

贴片 合金 电阻器 Surface mount alloy resistor

产品特点 Product Features

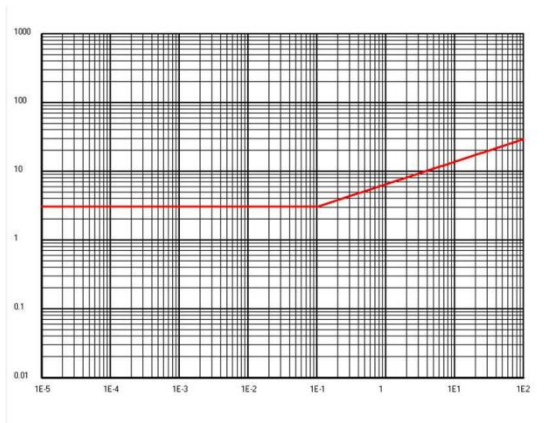
- 高功率、耐冲击及功耗小
High power, shock resistance, and low power consumption
- 耐高温、低温漂及高精度、稳定性强
High temperature resistance, low temperature drift, high precision, and strong stability
- 限流、恒流、分压及耐腐蚀性强
Strong current limiting, constant current, voltage divider, and corrosion resistance
- 工作温度范围：-65℃~+170℃
Operating temperature range: -65 °C to +170 °C
- 无铅，符合 ROHS 要求，可非标定制
Lead free, compliant with ROHS requirements, customizable for non-standard use
- 符合 AEC-Q200 特性测试
Compliant with AEC-Q200 characteristic testing



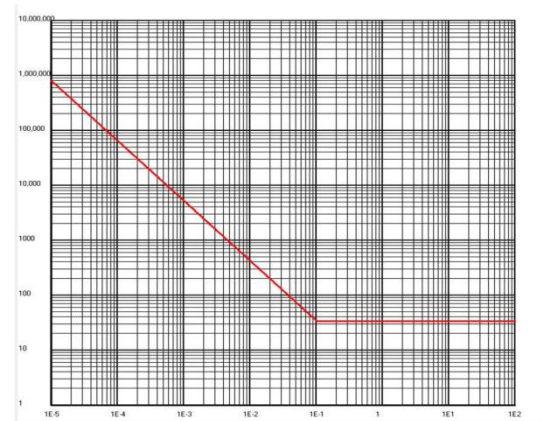
应用范围 Application scope

电子电路中的电流采样和过流保护；新能源汽车控制电路和充电桩电路/传统汽车控制电路；变频器及伺服电机控制电路；开关电源、测量及测试仪器；锂电池、太阳能及通讯电源等控制电路；家用电器等多个领域
Current Sampling and Overcurrent Protection in Electronic Circuits; New energy vehicle control circuit and charging pile circuit/traditional vehicle control circuit; Inverter and servo motor control circuit; Switching power supply, measuring and testing instruments; Control circuits for lithium batteries, solar energy, and communication power sources; Multiple fields such as household appliances

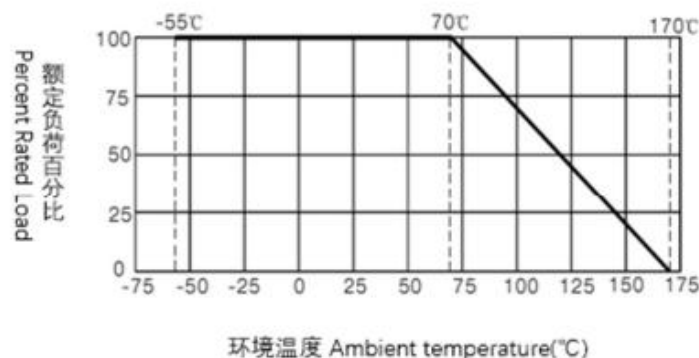
脉冲能量图 Pulse Energy Diagram



脉冲功率图 Pulse Power Diagram



降耗曲线 Derating Curves of Dissipation



试验和要求 Testing and Requirements

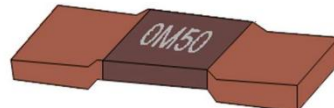
测试项目 Test project	条件 Condition	阻值变化极限 Limit of resistance variation	参考标准 Reference standards
阻值 Resistance	在室温 25℃±5℃下测量电阻值 Measure the resistance value at room temperature of 25℃±5℃	在规定值内 Within the specified value	IEC60115-1 4.5
温度系数 temperature coefficient	测量点 25℃和+125℃ Measurement points at 25℃ and +125℃	在规定值内 Within the specified value	MIL-STD-202 Method 304
短时过载 Short-time overload	5 倍额定功率, 5 秒 5 times rated power, 5 seconds	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	IEC 60115-1 4.13
高温存储 High temperature storage	1000 小时 170℃, 无负载 1000 hours at 170℃, no load	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	MIL-STD-202 Method 108
温度循环 Temperature cycling	-55℃ (+0/-10)℃+155℃ (15/-0)℃, 1000 循环 1000 cycles	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	JESD22 Method JA-104
负荷寿命 load life	70℃±2℃, 1000 小时, 额定功率 70℃±2℃, 1000 hours, rated power	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	IEC 60115-1, 4.55.1
耐溶剂性 Solvent resistance	超声波异丙醇 5min Ultrasonic isopropanol for 5 minutes	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	MIL-STD-202 215
基板弯曲试验 Substrate bending test	弯曲距离: 2mm, 60+5s Bending distance: 2mm, 60+5s	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	AEC-Q200-005
终端强度 Terminal strength	侧面施加力 17.7N, 60+1s Apply a lateral force of 17.7N for 60+1s	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	AEC-Q200-006
机械冲击 Mechanical shock	100g's, 6ms, 半正波 12.3ft/s 各方向 3 次(18 次) 100g's, 6ms, half positive wave 12.3ft/s, 3 times in each direction (18 times)	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	MIL-STD-202 Method 213
震动试验 Vibration test	10Hz 到 2000Hz, 20min, 3 轴, 12 周期 10Hz to 2000Hz, 20min, 3-axis, 12 cycles	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	MIL-STD-202 Method 204
耐焊接热 Resistance to Soldering Heat	Reflow 260℃ 3 次 Reflow 260℃ 3 times	$ \Delta R \leq \pm (0.5\% + 0.0005\Omega)$	MIL-STD-202 Method 210
可焊性 Solderability	Reflow 260℃ 1 次 Reflow once at 260℃	覆盖率≥95% Coverage rate ≥ 95%	J-STD-002
高温高湿 High temperature and humidity	+85℃, 85%RH, 10%额定功率, 1000h +85℃, 85% RH, 10% rated power, 1000h	$ \Delta R \leq \pm (1\% + 0.0005\Omega)$	MIL-STD-202 Method 103

标识方式 Marking

标识位数: 4 位 Identification digit: 4 digits

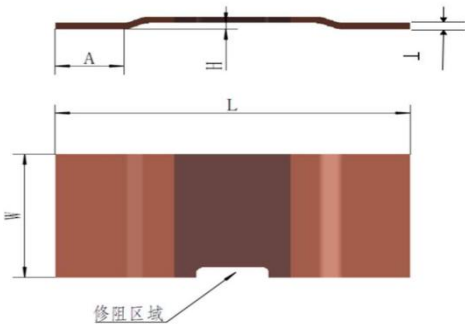
字码标识方式如下 The code identification method is as follows:

- 0M10=0.1mΩ; 0M20=0.2mΩ ... 2M50=2.5mΩ
- R001=1mΩ; R002=2mΩ ... R010=10mΩ



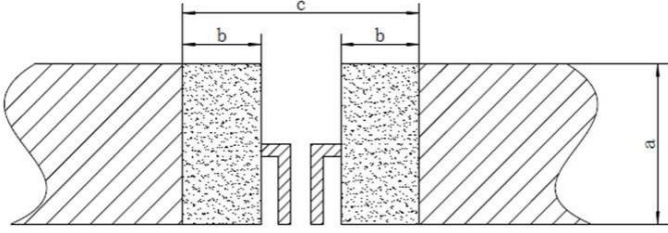
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外形尺寸 External dimensions

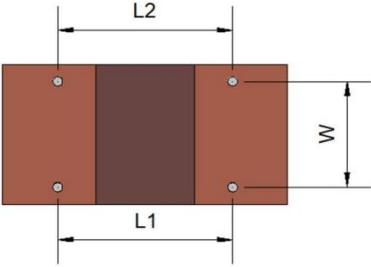


系列 Series	型号 Model	阻值 (mΩ) Resistance	外形尺寸 External dimensions (mm)				
			L ±0.2	W ±0.2	H ±0.15	A ±0.2	T ±0.1
PW	2512	0.2	6.40	3.20	0.45	1.10	1.37
		0.3					0.95
		0.4					0.75
		0.5					0.85
		1					0.43
		2					0.65
		3					0.44
		4					0.32
		5					0.30
	3921	0.1	10.00	5.20	0.50	2.00	1.42
		0.2					1.35
		0.25					1.05
		0.3					1.35
		0.4					1.05
		0.5					0.86
		0.7					0.60
		1					0.43
		1.5					0.92
		2					0.72
		3					0.48
		4					0.34
		5					0.25
	5931	0.1	15.00	7.60	0.50	4.00	1.45
		0.2					1.33
		0.3					1.00
		0.5					0.61
		1					0.30
		2					0.49
		3					0.31
		4					0.25

焊盘尺寸 Pad size

				
系列 Series	型号 Model	尺寸 Size (mm)		
		c	b	a
PW	2512	7	1.8	3.4
	3921	11	2.7	6.2
	5931	16	5.2	8.75

测试点位置 Test point location

				
系列 Series	型号 Model	尺寸 Size (mm)		
		L1	L2	W
PW	2512	5.6	5.6	1.4
	3921	8.6	8.6	2.4
	5931	9.2	9.2	5.74

选型示例 Selection Example

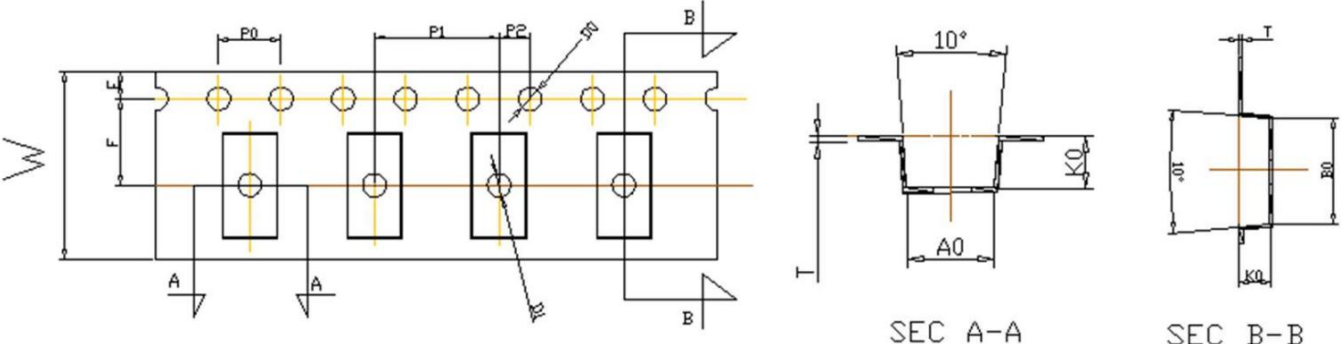
选型示例：PW2512-R001P6FGT

Selection Example: PW2512-R001P6FGT

PW	2512	R001	P6	F	G	T
系列 Series	尺寸 Size	阻值 Resistance	功率 Power	精度 Accuracy	温漂 Temperature drift	包装 package
PW	2512	0m10=0.1mΩ	P1=1W	D=±0.5%	1=±10ppm/℃	B=散装 Bulk
	3921	0m50=0.5mΩ	P9=9W	F=±1%	2=±20ppm/℃	T=卷盘 Reel
	5931	R001=1mΩ R010=10mΩ	PA=10W RF=15W	G=±2% J=±5%	5=±50ppm/℃ 7=±75ppm/℃ A=±100ppm/℃ G=±175ppm/℃	P=托盘 Tray

包装 Packaging

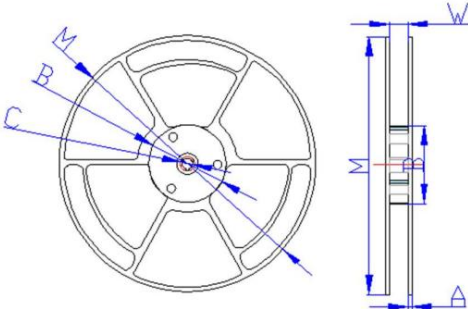
1、载带尺寸 Embossed Tape Dimensions



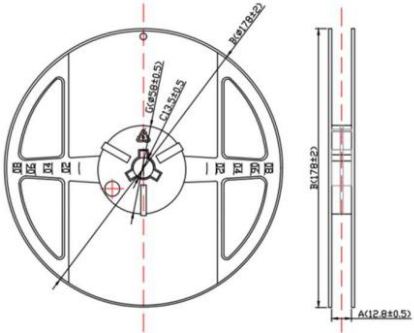
型号 Model	尺寸 Size (mm)											
	A0 ±0.2	B0 ±0.2	E ±0.1	F ±0.1	W ±0.3	T ±0.1	P0 ±0.1	P1 ±0.1	P2 ±0.1	D0 ±0.1	D1 ±0.1	K0 ±0.1
2512	3.5	6.7	1.75	5.5	12	0.2	4	4	2	1.5	1.55	1.15
												1.65
3921	5.65	10.5	1.75	11.5	24	0.3	4	12	2	1.5	1.55	1.5
												2
5931	8.4	15.5	1.75	11.5	24	0.3	4	12	2	1.5	1.5	1.5
												2.6

2、卷盘尺寸 Reel Dimensions

PW3921、PW5931



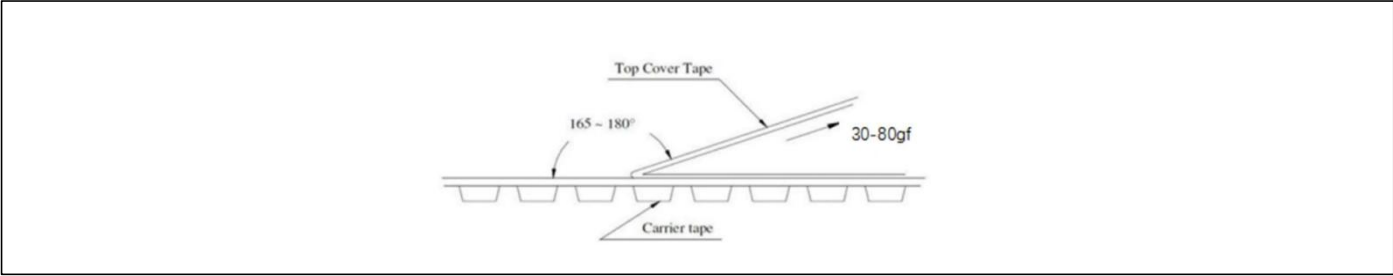
PW2512



型号 Model	尺寸 Size (mm)					
	W±2.0	M±2.0	A±0.5	B±2.0	C±0.5	G±0.5
2512	/	/	12.8	178	1.3	58
3921	24.4	330	2.3	100	13.5	/
5931	24.4	330	2.3	100	13.5	/

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3、载带测试 Peeling Test



4、包装数量 Quantity of Package

系列 Series	型号 Model	阻值 Resistance	包装数量 Packaging quantity
PW	2512	0.3	2500
		0.4	
		0.5	
		1	4000
		2	2500
		3	4000
		4	
		5	
	3921	0.1	2000
		0.2	2500
		0.25	
		0.3	
		0.4	
		0.5	3000
		0.7	
		1	
		1.5	
		2	
		3	
		4	
		5	
	5931	0.1	2000
		0.2	
		0.3	
		0.5	2500
		1	
		2	
		3	
		4	