

合金片式固定電阻器 METAL STRIP CHIP RESISTOR

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● 特點 FEATURES

- * 最高功率可達3W High power up to 3W
- * 最低TCR為 ±50 PPM/°C Lowest TCR from ±50 PPM/°C
- * 適應再流焊與波峰焊 Suit for reflow and wave flow solder.
- * 適于作電流探測用電阻器
如電源電路、發動機用電路等 Current detecting resistors for power supply, motor circuits, etc
- * 裝配成本低, 并與自動裝貼設備匹配 Low assembly cost, suit for automatic SMT equipment.
- * 機械强度高、高頻特性優越 Superior mechanical and frequency characteristics.
- * 符合RoHS指令要求 RoHS compliant

● 應用領域 Applications

開關電源、音頻設備的過電流保護、電壓調節器、電源轉換器、充電器、汽車引擎控制器、便攜式設備等
Switching Power Supply, Over Current Protection in Audio Application, Voltage Regulation Module (VRM), DC-DC Converter, Charger, Automotive Engine Control, Portable Devices etc

● 品名構成 TYPE DESIGNATION

例 Example

M G N
1 2
H
R 0 3
F
G
T

①
②
③
④
⑤
⑥
⑦
⑧

① 產品代號 Product Code
合金片式固定電阻器 Metal strip chip fixed resistor

② 額定功率系列代號 Power Rating Series Code	
代號 Code	額定功率系列 Power rating series
J	1W
K	1.5W
L	2W
M	2.5W
N	3W

③ 型號代號 Type Code	
代號 Code	型號 Type
06	1206
10	1210
12	2512

④ 電阻溫度系數代號 Resistance Temperature Coefficient Code	
代號 Code	T.C.R
H	±50ppm/°C
X	±75ppm/°C
K	±100ppm/°C
J	±150ppm/°C

⑤ 電阻值代號 Resistance Value Code
單位Ω, 小數點用R表示; 單位mΩ, 小數點用M表示; Units: Ω Decimal point should be expressed by "R"; Units: mΩ Decimal point should be expressed by "M"; 例如Example: R003=0.003Ω R22=0.22Ω R10=0.10Ω R047=0.047Ω M50=0.50mΩ 2M50=2.50mΩ

⑥ 電阻值誤差精度代號 Resistance Tolerance Code	
代號 Code	誤差精度 Tolerance
F	±1%
G	±2%
H	±3%
J	±5%

⑦ 產品外形結構 Product Construction	
代號 Code	結構 Construction
\	結構1 Construction 1
G	結構2 Construction 2

⑧ 包裝方式代號 Packing Style Code	
代號 Code	包裝方法 Packing Style
T	編帶包裝 Tape & Reel
B	塑料盒包裝 Bulk Case
C	塑料袋散裝 Case

- * 產品標記表示方法請與廠家聯系
- * Products marked that way, please contact the manufacturer.

• 結構及規格尺寸 CONSTRUCTION AND DIMENSION

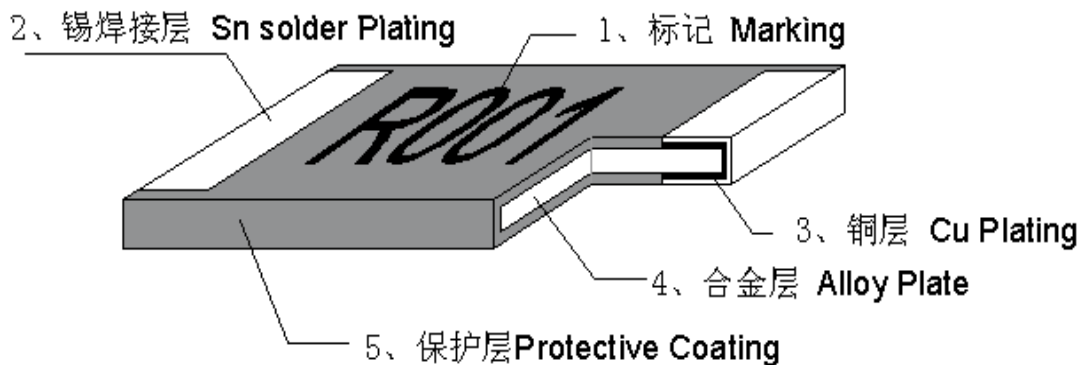


圖1：結構1部件圖 Fig1:Construction 1 Part Figure

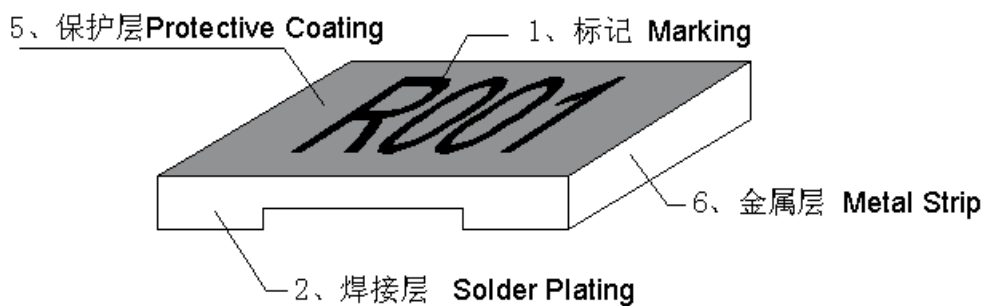


圖2：結構2部件圖 Fig2:Construction 2 Part Figure

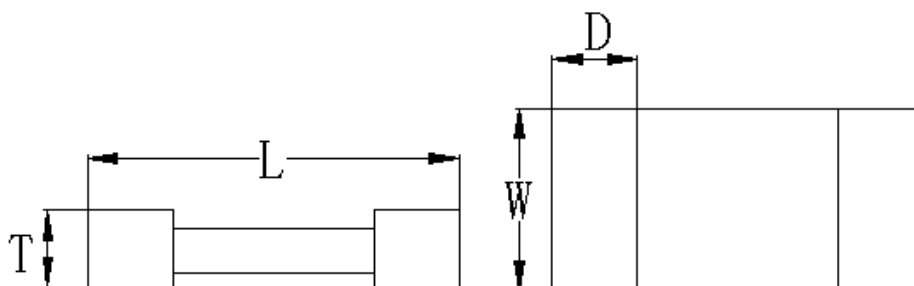


圖3：結構1、2尺寸圖 Fig3:Construction 1、2Dimension Figure

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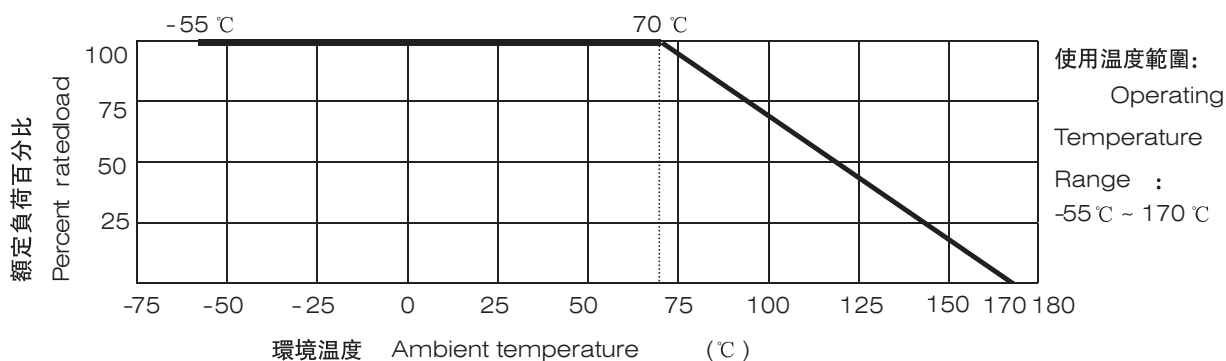
● 結構1尺寸 Construction 1 Dimensions:

規格型號 Part Number	Resistance(mΩ)	L (mm)	W(mm)	T (mm)	D (mm)
MG□12□0M50□□	0.50	6.30±0.30	3.20±0.30	1.25±0.20	1.40±0.40
MG□12□0M75□□	0.75	6.30±0.30	3.20±0.30	0.75±0.20	1.40±0.40
MG□12□R001□□	1.00	6.30±0.30	3.20±0.30	0.65±0.20	1.40±0.40
MG□12□1M50□□	1.50	6.30±0.30	3.20±0.30	0.45±0.20	1.40±0.40
MG□12□R002□□	2.00	6.30±0.30	3.20±0.30	0.35±0.20	1.40±0.40
MG□12□2M50□□	2.50	6.30±0.30	3.20±0.30	0.65±0.20	1.40±0.40
MG□12□R003□□	3.00	6.30±0.30	3.20±0.30	0.55±0.20	1.40±0.40
MG□12□R004□□	4.00	6.30±0.30	3.20±0.30	0.45±0.20	1.40±0.40
MG□12□R005□□	5.00	6.30±0.30	3.20±0.30	0.35±0.20	1.40±0.40
MG□12□R006□□	6.00	6.30±0.30	3.20±0.30	0.32±0.20	1.40±0.40
MG□12□6M50□□	6.50	6.30±0.30	3.20±0.30	0.30±0.20	1.40±0.40
MG□12□R007□□	7.00	6.30±0.30	3.20±0.30	0.27±0.20	1.40±0.40
MG□12□R010□□	10.00	6.30±0.30	3.20±0.30	0.25±0.20	1.40±0.40
MG □12□□□□□□	11~75	6.30±0.30	3.20±0.30	0.65±0.25	1.10±0.40
MG □12□□□□□□	75.1~100	6.30±0.30	3.20±0.30	0.65±0.25	0.90±0.40
MG □10□□□□□□	1.0~10	5.08±0.25	2.54±0.25	0.60±0.20	1.60±0.60
MG □10□□□□□□	11~100	5.08±0.25	2.54±0.25	0.65±0.20	0.80±0.25
MG □06□□□□□□	1.0~10	3.20±0.25	1.60±0.25	0.60±0.20	1.00±0.40
MG □06□□□□□□	11~50	3.20±0.25	1.60±0.25	0.65±0.20	0.50±0.30

● 結構2尺寸 Construction 2 Dimensions:

規格型號 Part Number	Resistance(mΩ)	L (mm)	W(mm)	T (mm)	D (mm)
MG□12□0M50□G□	0.50	6.35±0.25	3.00±0.25	0.60±0.20	2.68±0.25
MG□12□0M75□G□	0.75	6.35±0.25	3.00±0.25	0.60±0.20	2.48±0.25
MG□12□□□□□G□	1.0~1.5	6.35±0.25	3.00±0.25	0.60±0.20	1.43±0.25
MG□12□□□□□G□	2.0~3.0	6.35±0.25	3.00±0.25	0.60±0.20	1.18±0.25
MG□12□R004□G□	4.0	6.35±0.25	3.00±0.25	0.60±0.20	2.18±0.25
MG□12□□□□□G□	5.0~6.0	6.35±0.25	3.00±0.25	0.60±0.20	1.93±0.25
MG□12□R007□G□	7.0	6.35±0.25	3.00±0.25	0.60±0.20	1.43±0.25
MG□12□□□□□G□	8.0~15	6.35±0.25	3.00±0.25	0.60±0.20	1.18±0.25

• 負荷下降曲線 DERATING CURVE



* 當電阻使用的環境溫度超過70°C時，其額定負荷(額定功率或額定電流)按上述曲線下降。
For resistors operated in ambient over 70°C, rated load (power rating or current rating) shall be derated in accordance with the above figure.

• 額定值及特性 Ratings and Characteristics

項目 Item	1206	2010	2512						
額定功率 Power Rating	1W	1.5W	1W			2W	2.5W	3W	
阻值範圍 Resistance Range(mΩ)	1.0~50	1.0~100	0.5~2.0	2.5~10.0	11.0~100	0.5~75	4.0~6.0	1.0~10	0.5~0.75
電阻溫度係數 Resistance Temperature Coefficient (PPM/°C)	±50		±50	±150 ±50	±50	±50			±100
阻值誤差精度 Resistance Tolerance	±1% ±2% ±3% ±5%								
使用溫度範圍 Operating Temperature Range	-55°C ~ +170°C								
特性 Characteristics	見特性 Refer to Characteristics								

注：額定電壓=√額定功率×標稱電阻值，額定電流=√額定功率/標稱電阻值。
Note: Rating Voltage V=√Power Rating×Resistance Value,
Rating Current I=√Power Rating/Resistance Value

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• 特性 Characteristics

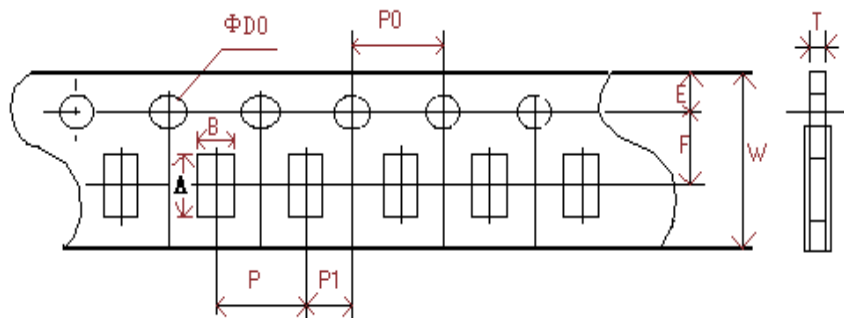
項目 Item	標準 Specifications	測試方法 Test Methods
電阻溫度係數 T.C.R	在規定值內 within specified T.C.R	(MLT-STD-202F-Method 304) -55°C~+125°C
熱衝擊 Thermal Shock	無可見損傷No mechanical damage $\Delta R \leq \pm (1.0\%R + 0.5m\Omega)$	(MLT-STD-202F-Method 107G) -55°C~150°C 100個循環 -55°C~150°C 100cycles
短時間過負載 Short Time Overload	無可見損傷No mechanical damage $\Delta R \leq \pm (1.0\%R + 0.5m\Omega)$	(JISC5202) 2.5倍額定電流或最大過負載電流(取最小者)保持5秒 2.5×Rated Current or Max Overload Current, whichever is lower, for 5 seconds
耐焊接熱 Resistance to Soldering Heat	無可見損傷No mechanical damage $\Delta R \leq \pm (1.0\%R + 0.5m\Omega)$	(MLT-STD-202F-Method 210E) 270°C ± 5°C 10 ± 1秒 270°C ± 5°C 10s ± 1s
70°C 耐久性 Load Life	無可見損傷No mechanical damage $\Delta R \leq \pm (1.0\%R + 0.5m\Omega)$	(MLT-STD-202F-Method 108A) 70°C ± 2°C 1000小時 額定電壓 通1.5小時, 斷0.5小時 70°C ± 2°C 1000h Rated voltage 1.5h on/0.5h off
可焊性 Solder-ability	可焊面積 ≥ 95% 95% Cover Min	(MLT-STD-202F-Method 208H) 240°C ± 5°C 2 ± 0.5秒 240°C ± 5°C 2s ± 0.5s
高溫試驗 Resistance to Dry Heat	無可見損傷No mechanical damage $\Delta R \leq \pm (1.0\%R + 0.5m\Omega)$	(JIS C 5202) +170°C, 1000小時 +170°C, 1000h

• 包裝 Packaging

• 編帶包裝 Tape and reel

紙帶編帶 Paper taping

1206:



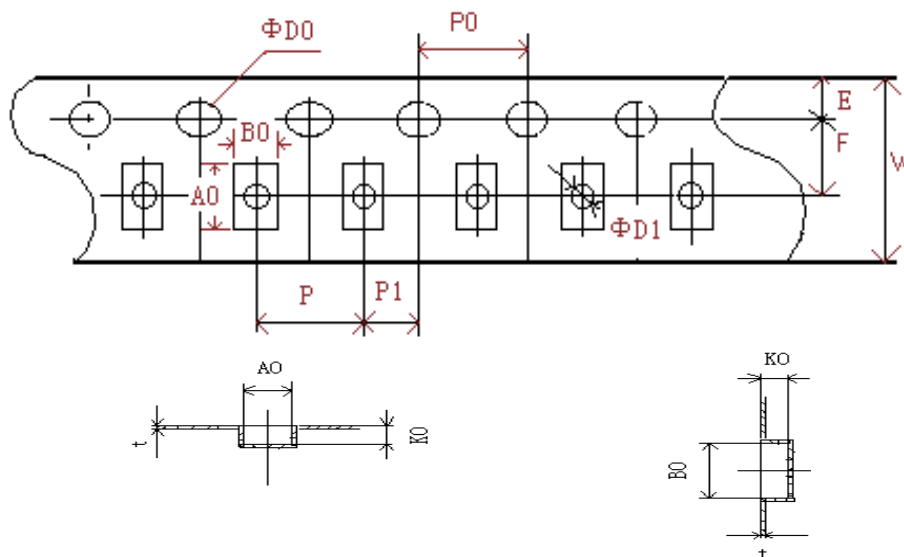
單位 unite: mm

型號 Type	A	B	W	F	E
1206	3.50±0.2	1.90±0.2	8.0±0.20	3.50±0.05	1.75±0.1

型號 Type	P	P0	P1	ΦD0	F
1206	4.0±0.1	4.0±0.1	2.0±0.05	1.50±0.1	0.87±0.1

● 塑料帶編帶 Embossed tapping

2010、2512:



單位 unit: mm

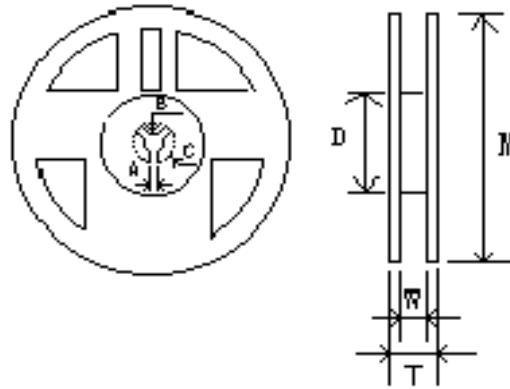
型號 Type	A0	B0	W	F	E	t	
2010	5.50±0.10	2.90±0.10	12.00±0.10	5.50±0.10	1.75±0.10	0.24±0.05	
2512	0.5~15mΩ	6.75±0.10	3.40±0.10	12.00±0.10	5.50±0.10	1.75±0.10	0.24±0.05
	15~100mΩ	6.75±0.10	3.90±0.10	12.00±0.10	5.50±0.10	1.75±0.10	0.24±0.05

單位 unit: mm

型號 Type	P	P0	P1	ΦD0	ΦD1	K0	
2010	1~10mΩ	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.10/-0	1.50±0.10	0.85±0.10
	10.1~100mΩ	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.10/-0	1.50±0.10	1.10±0.10
2512	0.50mΩ	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.40 Min	1.45±0.20
	0.50~15mΩ	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.40 Min	0.8±0.10
	15~100mΩ	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.40 Min	1.80±0.10

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- 卷盤 Reel

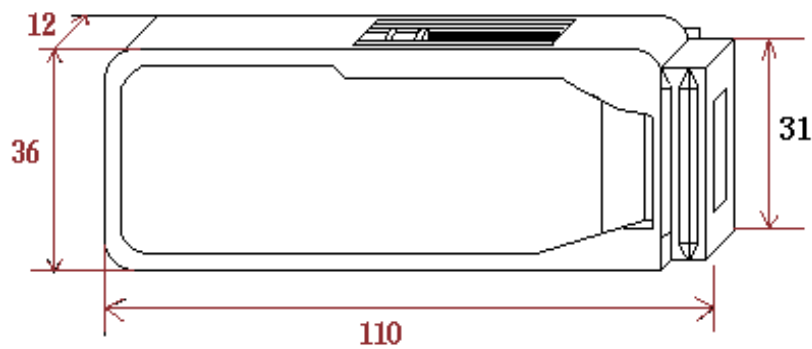


單位unit: mm

型號 Type	M	W	T	A	B	C	D
1206	178 ±2.0	9.5 ±1.0	12.5 ±1.5	2.0 ±0.5	13.0 ±0.5	21.0 ±0.5	80.0 ±2.0
2010 2512	178 ±2.0	13.0 ±0.5	15.5 ±1.5	2.0 ±0.5	13.0 ±0.5	21.0 ±0.5	57.0 ±2.0

- 塑料盒包裝 Bulk case

單位unit: mm



- 包裝數量 Packaging quantity

包裝方法 Packaging style	編帶 Tape and reel		塑料盒 Bulk case			塑料袋散裝 Bulk	
型號 Type	1206	2010 2512	1206	2010	2512	1206	2010 2512
數量 (PCS) Quantity	5000	2000	5000	1500	1000	≤10000	≤4000