

▶ 产品特点与应用 Features and applications

◆ **高功率、耐冲击及功耗小；**

High power, shock resistant, low power loss;

◆ **耐高温、低温漂及高精度稳定性强；**

High temperature endurance, ultra-low TCR,
high precision & superior stability;

◆ **工作温度范围：-65°C ~ +170°C；**

Operating temperature range: -65°C ~ +170°C;

◆ **无铅，符合 ROHS 要求，可非标定制；**

Lead free, ROHS compliant, Customizable;

◆ **符合 AEC-Q200 特性测试。**

AEC-Q200 qualified.



主要应用于 Applications:

● **电子电路中的电流采样和过流保护；**

Current sampling and overcurrent protection in electronic circuits;

● **新能源汽车控制电路和充电桩电路/传统汽车控制电路；**

New energy vehicle control circuit and charging station circuit/ traditional vehicle control circuit;

● **变频器及伺服电机控制电路；**

Inverter and servo motor control circuit;

● **开关电源、测量及测试仪器；**

Switching power, measuring and testing instruments;

● **锂电池、太阳能及通讯电源等控制电路；**

Control circuits for lithium batteries, solar energy, and communication power sources;

● **家用电器等多个领域。**

Household appliances, etc.

规格型号 Part Number Information

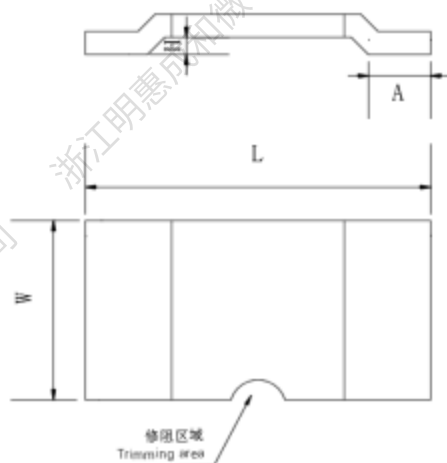
EB **25** **0M50** **P1** **F** **7** **I**
 [1] [2] [3] [4] [5] [6] [7]

1	2	3	4	5	6	7
系列 Category	尺寸 Size	电阻 Resistance	功率 Power	精度 Tolerance	温度系数 TCR	包装 Package
EB	2512	0m10=0.1 mΩ 0m50=0.5 mΩ R001=1 mΩ R010=10 mΩ	P1=1W P9=9W PA=10W PF=15W	D=±0.5% F=±1% G=±2% J=±5%	2=±20-29 ppm/°C 5=±50-59 ppm/°C 7=±70-79 ppm/°C A=±100-109ppm/°C G=±170-179ppm/°C	B=散装 bulk T=卷盘 reel P=托盘 tray

电气特性 Electrical characteristics

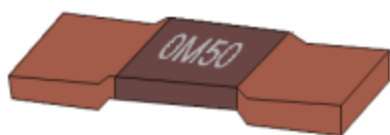
系列 Category	尺寸 Size	电阻(mΩ) Resistance	材料 Material	P70°C Power (W)	温度系数 (ppm/°C) TCR
EB	2512	0.2	MnSn	10	±225
		0.25		10	±225
		0.3		6	±200
		0.4		6	±175
		0.5		6	±175
		0.6	Mn	6	±175
		0.75		6	±175
		1		6	±100
		1.5		6	±175
		2	Ka/Fe	6	±75
		2.5	Ka	5	±75
		3	Ka/Fe	4	±75
		4		4	±50
		5		4	±50

外形尺寸 Outline dimension



系列 Category	尺寸 Size	L(mm)	W(mm)	H(mm)	A(mm)
EB	2512	6.40±0.20	3.20±0.20	0.45±0.10	1.10±0.2

标识方式 Marking

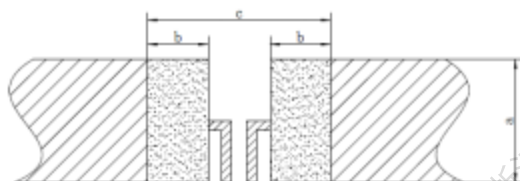


标识位数: 4 位 Marker digit: 4 digit

字码标识方式如下 Code identification as below:

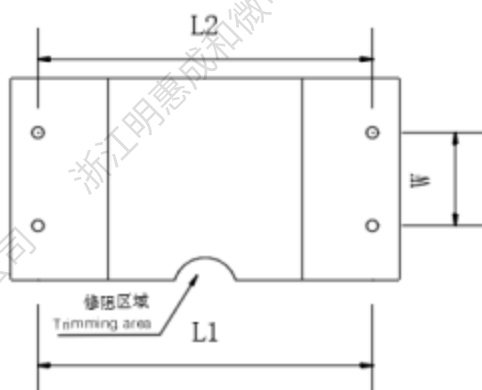
- 0M10=0.1mΩ; 0M20=0.2mΩ ... 2M50=2.5mΩ
- R001=1mΩ; R002=2mΩ ... R010=10mΩ

焊盘尺寸 Pad Size



系列 Category	尺寸 Size	c/mm	b/mm	a/mm
EB	2512	7	1.8	3.4

测试点位置 Test Point



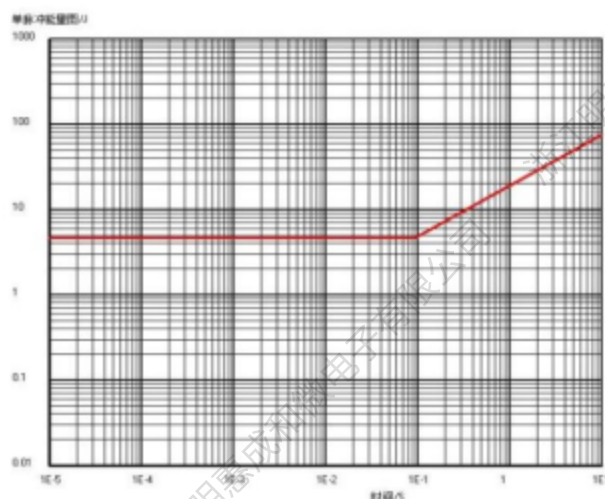
系列 Category	尺寸 Size	L1(mm)	L2(mm)	W(mm)
EB	2512	5.6	5.6	1.4

试验和要求 Tests and Requirements

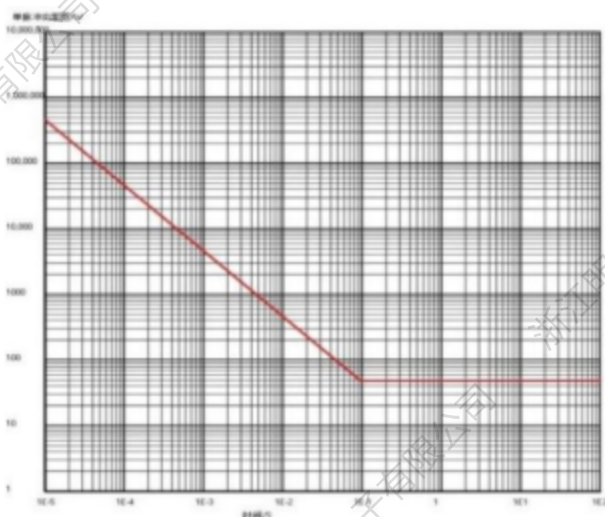
NO.	测试项目 Test Item	条件 Test Condition	阻值变化极限 Limit	参考标准 Reference
1	阻值 Resistance	在室温 25°C±5°C下测量电阻值 Measured at room temperature 25°C±5°C	在规定值内 Within Spec.	IEC60115-1 6.1
2	温度系数 TCR	测量点 25°C和+125°C Measurement 25°C, +125°C; reference+25°C	在规定值内 Within Spec.	MIL-STD-202 Method 304
3	短时过载 Short time overload	5 倍额定功率, 5s 5 times of the rated power for 5 seconds	-1%≤ΔR≤1%	IEC60115-1 8.1
4	高温存储 High Temperature Exposure	1000 小时 170°C, 不加载 1000 hours@170°C, Un-powered	-1%≤ΔR≤1%	MIL-STD-202 Method 108
5	温度循环 Temperature cycling	-55°C(15 min)+155°C(15min), 1000 循环 Dwell Time 15 minutes,1000 cycles	-1%≤ΔR≤1%	JESD22 Method JA-104
6	负荷寿命 Operational Life	70°C±2°C, 额定功率通电 1.5H, 断电 0.5H,1000H 70°C±2°C,1000 hours at 70±2°C, applied rated power, 1.5 hours on, 0.5 hour off	-1%≤ΔR≤1%	MIL-STD-202 Method 108
7	机械冲击 Mechanical Shock	100 g's, 6 ms, 半正弦波 12.3ft/s Half-sine; Velocity change: 12.3ft/s 各方向 3 次 (18 次) 3 shocks in each direction along the 3 mutually perpendicular axes (totally 18 times)	-1%≤ΔR≤1%	MIL-STD-202 Method 213
8	震动试验 Vibration	10 Hz 到 2000 Hz, 20min, 3 轴, 12 周期 5g's for 20 minutes, 10Hz~2000Hz, 12cycles each of 3 orientations	-1%≤ΔR≤1%	MIL-STD-202 Method 204

9	耐焊接热 Resistance to Soldering Heat	260±5°C, 10±1s Immerse the specimen into the solder pot at 260±5°C for 10±1s	-0.5% ≤ ΔR ≤ 0.5%	MIL-STD-202 Method 210
10	可焊性 Solderability	260±5°C, 5s±0.5s	覆盖率 ≥ 95% 95% Coverage Minimum	J-STD-002
11	高温高湿 Biased Humidity	+85°C, 85% RH, 10%额定功率, 1000 h 10 % of rated power, 1000h	-1% ≤ ΔR ≤ 1%	MIL-STD-202 Method103
12	基板弯曲 Board Flex	弯曲距离: 2mm, 60±5s Distance: 2mm, 60±5s holding time	-1% ≤ ΔR ≤ 1%	AEC-Q200-005

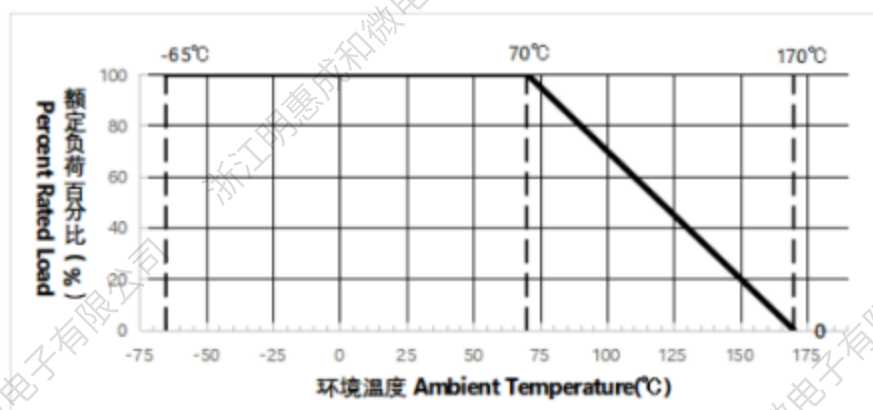
► 脉冲能量图 Pulse Energy Pattern (0.3mΩ)



► 脉冲功率图 Pulse Power Diagram (0.3mΩ)

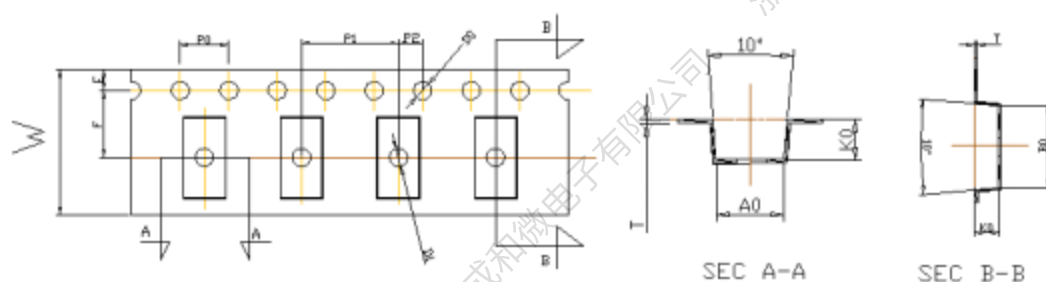


▶ 降耗曲线 Derating Curves of Dissipation



▶ 包装 Packaging

1. 载带尺寸 Embossed Tape Dimensions

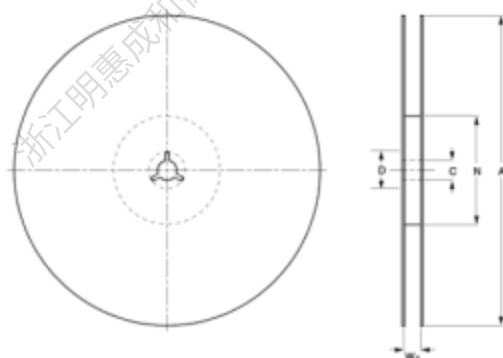


系列 Category	尺寸 Size	A0(mm)	B0(mm)	W(mm)	E(mm)	F(mm)	T(mm)
EB	2512	3.50±0.10	6.70±0.10	12.00±0.30	1.75±0.10	5.50±0.10	0.30±0.05
		P0(mm)	P1(mm)	P2(mm)	D0(mm)	D1(mm)	K0(mm)
		4.00±0.10	8.00±0.10	2.00±0.10	1.50+0.10/-0.00	1.50±0.10	2.10±0.10

系列 Category	尺寸 Size	A0(mm)	B0(mm)	W(mm)	E(mm)	F(mm)	T(mm)
EB	2512	3.50±0.10	6.80±0.10	12.00±0.15	1.75±0.10	5.50±0.10	0.24±0.05
		P0(mm)	P1(mm)	P2(mm)	D0(mm)	D1(mm)	K0(mm)
		4.00±0.10	4.00±0.10	2.00±0.10	1.55±0.10	1.55±0.10	1.00±0.10

系列 Category	尺寸 Size	A0(mm)	B0(mm)	W(mm)	E(mm)	F(mm)	T(mm)
EB	2512	3.50±0.10	6.75±0.10	12.00±0.30	1.75±0.10	5.50±0.10	0.20±0.10
		P0(mm)	P1(mm)	P2(mm)	D0(mm)	D1(mm)	K0(mm)
		4.00±0.10	4.00±0.10	2.00±0.10	1.50+0.10/-0	1.50±0.10	1.69±0.10

2. 卷盘尺寸 Reel Dimensions



系列 Category	尺寸 Size	A(mm)	N(mm)	C(mm)	D(mm)	W1 (mm)
EB	2512 (> 0.2mΩ)	178.0±2.0	60.0±1.0	13.5±0.5	21±0.8	13.6±0.5
	2512 (0.1/0.2mΩ)	330.0±2.0	100.0±1.0	13.5±0.5	21±0.8	12.4±2/-0

3. 包装数量 Quantity of Package

系列 Category	尺寸 Size	电阻 Resistance(mΩ)	卷盘尺寸 Reel size	数量(pcs) Quantity(pcs)
EB	2512	0.1	330.0±2.0	4000
		0.2		
		0.25		
		0.3	178.0±2.0	2500
		0.4		
		0.5		
		0.6		
		0.75		
		1		4000
		1.5		4000
		2		2500
		2.5		2500
		3		4000
		4		4000
		5		4000