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℃ ~ +170℃；**

  Operating temperature range: -65℃ ~ +170℃;

- **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.

EU5931 合金电阻产品规格书

EU5931 Alloy Resistor specification

规格型号 Part Number Information

EU 59 0M50 P1 F 7 T

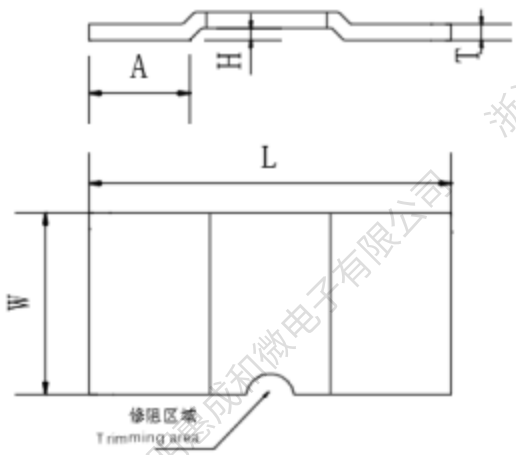
【1】【2】【3】【4】【5】【6】【7】

1	2	3	4	5	6	7
系列 Categor	尺寸 Size	电阻值 Resistance	功率 Power	精度 Tolerance	温度系数 TCR	包装 Package
EU	5931	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%	1=±10-19 ppm/℃ 2=±20-29 ppm/℃ 5=±50-59 ppm/℃ 7=±70-79 ppm/℃ A=±100-109ppm/℃ G=±170-179ppm/℃	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℃ Power (W)	温度系数（ppm/℃） TCR
EU	5931	0.1	MnSn	15	±300
		0.2	Mn	10	±225
		0.3		10	±175
		0.5		7	±175
		1		7	±75
		2	Fe	7	±75
		3		7	±75
		4		7	±75

外形尺寸 Outline dimension



EU5931 合金电阻产品规格书

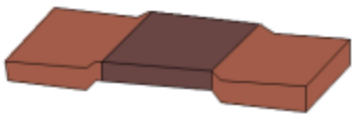
EU5931 Alloy Resistor specification

版本/Rev.：A3

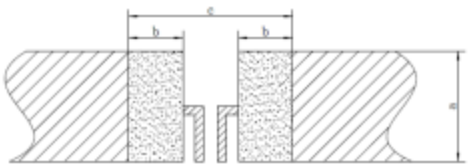
系列 Category	尺寸 Size	电阻(mΩ) Resistance	L(mm)	W(mm)	H(mm)	A(mm)	T(mm)
EU	5931	0.1	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	1.45±0.10
		0.2	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	1.36±0.10
		0.3	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	1.00±0.10
		0.5	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	0.61±0.10
		1	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	0.30±0.10
		2	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	0.49±0.10
		3	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	0.31±0.10
		4	15.00±0.2	7.60±0.2	0.5±0.10	4.00±0.20	0.25±0.10

标识方式 Marking

No marking



焊盘尺寸 Pad Size

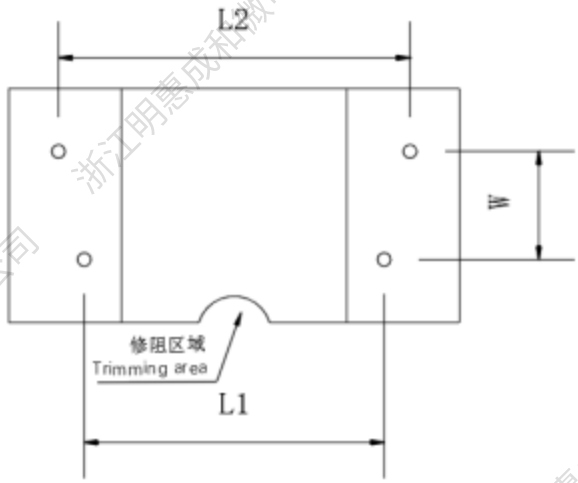


系列 Category	尺寸 Size	c/mm	b/mm	a/mm
EU	5931	16	5.2	8.75

EU5931 合金电阻产品规格书

EU5931 Alloy Resistor specification

测试点位置 Test Point



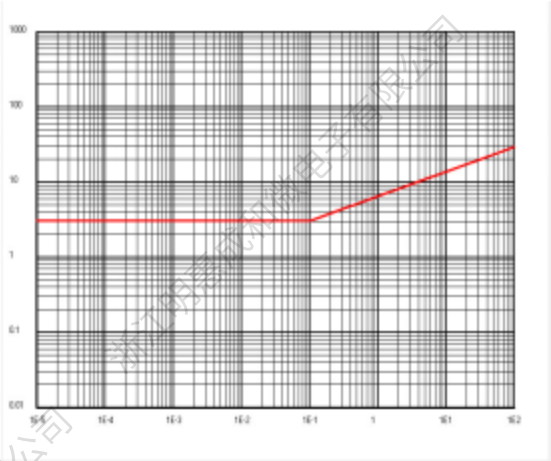
系列 Category	尺寸 Size	L1(mm)	L2(mm)	W(mm)
EU	5931	9.8	12.8	2.5

试验和要求Tests and Requirements

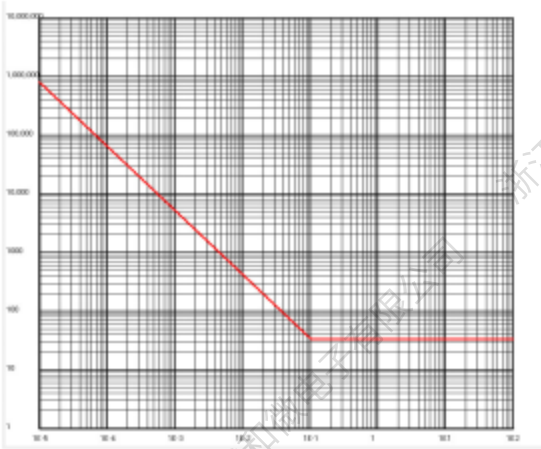
NO.	测试项目 Test Item	条件 Test Conditio0	阻值变化极限 Limit	参考标准 Reference
1	阻值 Resistance	在室温 25℃±5℃下测量电阻值 Measured at room temperature 25℃±5℃	在规定值内 Within Spec.	IEC60115-1 6.1
2	温度系数 TCR	测量点 25℃和+125℃ Measurement 25℃,+125℃； reference+25℃	在规定值内 Within Spec.	MIL-STD-202 Method 304
3	短时过载 Short time overload	5 倍额定功率，5s 5 times of the rated power for 5 seconds	|△R|≤±（1%+0.0005Ω）	IEC60115-1 8.1
4	高温存储 High Temperature Exposure	1000 小时 170℃，不加载 1000 hours@170℃， Un-powered	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 Method 108
5	温度循环 Temperature cycling	-55℃(15 min)+155℃(15min), 1000 循环 Dwell Time 15 minutes,1000 cycles	|△R|≤±（1%+0.0005Ω）	JESD22 Method JA-104
6	负荷寿命 Operational Life	70℃± 2℃，额定功率通电 1.5H，断电 0.5H,1000H 70℃± 2℃,1000 hours at 70±2℃, applied rated power, 1.5 hours on, 0.5 hour off	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 Method 108
7	耐溶剂性 Resistance to Solvents	超声波异丙醇 5min Immerse into isopropyl alcohol for 5 minutes with ultrasonic at room temperature	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 215
8	基板弯曲 Board Flex	弯曲距离：2mm,60+5s Distance:2mm,60+5s holding time	|△R|≤±（1%+0.0005Ω）	AEC-Q200-005
9	终端强度 Terminal Strength	侧面施加力 17.7N，60+1s Terminal Strength Applied a force to the sied of a device gradually , 17.7N ,60S+1s	|△R|≤±（1%+0.0005Ω）	AEC-Q200-006

10	机械冲击 Mechanical Shock	100 g's, 6 ms, 半正波: 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)	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 Method 213
11	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	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 Method 204
12	耐焊接热 Resistance to Soldering Heat	Reflow 260℃ 3 次 times	|△R|≤±（0.5%+0.0005Ω）	MIL-STD-202 Method 210
13	可焊性 Solderability	Reflow 260℃ 1 次 times	覆盖率≥95% 95% Coverage Minimum	J-STD-002
14	高温高湿 Biased Humidity	+85℃, 85% RH, 10%额定功率, 1000 h 10 % of rated power, 1000h	|△R|≤±（1%+0.0005Ω）	MIL-STD-202 Method103

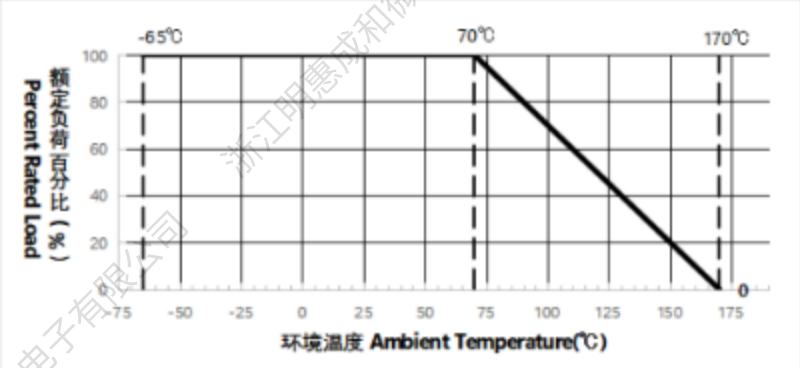
脉冲能量图 EUlse Energy Pattern



脉冲功率图 EUlse Power Diagram

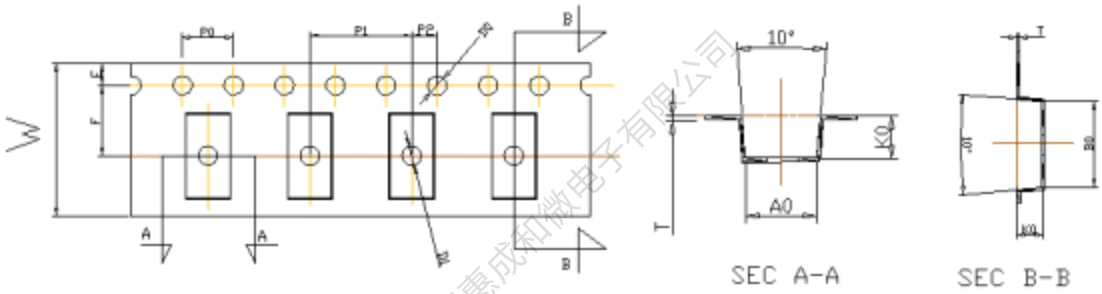


降耗曲线 Derating Curves of Dissipation



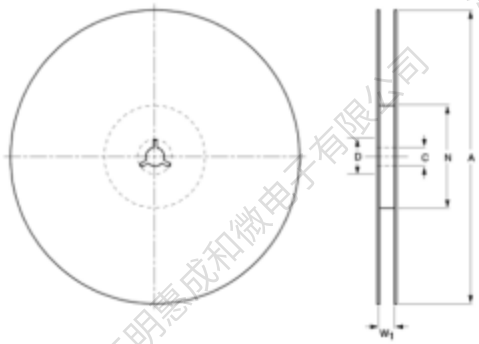
包装 Packaging

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)
EU	5931	8.40±0.10	15.50±0.10	24.00±0.30	1.75±0.10	11.50±0.10	0.30±0.05
		P0(mm)	P1(mm)	P2(mm)	D0(mm)	D1(mm)	K0(mm)
		4.00±0.10	12.00±0.10	2.00±0.10	1.50±0.10	1.50±0.10	1.50±0.10
							2.60±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）
EU	5931	330.0±2.0	100.0±1.0	13.5±0.50	21±0.80	24.2+2/-0

3.包装数量 Quantity of Package

系列 Category	尺寸 Size	电阻(mΩ) Resistance	卷盘尺寸 Reel size	数量(pcs) Quantity(pcs)
EU	5931	0.1	330.0±2.0	2000
		0.2		
		0.3		
		0.5		2500
		1		
		2		
		3		
		4		