | L | D | C | S |
| MELF-MFR | 0102 | 2.2+0/-0.1 | 1.1+0/-0.1 | 0.4±0.05 | 0.1±0.05 |
| | 0204 | 3.5±0.2 | 1.45±0.1 | 0.7±0.1 | 0.15±0.1 |
| | 0207 | 5.7±0.2 | 2.2±0.1 | 0.8±0.2 | 0.2±0.1 |
| | 0309 | 8.5±0.3 | 3±0.3 | 1.7±0.2 | 0.3±0.1 |
| | 0411 | 10.5±0.3 | 4±0.3 | 2.3±0.2 | 0.3±0.1 |
| | 0515 | 14.5±0.3 | 4.5±0.3 | 2.3±0.2 | 0.3±0.1 |

Range:

| Type | Size | POWER RATING | MAX. WORKING VOLTAGE | MAX. OVERLOAD VOLTAGE | T.C.R. | RESISTANCE RANGE | | | | | | |
|----------|------|------------------------|----------------------|-----------------------|---------------------------------------|-------------------------|-------------------------|-------------------------|------------------------|---------------------|------------------------|--|
| | | | | | | ±0.1% | ±0.25% | ±0.5% | ±1% | ±5% | | |
| MELF-MFR | 0102 | 1/8W 0.2W | 150V | 300V | ±15ppm ±25ppm ±50ppm ±100ppm | 50 _Ω - 56K | 50 _Ω - 100K | 1 _Ω - 1M | 0 _Ω 22 - 2M | | | |
| | | 100 _Ω - 56K | | | | 100 _Ω - 100K | 1 _Ω - 1M | 0 _Ω 22 - 2M | | | | |
| | 0204 | 1/8W | 150V | 300V | | 100 _Ω - 56K | 100 _Ω - 100K | 1 _Ω - 1M | 0 _Ω 5 - 2M | | | |
| | | 1/4W 0.4W | | | | 200V | 400V | 100 _Ω - 100K | 10 _Ω - 560K | 1 _Ω - 5M | 0 _Ω 22 - 5M | |
| | 0207 | 1/4W | 200V | 400V | | 100 _Ω - 100K | 10 _Ω - 560K | 1 _Ω - 5M | 0 _Ω 22 - 5M | | | |
| | | 1/2W | | | | 300V | 600V | 100 _Ω - 100K | 10 _Ω - 560K | 1 _Ω - 5M | 0 _Ω 22 - 5M | |
| | | 1W | | | | 400V | 700V | 100 _Ω - 100K | 10 _Ω - 560K | 1 _Ω - 5M | 0 _Ω 5 - 5M | |
| | 0309 | 1W | 500V | 1000V | | ----- | 10 _Ω - 100K | 1 _Ω - 1M | 0.1 _Ω - 1M | | | |
| | 0411 | 2W | | | | ----- | 10 _Ω - 100K | 1 _Ω - 1M | 0.1 _Ω - 1M | | | |
| | 0515 | 3W | | | | ----- | 10 _Ω - 100K | 1 _Ω - 1M | 0.1 _Ω - 1M | | | |
| ----- | | | | | 10 _Ω - 100K | 1 _Ω - 1M | 0.1 _Ω - 1M | | | | | |

額定電壓是以， $\sqrt{\text{功率(W)} \times \text{阻值}(\Omega)}$ 計算所得的值及以規格表中所列最高使用電壓兩者相較小者。

Rated-Voltage = $\sqrt{P(W) \times R(\Omega)}$ or Max.working voltage, whichever lower.

PATTERN STYLES FOR MELF RESISTORS



| TYPE/SIZE | WAVE SOLDERING | | | | REFLOW SOLDERING | | | |
|-----------|----------------|--------|--------|--------|------------------|--------|--------|--------|
| | G (mm) | Y (mm) | X (mm) | Z (mm) | G (mm) | Y (mm) | X (mm) | Z (mm) |
| MMU 0102 | 0.7 | 1.2 | 1.5 | 3.1 | 1.1 | 0.8 | 1.3 | 2.7 |
| MMA 0204 | 1.5 | 1.5 | 1.8 | 4.5 | 1.7 | 1.2 | 1.6 | 4.1 |
| MMB 0207 | 2.8 | 2.1 | 2.6 | 7.0 | 3.2 | 1.7 | 2.4 | 6.6 |

Notes

• The given solder pad dimensions reflect the considerations for board design and assembly as outlined e.g. in standards IEC 61188-5-x⁽¹⁾, or in publication IPC-7351

⁽¹⁾ The quoted IEC standards are also released as EN standards with the same number and identical contents

Characteristics

| Item | Characteristics | Test Method |
|--|--|--|
| 1. Operating Temp. Range 使用温度范围 | -55℃~155℃ | |
| 2. Temperature Coefficient 温度系数 | ±100ppm/℃ ; ±50ppm/℃ ±25ppm/℃ ; ±15ppm/℃ | JIS-C-5202; 5.2 |
| 3. Short time overload 短时间过负载 | ±(0.5%+0.05Ω) | Rating voltage×2.5 or Max. overload voltage for 5 sec. Whichever less |
| 4. Pulse overload 断续过负载 | ±(0.5%+0.05Ω) | Rating voltage×3 or Max. pulse overload voltage for 10,000 cycle (1 sec. "on"/25 sec. "off"), Whichever less |
| 5. Temperature cycling 温度周率 | ±(0.5%+0.05Ω) | -55℃(30min.)+85℃(30min.) for 5 cycle |
| 6. Load Life in Humidity 耐湿负载 | ±(1%+0.05Ω) | 40℃±2℃, 90%~95% RH, 1000h, 1.5h "on"/0.5h "off" cycle |
| 7. Load Life 寿命负载 | ±(1%+0.05Ω) | 70℃±2℃, 1000h, 1.5h "on"/0.5h "off" cycle |
| 8. Resistance to soldering heat 焊接耐热性 | ±(0.5%+0.05Ω) | 260℃±5℃, 5 sec±1 sec |
| 9. Solderability 焊接性 | 90% Coverage/Min | 235℃±5℃, 2 sec±0.5 sec |
| 10. Bending test 端子强度 | ±(0.5%+0.05Ω) | Holding point width 90mm, Bending 5mm, 1 time |
| 11. Non-Combustibility 不燃性 | The resistors shall withstand Overload test in accordance With Article UL-94, V-0 without producing a fire hazard. | |

Classification (Part No)

MELF-MFR 0207 1/2WS 121Ω F T 50
 STYLE SIZE POWER RESISTANCE TOLERANCE PACKING PPM

F = ±1% T = Tape/Reel 15
 D = ±0.5% B = Bulk 25
 C = ±0.25% 50
 B = ±0.1% 100
 J = ±5%

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