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昆山



南通

丽智电子于1988年在台湾土城成立，2000年于昆山设立丽智电子（昆山）有限公司，占地面积2万平方米，2016年成立丽智电子（南通）有限公司，占地10万平方米。

作为台湾金宝&仁宝集团的一员，公司秉持“领先、创新、完美”的理念，从事贴片电阻及芯片二极管的研发、生产、销售，并提供专业的服务。凭借先进的管理体系、优质的产品质量和完善的售后服务，丽智电子已经成为众多国内外知名企业的电子元器件供应商。

丽智电子元件用于工业计算机、汽车、消费电子、通信、军事及医疗市场的各种类型的电子设备中。

百尺竿头更进一步，丽智致力于成为您最佳的元器件合作伙伴！

LIZ Electronics was established in Taiwan in 1988, and setup LIZ KunShan Factory in 2000, landed 20000m². In 2016, LIZ Nantong Factory is built, landed 100000 m².

As a member of Kinpo & Compal Group, LIZ focus on research & development, production, sales and professional service of chip resistors and chip diodes with the concept of "Lead, Intelligence and Zero". LIZ is one of key electronic component suppliers for famous global companies.

LIZ products are applied in equipments of industrial computers, automobile, consumer electronics, telecomm, armory and medical fields.

Good better best, never let it rest. Till good is better, but better best. LIZ will become your best partner for electronic components.

领先 / 创新 / 完美

LEAD INNOVATION ZERO

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DGPHNST
电话: 0755-23173910

贴片电阻 & 贴片排阻	Chip Resistors & Chip Arrays	页码 Page
厚膜贴片电阻	Thick Film Chip Resistors	04/06
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标准电阻值	Standard Nominal Resistance Value	08/10
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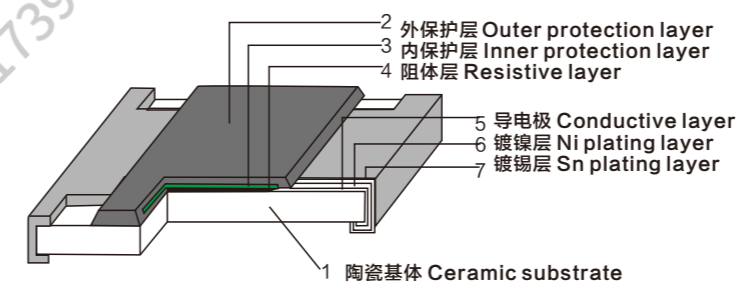
特性 Features

适合贴片机组装 Suitable for SMT
短小轻薄 Small Size & Light Weight
符合RoHS和无卤标准 Meet RoHS & HF Requirement

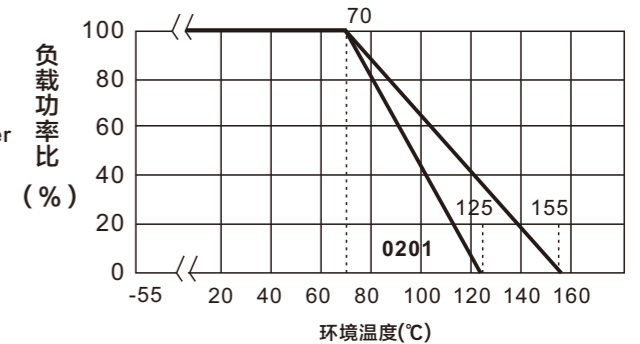
应用 Application

一般用途 General Purpose
通用型 Universal type

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如0603 5% 1/10W 100Ω)

Ordering Procedure (Example 0603 1/10W 5% 100Ω)

料号 (Part Number) : CR0603JA0101G

CR	0603	J	A	0101	G
类型 (Type) CR: 厚膜贴片电阻 (Thick Film Chip Resistors)	尺寸 (Size) 1005 0201 0402 0603 0805 1206 1210 1812 2010 2512	公差 Tolerance B=±0.1% D=±0.5% F=±1% G=±2% J=±5% K=±10%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W H=1/20W	阻值 Resistance Value ±1%, ±0.5% ±0.1% 49R9=49.9Ω 1002=10KΩ ±2%, ±5%: 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk(散料) S=Double Standard Quantity (两倍卷盘标准包装量)

标准包装数量 Standard Packing Quantity

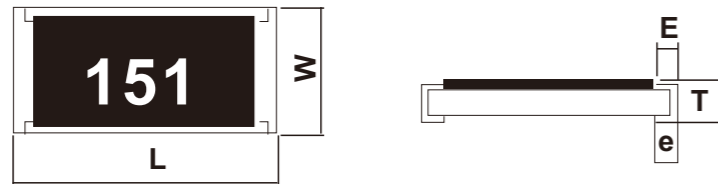
01005	20,000Pcs Per Reel(每卷20,000Pcs)
0201/0402:	10,000Pcs Per Reel(每卷10,000Pcs)
0603/0805/1206/1210:	5,000Pcs Per Reel(每卷5,000Pcs)
1812/2010/2512:	4,000Pcs Per Reel(每卷4,000Pcs)

备注: 1005为01005规格
Remark: 1005 is 01005 size

规格 Specifications

类型 Type	CR1005	CR0201	CR0402	CR0603	CR0805	CR1206	CR1210	CR1812	CR2010	CR2512
额定功率 70°C Rated Power at 70°C	1/32W	1/20W	1/16W	1/10W	1/8W	1/4W	1/2W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	15V	25V	50V	75V	150V	200V	200V	200V	200V	200V
最大过载电压 Max Overload Voltage	30V	50V	100V	150V	300V	400V	500V	500V	500V	500V
绝缘耐压 Dielectric Withstanding Voltage	30V	75V	150V	220V	430V	570V	710V	710V	710V	710V
操作温度范围 Operating Temperature	-55~+125°C	-55~+125°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ
零欧姆额定电流 Rated Current of Jumper	0.5A	0.5A	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A	2.0A	2.0A
零欧姆电阻最大电流 Max Current of Jumper	1.0A	1.0A	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A	10.0A	10.0A
0.5%阻值范围 Resistance Range of 0.5%	-	-	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ
1%阻值范围 Resistance Range of 1%	1Ω-10MΩ	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-10MΩ	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ
5%阻值范围 Resistance Range of 5%	1Ω-10MΩ	1Ω-10MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-10MΩ	1Ω-100MΩ	1Ω-100MΩ

外形尺寸 Dimension



类型 Type	CR1005	CR0201	CR0402	CR0603	CR0805	CR1206	CR1210	CR1812	CR2010	CR2512	
尺寸 Dimension	L(mm)	0.40±0.02	0.60±0.03	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	4.50±0.20	5.00±0.20	6.25±0.20	
	W(mm)	0.20±0.02	0.30±0.03	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	3.10±0.20	3.10±0.20	
	T(mm)	0.13±0.02	0.23±0.03	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15	0.55±0.15	
	E(mm)	0.10±0.03	0.10±0.05	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.55±0.20	0.65±0.25	0.85±0.25
	e(mm)	0.11±0.03	0.15±0.05	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.70±0.20	0.50±0.25	0.95±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	01005规格: 1Ω≤R≤10Ω: -200~+600 PPM/°C 10Ω<R≤10MΩ: ±250 PPM/°C 0201规格: 1Ω≤R≤10Ω: -100~+300 PPM/°C 10Ω<R≤10MΩ: ±200 PPM/°C 0402~2512规格: 1Ω≤R≤10Ω: ±200 PPM/°C 10Ω<R≤10MΩ: ±100 PPM/°C 10MΩ<R≤100MΩ: ±200 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

<ul style="list-style-type: none"> ❖ 0201及0402因本体太小, 本体上无字码标示 For 0201 and 0402 size, no marking on the body due to the small size of the resistor ❖ 公差±5%的产品, 以三字码标示, 前两位表示阻值的有效数字, 最后一位表示的10的乘幂 ±5%, Tolerance product: the marking is 3 digits, the first 2 digits are significant figures of resistance value and the 3rd one denotes the power number of 10, (10^x) ❖ ±0.5%, ±1%的产品, 以四字码标示, 前三位表示阻值的有效数字, 最后一位表示10的乘幂 ±0.5%, ±1% tolerance product: the marking is 4 digits, the first 3 digits are significant figures of resistance value and the 4th one denotes the power number of 10, (10^x) ❖ 0603±1% E96系列的标准阻值, 因电阻本体太小, 采用三位代码标示。 Standard E96 series values of 0603±1%: due to the small size of the resistor's body, use 3 digits code to indicate the resistance value. 	472	472 = 47 × 10 ² = 4.7KΩ
	5R6	10Ω以下标示: 5R6 = 5.6Ω Below 10Ω: 5R6 = 5.6Ω
	4992	4992 = 499 × 10 ² = 49.9KΩ
	6R81	100Ω以下标示: 6R81 = 6.81Ω Below 100Ω: 6R81 = 6.81Ω

下表列出每种系列的标准阻值, 表中的阻值是按照通用倍率得出的接近阻值。

The below chart shows the nominal resistance value for each series. The values in the chart have been in this order using the approximate values that are based on the common ratios given in the following table.

Series 系列	Common Ratio 通用倍率	Remarks 备注
E-6	$\sqrt[6]{10}(1.46)$	Rounded off to a 2-digit figure(2位有效数字)
E-12	$\sqrt[12]{10}(1.21)$	Rounded off to a 2-digit figure(2位有效数字)
E-24	$\sqrt[24]{10}(1.10)$	Rounded off to a 2-digit figure(2位有效数字)
E-96	$\sqrt[96]{10}(1.02)$	Rounded off to a 3-digit figure(3位有效数字)

E24系列的标准阻值代码 Standard E24 series Resistance Code

1.0、1.1、1.2、1.3、1.5、1.6、1.8、2.0、2.2、2.4、2.7、3.0、3.3、3.6、3.9、4.3、4.7、5.1、5.6、6.2、6.8、7.5、8.2、9.1

0603±1% E96系列的标准阻值代码

Standard E96 Series Resistance Value Code For 0603±1% Marking

代码 Code	阻值 Value	代码 Code	阻值 Value	代码 Code	阻值 Value	代码 Code	阻值 Value	代码 Code	阻值 Value	代码 Code	阻值 Value
01	100	17	147	33	215	49	316	65	464	81	681
02	102	18	150	34	221	50	324	66	475	82	698
03	105	19	154	35	226	51	332	67	487	83	715
04	107	20	158	36	232	52	340	68	499	84	732
05	110	21	162	37	237	53	348	69	511	85	750
06	113	22	165	38	243	54	357	70	523	86	768
07	115	23	169	39	249	55	365	71	536	87	787
08	118	24	174	40	255	56	374	72	549	88	806
09	121	25	178	41	261	57	383	73	562	89	825
10	124	26	182	42	267	58	392	74	576	90	845
11	127	27	187	43	274	59	402	75	590	91	866
12	130	28	191	44	280	60	412	76	604	92	887
13	133	29	196	45	287	61	422	77	619	93	909
14	137	30	200	46	294	62	432	78	634	94	931
15	140	31	205	47	301	63	442	79	649	95	953
16	143	32	210	48	309	64	453	80	665	96	976

0603±1% E96系列的指数代码 Multiplier Code For 0603±1% Marking

代码 Code	Y	X	A	B	C	D	E	F	G
指数 Multiplier	10 ⁻²	10 ⁻¹	10 ⁰	10 ¹	10 ²	10 ³	10 ⁴	10 ⁵	10 ⁶

阻值标示如下 So the resistance value are marked as the following examples



10D = 124 × 10³ = 124KΩ



38Y = 243 × 10⁻² = 2.43Ω

0603±1%的产品, 在标准E24系列中, 但不属于E96系列, 标示与5%的字码相同, 但是在字码下加一条线

Standard E24 and not belong to E96 series values of 0603±1%, the marking is the same as 5% tolerance but marking as underline



331 = 33 × 10¹ = 330Ω



560 = 56 × 10⁰ = 56Ω

E-6	E-12	E-24	E-96	E-6	E-12	E-24	E-96	E-6	E-12	E-24	E-96				
1.0	1.0	1.0	1.00	2.2	2.2	2.2	2.15	4.7	4.7	4.7	4.64				
			1.02				2.21				4.75				
			1.05				2.26				4.87				
		1.1	1.07			2.32	4.99								
			1.10			2.37	5.11								
			1.13			2.43	5.23								
	1.2	1.2	1.2	1.15	2.7	2.7	2.7		1.18	5.6	5.6	5.6	5.36		
				1.21					2.61				5.62		
				1.24					2.67				5.76		
			1.3	1.27			2.74		5.90						
				1.30			2.80		6.04						
				1.33			2.87		6.19						
		1.5	1.5	1.5	1.37	3.0	3.0		3.0		1.40	6.8	6.8	6.8	6.34
					1.43						3.01				6.49
					1.47						3.09				6.65
					1.50						3.16				6.81
1.5	1.5	1.5	1.54	3.3	3.3	3.3	1.58	8.2	8.2	8.2	6.98				
			1.62				3.40				7.15				
			1.65				3.48				7.32				
		1.6	1.69			3.57	7.50								
			1.74			3.65	7.68								
			1.78			3.74	7.87								
	1.8	1.8	1.8	1.82	3.9	3.9	3.9		1.87	9.1	9.1	9.1	8.06		
				1.91					3.83				8.25		
				1.96					3.92				8.45		
			2.0	2.00			4.02		8.66						
				2.05			4.12		8.87						
				2.10			4.22		9.09						
		3.3	3.3	3.3	2.10	4.3	4.3		4.3		2.10	9.76	9.76	9.76	9.31
					2.10						4.32				9.53
					2.10						4.42				9.76
					2.10						4.53				9.76

标E-24 series standard resistance value & the codes to be used in the part NO.system 5% &10% tolerance (4 digits, start with "0"):

E-24 系列标准阻值和料号系统使用代码 (4位, 以0为首位, 5%、10%公差):

Table listing E-24 series standard resistance values and codes. Columns include Value and Code for various resistance ranges from 1.0Ω to 10MΩ.

E-96 series standard resistance value & the codes to be used in the part NO.system not over 2% tolerance (4 digits):

E-96 系列标准阻值和料号系统使用代码 (4位, 0.1%,0.25%,0.5%,1%,2%公差):

Table listing E-96 series standard resistance values and codes. Columns include Value and Code for various resistance ranges from 10.0Ω to 17.4Ω.

标准阻值 Standard Nominal Resistance Values

Table listing standard resistance values and codes. Columns include Value and Code for various resistance ranges from 1.00K to 1M. Includes a note at the bottom regarding tolerance and availability.

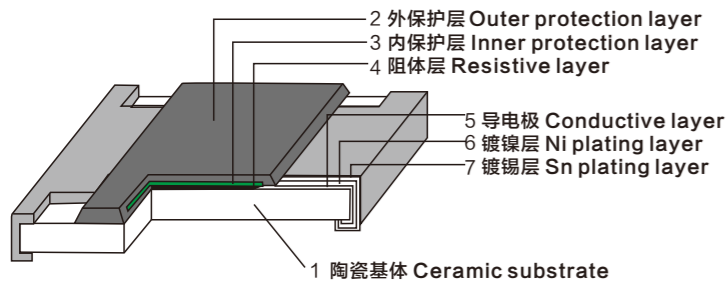
特性 Features

适合贴片机组装 Suitable for SMT
 符合RoHS和无卤标准 Meet RoHS & HF Requirement
 低阻值, 适合大电流通过 Low Resistance & Suitable for Large Current Application
 超低阻值 Ultra-low Value

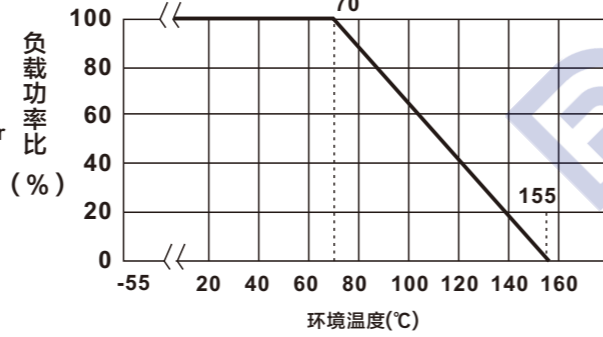
应用 Application

电源供应器 Power supply
 DC-DC转换器, 电池组, 充电器, 适配器 DC-DC Converter, Battery Pack, Charger, Adaptor

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如1206 5% 1/4W 0.3Ω)

Ordering Procedure (Example 1206 5% 1/4W 0.3Ω)

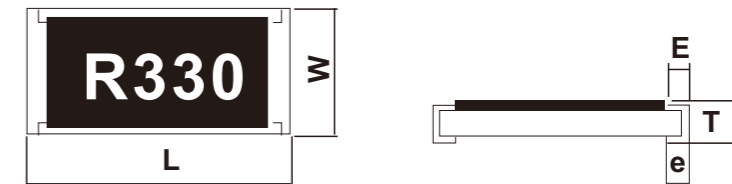
料号 (Part Number) : CR1206J40R30G

CR	1206	J	4	0R30	G
类型 (Type) CR: 厚膜贴片电阻 (Thick Film Chip Resistors)	尺寸 (Size) 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance F=±1% J=±5%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W	阻值 Resistance Value ±5% 0R30=300mΩ R010=10mΩ ±1% R330=330mΩ R010=10mΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	CR0402	CR0603	CR0805	CR1206	CR1210	CR2010	CR2512
额定功率 70°C Rated Power at 70°C	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电流 Max Working Current	1.58A	3.16A	3.54A	5.00A	7.07A	8.66A	10.00A
最大过负荷电流 Max Overload Current	3.95A	7.91A	8.84A	12.50A	17.67A	21.65A	25.00A
绝缘耐压 Dielectric WithStanding Voltage	150V	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C
1%阻值范围 Resistance Range of 1%	0.025Ω-1Ω	0.02Ω-1Ω	0.02Ω-1Ω	0.02Ω-1Ω	0.02Ω-1Ω	0.02Ω-1Ω	0.02Ω-1Ω
5%阻值范围 Resistance Range of 5%	0.025Ω-1Ω	0.01Ω-1Ω	0.01Ω-1Ω	0.01Ω-1Ω	0.01Ω-1Ω	0.01Ω-1Ω	0.01Ω-1Ω

外形尺寸 Dimension



类型 Type	CR0402	CR0603	CR0805	CR1206	CR1210	CR2010	CR2512
尺寸 Dimension	L(mm)	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	6.25±0.20
	W(mm)	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	3.10±0.20
	T(mm)	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15
	E(mm)	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25
	e(mm)	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	0.01Ω-0.06Ω (含) : ±1500PPM/°C 0.06-0.2Ω (含) : ±800PPM/°C 0.2Ω-0.5Ω (含) : ±600PPM/°C > 0.5Ω: ±400PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover,mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(2.0%+0.001Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(2.0%+0.001Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.001Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.001Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.001Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.001Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

R-value	0805以上 Code	0603 Code	R-value	0805以上 Code	0603 Code	R-value	0805以上 Code	0603 Code
10mΩ	R010	010	100mΩ	R100	R10	360mΩ	R360	R36
15mΩ	R015	015	110mΩ	R110	R11	390mΩ	R390	R39
20mΩ	R020	020	120mΩ	R120	R12	400mΩ	R400	R40
25mΩ	R025	025	130mΩ	R130	R13	430mΩ	R430	R43
30mΩ	R030	030	150mΩ	R150	R15	470mΩ	R470	R47
40mΩ	R040	040	160mΩ	R160	R16	500mΩ	R500	R50
50mΩ	R050	050	180mΩ	R180	R18	510mΩ	R510	R51
56mΩ	R056	056	200mΩ	R200	R20	560mΩ	R560	R56
62mΩ	R062	062	220mΩ	R220	R22	620mΩ	R620	R62
68mΩ	R068	068	240mΩ	R240	R24	680mΩ	R680	R68
75mΩ	R075	075	270mΩ	R270	R27	750mΩ	R750	R75
82mΩ	R082	082	300mΩ	R300	R30	820mΩ	R820	R82
91mΩ	R091	091	330mΩ	R330	R33	910mΩ	R910	R91

字码表示规则(10mΩ ~ 910mΩ):

注:

0402及以下规格: 无字码表示

0603规格: ±1%(F)、±5%(J)均采用“三码”表示方式

如: 阻值100mΩ = 0.10Ω = 0R10 = R10表示

阻值10mΩ = 0.010Ω = R010 = 010表示

0805及以上规格: ±1%(F)、±5%(J)均采用“四码”表示方式

如: 阻值100mΩ = 0.10Ω = 0R10 = R100表示

阻值10mΩ = 0.010Ω = R010 = R010表示

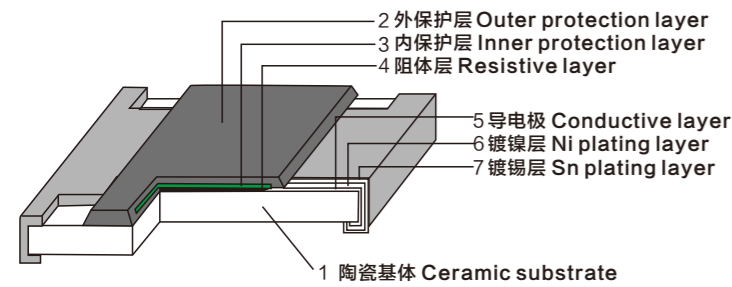
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
电极强化, 更符合柔性线路板应用 Strengthened terminals & Suitable for Special Flexible PCB

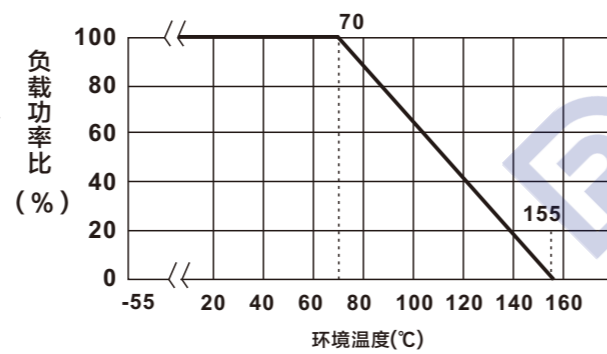
应用 Application

软性电路板 Soft Circuit board
软灯条电路 Soft lamp circuit

构造 Construction



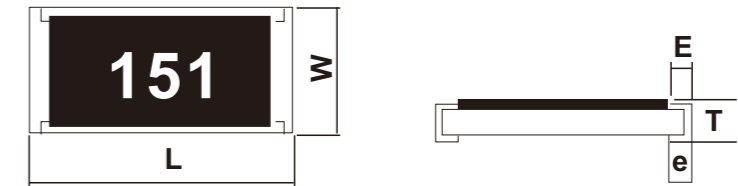
功率衰减曲线 Power decay curve



特性 Characteristics

类型 Type	额定功率 Rated Power at 70°C	最大工作电压 Max Working Voltage	最大过负荷 电压 Max Overload Voltage	绝缘耐压 Dielectric WithStanding Voltage	操作温度范围 Operating Temperature	1%阻值范围 Resistance Range of 1%	2%阻值范围 Resistance Range of 2%	5%阻值范围 Resistance Range of 5%
CR0805	1/8W	150V	300V	430V	-55 ~ +155°C	1Ω ~ 10MΩ	1Ω ~ 10MΩ	1Ω ~ 10MΩ
CR1206	1/4W	200V	400V	570V	-55 ~ +155°C	1Ω ~ 10MΩ	1Ω ~ 10MΩ	1Ω ~ 10MΩ

外形尺寸 Dimension



类型 Type	L(mm)	W(mm)	T(mm)	E(mm)	e(mm)
CR0805	2.00±0.15	1.25±0.15	0.50±0.10	0.35±0.20	0.40±0.20
CR1206	3.10±0.15	1.60±0.15	0.55±0.10	0.45±0.25	0.40±0.25

订货方式 (例如:1206 5% 1/4W 150R)

Ordering Procedure (Example: 1206 5% 1/4W 150R)

料号 (Part Number) : CR1206J40151G

CR	1206	J	4	0151	G
类型 (Type) CR: 厚膜贴片电阻 (Thick Film Chip Resistors)	尺寸 (Size) 0805 1206	公差 Tolerance F=±1% G=±2% J=±5%	额定功率 Rated Power 4=1/4W 8=1/8W	阻值 Resistance Value ±5%, ±2% 0151=150Ω ±1% 1002=10KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准 包装量)

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	1Ω≤R≤10Ω: ±200PPM/°C 10Ω < R≤10MΩ: ±100 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

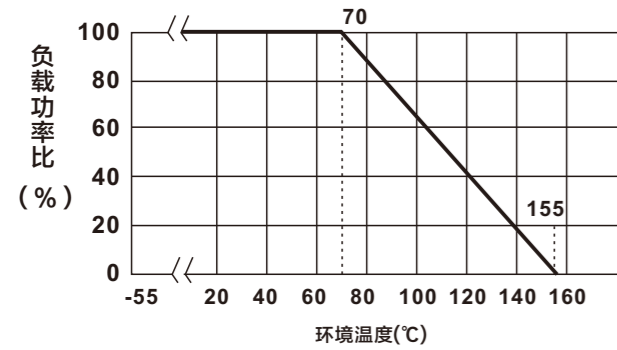
特性 Features

适合贴片机组装 Suitable for SMT
 多电阻排列, 节约空间 More resistors arrayed in one & Space Saving
 符合RoHS和无卤标准 Meet RoHS & HF Requirement

应用 Application

应用于CD、DVD、硬盘、内存、主板等
 Master board, CD&DVD Rom, Hard Disk, RAM

功率衰减曲线 Power decay curve



订货方式 (例如CA034A 5% 1/10W 1KΩ)

Ordering Procedure (Example CA034A 5% 1/10W 1KΩ)

料号 (Part Number) : CA034AJA0102G

CA	034A	J	A	0102	G
类型 (Type) CA:厚膜贴片排阻 (Thick Film Chip Array Resistors)	尺寸 (Size) 024A=8P4R(0402) 034A=8P4R(0603)	公差 Tolerance F=±1% G=±2% J=±5%	额定功率 Rated Power A=1/10W F=1/16W	阻值 Resistance Value ±1% 49R9=49.9Ω 1002=10KΩ ±2%, ±5%, 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk(散料) S=Double Standard Quantity (两倍 卷盘标准包装量)

标准包装数量 Standard Packing Quantity

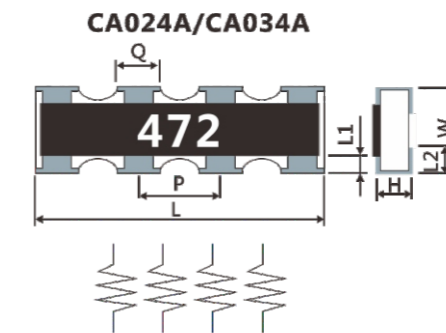
CA024A: 10,000Pcs Per Reel(每卷10, 000Pcs)

CA034A: 5,000Pcs Per Reel(每卷5, 000Pcs)

特性 Characteristics

类型 Type	CA024A	CA034A
额定功率 70°C Rated Power at 70°C	1/16W	1/10W
最大工作电压 Max Working Voltage	50V	50V
最大过负荷电压 Max Overload Voltage	100V	100V
绝缘耐压 Dielectric WithStanding Voltage	220V	430V
操作温度范围 Operating Temperature	-55 ~ +155°C	-55 ~ +155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ
零欧姆额定电流 Rated Current of Jumper	1A	1A
1% 2% 5%阻值范围 Resistance Range of 1% 2% 5%	1Ω-1MΩ	1Ω-1MΩ

外形尺寸 Dimension



类型 Type	CA024A	CA034A	
尺寸 Dimension	L(mm)	2.00±0.10	3.20±0.20
	W(mm)	1.00±0.10	1.50±0.20
	H(mm)	0.40±0.05	0.55±0.05
	L1(mm)	0.18±0.10	0.30±0.15
	Q(mm)	0.33±0.10	0.50±0.15
	P(mm)	0.50±0.10	0.80±0.15
	L2(mm)	0.26±0.10	0.30±0.20

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	±200 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95% coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

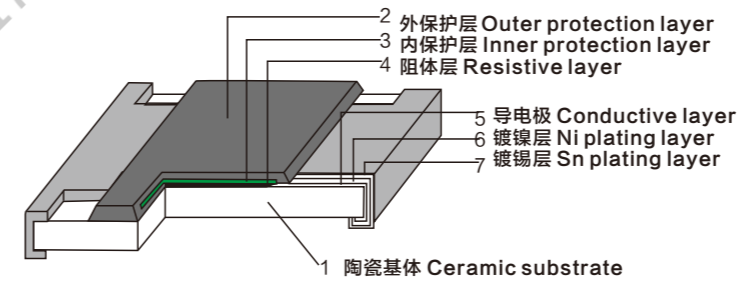
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
高功率 High Power

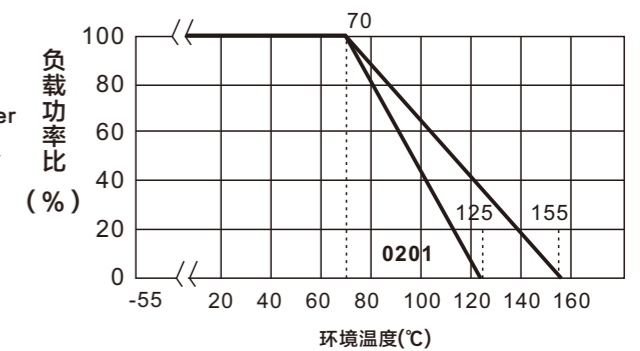
应用 Application

开关电源 Switching power supply
电压调节器 Voltage regulator
电源转换器 Power converter
充电器 Charger

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如0805 5% 1/4W 100Ω)

Ordering Procedure (Example 0805 5% 1/4W 100Ω)

料号 (Part Number) : CH0805J40101G

CH	0805	J	4	0101	G
类型 (Type) CH:高功率厚膜贴片电阻 (High Power Thick Chip Resistors)	尺寸 (Size) 0201 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance B=±0.1% D=±0.5% F=±1% G=±2% J=±5%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W B=2W	阻值 Resistance Value ±1% 49R9=49.9Ω 1002=10KΩ ±2%, ±5% 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

标准包装数量 Standard Packing Quantity

0201/0402: 10,000Pcs Per Reel(每卷10, 000Pcs)

0603/0805/1206: 5,000Pcs Per Reel(每卷5, 000Pcs)

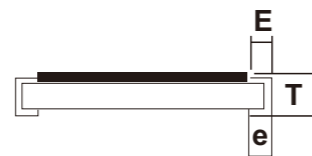
2010/2512: 4,000Pcs Per Reel(每卷4, 000Pcs)

特性 Characteristics

类型 Type	CH0201	CH0402	CH0603	CH0805	CH1206	CH1210	CH2010	CH2512
额定功率 70°C Rated Power at 70°C	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W	2W
最大工作电压 Max Working Voltage	25V	50V	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	50V	100V	150V	300V	400V	500V	500V	500V
绝缘耐压 Withstanding Voltage Dielectric	75V	150V	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55 ~ +125°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ
零欧姆电阻最大电流 Max Current of Jumper	2.79A	3.53A	3.95A	5.59A	10.00A	12.00A	12.00A	16.00A
0.1%阻值范围 Resistance Range of 0.1%	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ
0.5%阻值范围 Resistance Range of 0.5%	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ
1%阻值范围 Resistance Range of 1%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
5%阻值范围 Resistance Range of 5%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

外形尺寸 Dimension

形状 Figures



类型 Type	CH0201	CH0402	CH0603	CH0805	CH1206	CH1210	CH2010	CH2512
尺寸 Dimension	L(mm)	0.60±0.03	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20
	W(mm)	0.30±0.03	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	2.50±0.20
	T(mm)	0.23±0.03	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15
	E(mm)	0.10±0.05	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25
	e(mm)	0.15±0.05	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	0201规格: 1Ω ≤ R ≤ 10Ω: -100 ~ +300 PPM/°C 10Ω < R ≤ 10MΩ: ±200 PPM/°C 0402 ~ 2512规格: 1Ω ≤ R ≤ 10Ω: ±200 PPM/°C 10Ω < R ≤ 10MΩ: ±100 PPM/°C 10MΩ < R ≤ 100MΩ: ±200 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95% coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

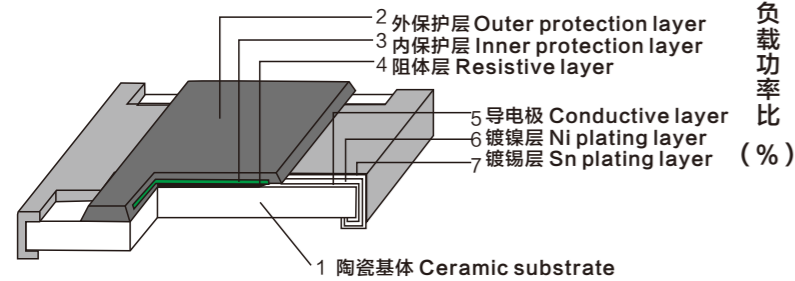
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
符合AEC-Q200标准 Comply with AEC-Q200 standard
此类型电阻在包装前100%通过自动光学检测 The resistors are 100% performed by automatic optical inspection prior to taping

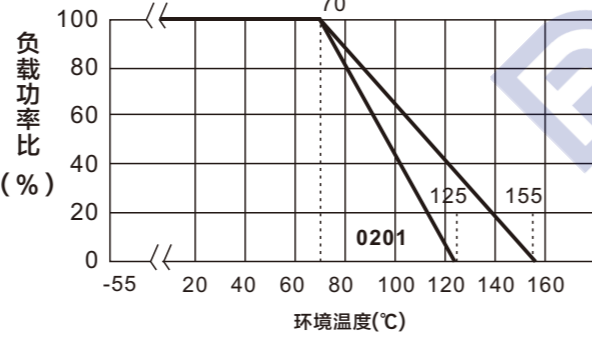
应用 Application

汽车电子 Automotive electronics
电信设备 Telecommunications equipment
电源电压控制 Voltage control in power supplies
测试和测量设备 Test & Measurement equipment

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如 0603 5% 1/10W 100Ω)

Ordering Procedure (Example 0603 5% 1/10W 100Ω)

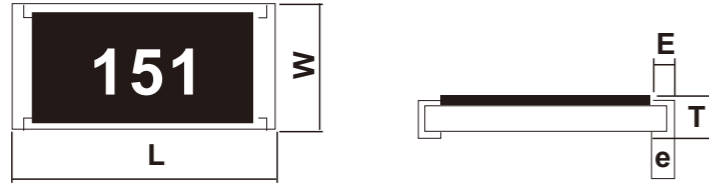
料号 (Part Number) : AQ0603JA0101G

AQ	0603	J	A	0101	G
类型 (Type) AQ:汽车厚膜贴片电阻 (Automotive Thick Film Chip Resistors)	尺寸 (Size) 0201 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance B=±0.1% D=±0.5% F=±1% G=±2% J=±5%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W H=1/20W	阻值 Resistance Value ±1%; 49R9=49.9Ω 1002=10KΩ ±5%; ±2% 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	AQ0201	AQ0402	AQ0603	AQ0805	AQ1206	AQ1210	AQ2010	AQ2512
额定功率 70°C Rated Power at 70°C	1/20W	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	25V	25V	50V	75V	150V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	50V	50V	100V	150V	300V	400V	500V	500V
绝缘耐压 Withstanding Voltage Dielectric	75V	75V	150V	220V	430V	570V	710V	710V
操作温度范围 Operating Temperature	-55 ~ +125°C	-55 ~ +125°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ
零欧姆额定电流 Rated Current of Jumper	0.5A	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A	2.0A
零欧姆最大电流 Max Current of jumper	1.0A	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A	10.0A
0.1%阻值范围 Resistance Range of 0.1%	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ
0.5%阻值范围 Resistance Range of 0.5%	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	1Ω-10MΩ	1Ω-10MΩ	1Ω-10MΩ	1Ω-10MΩ
1%阻值范围 Resistance Range of 1%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
5%阻值范围 Resistance Range of 5%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

外形尺寸 Dimension



类型 Type	AQ0201	AQ0402	AQ0603	AQ0805	AQ1206	AQ1210	AQ2010	AQ2512	
尺寸 Dimension	L(mm)	0.60±0.03	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20	6.25±0.20
	W(mm)	0.30±0.03	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	2.50±0.20	3.10±0.20
	T(mm)	0.23±0.03	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15	0.55±0.15
	E(mm)	0.10±0.05	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25	0.85±0.25
	e(mm)	0.15±0.05	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25	0.95±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	0201规格: 1Ω ≤ R ≤ 10Ω: -100 ~ +300 PPM/°C 10Ω < R ≤ 10MΩ: ±200 PPM/°C 0402 ~ 2512规格: 1Ω ≤ R ≤ 10Ω: ±200PPM/°C 10Ω < R ≤ 10MΩ: ±100 PPM/°C 10MΩ < R ≤ 100MΩ: ±200 PPM/°C
焊锡性 Solderability	J-STD-002	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0% + 0.05Ω) Max(最大)
端子弯曲 Board Flex	AEC-Q200-005	±(1.0% + 0.05Ω) Max(最大)
抗焊锡热 Resistance to Soldering Heat	MIL-STD-202 METHOD 210	±(1.0% + 0.05Ω) Max(最大)
负荷寿命 Operational Life	MIL-STD-202 METHOD 108	±(2.0% + 0.05Ω) Max(最大)
耐湿特性 Biased Humidity	MIL-STD-202 METHOD 103	±(2.0% + 0.05Ω) Max(最大)
温度循环 Temperature Cycling	JESD22 METHOD JA-104	±(2.0% + 0.05Ω) Max(最大)
温湿循环 Moisture resistance	MIL-STD-202 METHOD 106	±(2.0% + 0.05Ω) Max (最大)
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 METHOD 108	±(1.0% + 0.05Ω) Max (最大)
ESD试验 ESD test	AEC-Q200-002	±(3.0% + 0.05Ω) Max (最大)
抗硫化试验 Sulfuration Test	ASTM-B-809-95	±(1.0% + 0.05Ω) Max(最大)

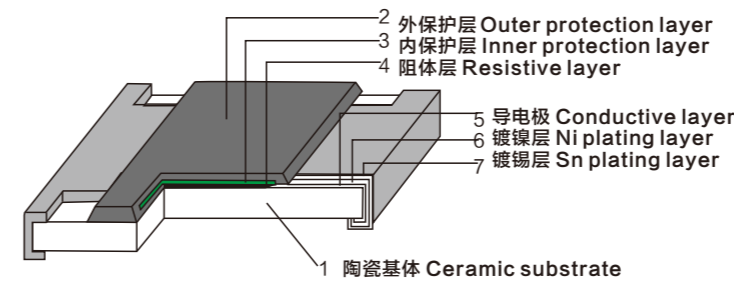
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
卓越的抗硫化特性 Superior resistance against sulfur containing atmosphere
符合AEC-Q200标准 Comply with AEC-Q200 standard

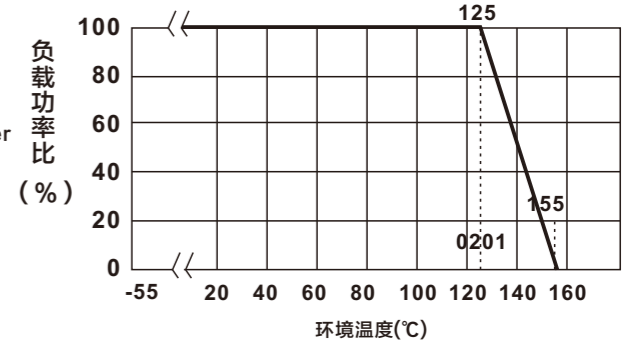
应用 Application

汽车电子 Automotive electronics
自动化设备控制器 Automatic Equipment Controller
医疗设备 Medical Equipment
户外电子应用 Outdoor Electronic Applications

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如 0603 5% 1/10W 100Ω)

Ordering Procedure (Example 0603 5% 1/10W 100Ω)

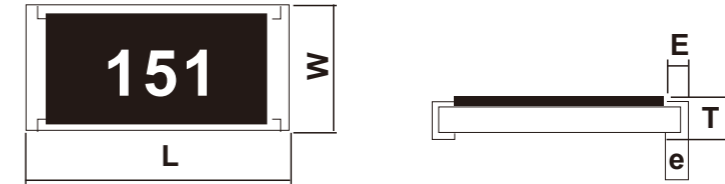
料号 (Part Number) : AS0603JA0101G

AS	0603	J	A	0101	G
类型 (Type) AS:抗硫化厚膜贴片电阻 (Anti-Sulfuration Thick Film Chip Resistors)	尺寸 (Size) 0201 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance D=±0.5% F=±1% G=±2% J=±5%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W H=1/20W	阻值 Resistance Value 1%; 49R9=49.9Ω 1002=10KΩ ±5%; ±2% 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	AS0201	AS0402	AS0603	AS0805	AS1206	AS1210	AS2010	AS2512
额定功率 70°C Rated Power at 70°C	1/20W	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	25V	50V	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	50V	100V	150V	300V	400V	500V	500V	500V
绝缘耐压 Withstanding Voltage Dielectric	75V	150V	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55 ~ +125°C	-55 ~ +125°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ
零欧姆额定电流 Rated Current of Jumper	0.5A	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A	2.0A
零欧姆最大电流 Max Current of jumper	1.0A	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A	10.0A
0.5%阻值范围 Resistance Range of 0.5%	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	10Ω-10MΩ	1Ω-10MΩ	1Ω-10MΩ
1%阻值范围 Resistance Range of 1%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
5%阻值范围 Resistance Range of 5%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

外形尺寸 Dimension



类型 Type	AS0201	AS0402	AS0603	AS0805	AS1206	AS1210	AS2010	AS2512
尺寸 Dimension	L(mm)	0.60±0.03	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20
	W(mm)	0.30±0.03	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	3.10±0.20
	T(mm)	0.23±0.03	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15
	E(mm)	0.10±0.05	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25
	e(mm)	0.15±0.05	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	0201规格: 1Ω ≤ R ≤ 10Ω: -100 ~ +300 PPM/°C 10Ω < R ≤ 10MΩ: ±200 PPM/°C 0402 ~ 2512规格: 1Ω ≤ R ≤ 10Ω: ±200 PPM/°C 10Ω < R ≤ 10MΩ: ±100 PPM/°C 10MΩ < R ≤ 22MΩ: ±200 PPM/°C
焊锡性 Solderability	J-STD-002	最少95%面积上锡 (Min95% coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0% + 0.05Ω) Max(最大)
端子弯曲 Board Flex	AEC-Q200-005	±(1.0% + 0.05Ω) Max(最大)
抗焊锡热 Resistance to Soldering Heat	MIL-STD-202 METHOD 210	±(1.0% + 0.05Ω) Max(最大)
负荷寿命 Operational Life	MIL-STD-202 METHOD 108	±(2.0% + 0.05Ω) Max(最大)
耐湿特性 Biased Humidity	MIL-STD-202 METHOD 103	±(2.0% + 0.05Ω) Max(最大)
温度循环 Temperature Cycling	JESD22 METHOD JA-104	±(2.0% + 0.05Ω) Max(最大)
温湿循环 Moisture resistance	MIL-STD-202 METHOD 106	±(2.0% + 0.05Ω) Max(最大)
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 METHOD 108	±(1.0% + 0.05Ω) Max(最大)
ESD试验 ESD test	AEC-Q200-002	±(3.0% + 0.05Ω) Max(最大)
抗硫化试验 Sulfuration Test	ASTM-B-809-95	±(3.0% + 0.05Ω) Max(最大)

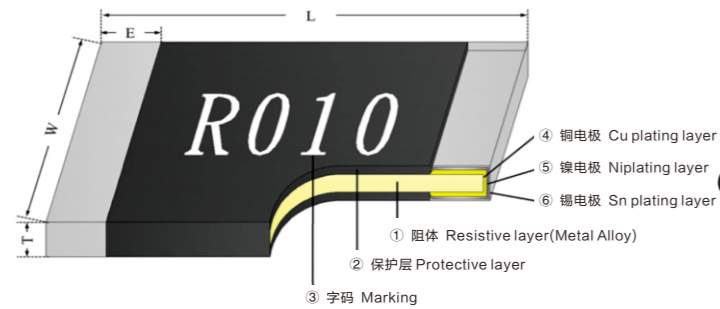
特性 Features

- 优异的电阻温度系数 Excellent temperature coefficient characteristics
- 优异的低温度电动势能 Excellent Low Thermal EMF
- 产品符合RoHS与无卤要求 Products meet RoHS compliant & Halogen free requirements
- 符合AEC-Q200相关条款 AEC-Q200 Qualified
- 保护层材质符合UL-94-V0耐燃等级 Over-Coating meet UL-94-V0 grade

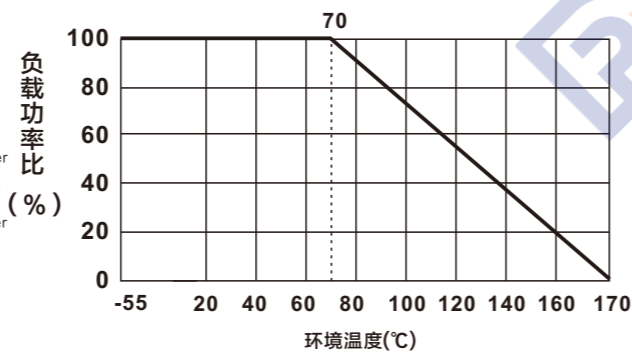
应用 Application

- 电源供应器 Power supply
- 笔记本计算机 Note Book
- 汽车电子 Automotives
- 电池充电器 Battery charger

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如:2512 1% 2W 10mΩ)

Ordering Procedure (Example:2512 1% 2W 10mΩ)

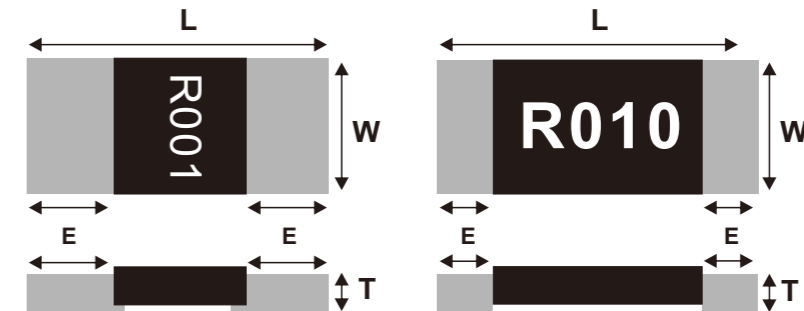
料号 (Part Number) : RM2512FBR010GM

RM	2512	F	B	R010	G	M
类型 (Type) RM:合金贴片电阻 (Metal Current Sensing Chip Resistors)	尺寸 (Size) 1206 2512	公差 Tolerance F=±1% G=±2% J=±5%	额定功率 Rated Power C=3W B=2W D=1.5W 1=1W 3=1/2W	阻值 Resistance Value R002=2mΩ R010=10mΩ 2L50=2.5mΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk(散料) S=Double Standard Quantity (两倍卷盘标准包装量)	材料 Material M=MnCu N=NiCu S=CuMnSn

特性 Characteristics

类型 Type	RM1206	RM2512	
额定功率 70°C Rated Power at 70°C	1/2W, 1W	1W, 1.5W, 2W	3W
温度特性TCR (ppm/°C)	+25~+125°C: ±50	+25~+125°C: ±50	+25~+125°C: ±50
	+25~+155°C: ±65	+25~+155°C: ±65	+25~+155°C: ±65
绝缘阻抗 Insulation Resistance	>100MΩ	>100MΩ	>100MΩ
1%阻值范围 Resistance Range of 1%	1mΩ~30mΩ	1mΩ~50mΩ	1mΩ~3mΩ
2%阻值范围 Resistance Range of 2%	1mΩ~30mΩ	1mΩ~50mΩ	1mΩ~3mΩ
5%阻值范围 Resistance Range of 5%	1mΩ~30mΩ	1mΩ~50mΩ	1mΩ~3mΩ

外形尺寸 Dimension



类型 Type		RM1206	RM2512
尺寸 Dimension	L(mm)	3.2±0.20	6.40±0.20
	W(mm)	1.6±0.20	3.20±0.20
	T(mm)	0.65±0.20 (R≤1mΩ)	0.60±0.20
		0.60±0.20 (2mΩ≤R≤30mΩ)	
	E(mm)	1.10±0.30 (R≤1mΩ)	2.00±0.20 (R≤2mΩ)
0.50±0.30 (2mΩ≤R≤30mΩ)		0.90±0.20 (R>2mΩ)	

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	IEC60115-1 4.8	如规格表, As Spec. +25~+125°C: ±50ppm/°C +25~+155°C: ±65 ppm/°C
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 Method 108	< ±1%
低温储存 Low Temperature operation	IEC60115-1 4.23.4	< ±0.5%
温度循环 Temperature Cycling	JESD22 Method JA-104	< ±0.5%
短时间过负荷 Short-Time Overload	IEC60115-1 4.13	< ±0.5%
耐湿特性 Humidity	MIL-STD-202 METHOD 103	< ±0.5%
负荷寿命 Load Life	MIL-STD-202 METHOD 108	< ±1%
焊锡性 Solderability	J-STD-002B test B	最少95%面积上锡(Min 95% coverage)
抗焊锡热 Resist to Soldering Heat	IEC60115-1 4.18	< ±0.5%
机械冲击 Mechanical Shock	MIL-STD-202 METHOD 213	< ±0.5%
振动 Resistance to vibration	MIL-STD-202 METHOD 204	< ±0.5%
端子弯曲 Terminal Bending	AEC-Q200-005	< ±0.5%
端子强度 Terminal Strength	AEC-Q200-006	< ±1%
冷热冲击 Thermal shock	MIL-STD-202 METHOD 107	< ±0.5%
易燃 Flammability	UL-94	/
ESD试验 ESD test	AEC-Q200-002	< ±1%

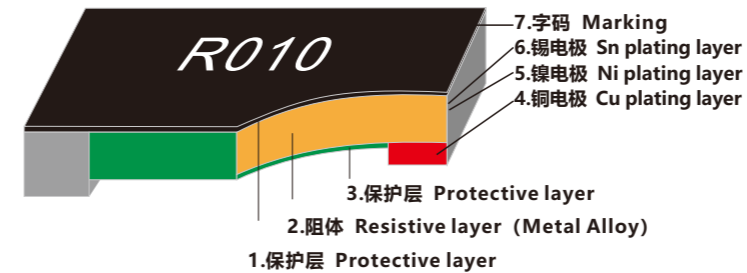
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
符合AEC-Q200标准 Comply with AEC-Q200 standard
低电阻、低功耗 Low Power Consumption
低TCR适用于电流检测 Low TCR suitable for Current Sensing
极佳的电流感测效能 High Performance Current Sensing Efficiency
优越的抗硫化特性 Superior resistance against sulfur containing atmosphere

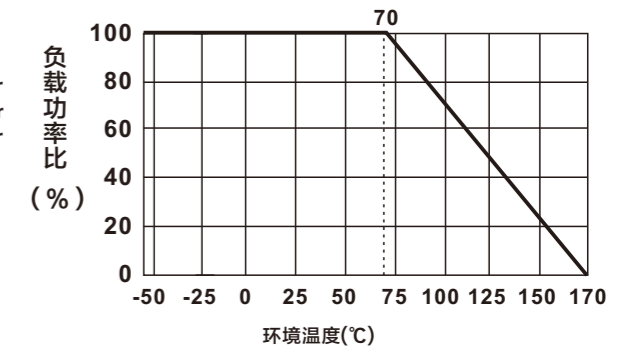
应用 Application

电源电路 Power Circuit
笔记本电脑 Note Book/Laptop
硬盘驱动器 Hard Disk Drive
电池保护板 Battery Protection Module
变频器 Converter
灯具 Lamps
户外电子应用 Outdoor Electronic Applications
计算机 Computer
电信设备 Telecommunications equipment
电源供应器 Power supply
汽车电子 Automotive electronics

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如0805 1% 1/2W 10mΩ)

Ordering Procedure (Example 0805 1% 1/2W 10mΩ)

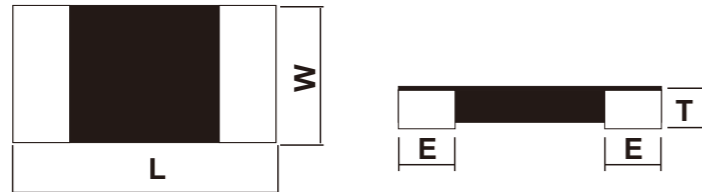
料号 (Part Number) : RA0805F2R010G

RA	0805	F	2	R010	G
类型 (Type) RA: 合金箔贴片电阻 (Metal Foil current sensing chip resistors)	尺寸 (Size) 0201 0402 0603 0805 1206 2512	公差 Tolerance D=±0.5% F=±1% G=±2% J=±5%	额定功率 Rated Power A= 1/10W 8= 1/8W 5= 1/5W 4= 1/4W N=1/3W 3=1/2W 1= 1W D=1.5W B= 2W	阻值 Resistance Value R001= 1mΩ R005= 5mΩ R010= 10mΩ R1L5= 1.5mΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	RA0201	RA0402	RA0603	RA0805	RA1206	RA2512
额定功率 70°C Rated Power at 70°C	1/8W 1/5W	1/5W 1/4W	1/3W 1/2W	1/2W	1/2W 1W	1W 2W
温度特性TCR (ppm/°C)	3mΩ~4mΩ: ±150 5mΩ~20mΩ: ±75		2mΩ: ±150 3mΩ~4mΩ: ±75 5mΩ~75mΩ: ±50	1.5 mΩ~2mΩ: ±100 3mΩ~4mΩ: ±75 5mΩ~100mΩ: ±50	1mΩ~2mΩ: ±100 2mΩ~4mΩ: ±75 5mΩ~100mΩ: ±50	
绝缘阻抗 Insulation Resistance	>100MΩ	>100MΩ	>100MΩ	>100MΩ	>100MΩ	>100MΩ
操作温度范围 Operating Temperature	-55~+170°C	-55~+170°C	-55~+170°C	-55~+170°C	-55~+170°C	-55~+170°C
阻值精度范围 F(±1%)、G(±2%)、 J(±5%) Resistance Range	3mΩ~20mΩ	3mΩ~30mΩ	2mΩ~75mΩ	1.5mΩ~100mΩ	1mΩ~100mΩ	1mΩ~100mΩ

外形尺寸 Dimension



类型 Type	L(mm)	W(mm)	T(mm)	E(mm)
RA0201	0.6±0.05	0.32±0.05	0.25±0.1	0.15±0.07
RA0402	1.0±0.10	0.5±0.10	0.35±0.15	0.25±0.10
RA0603	1.6±0.10	0.8±0.10	0.40±0.20	0.35±0.15
RA0805	2.00±0.15	1.25±0.15	0.40±0.20	0.50±0.15
RA1206	3.2±0.2	1.6±0.2	0.40±0.20	1mΩ: 0.95±0.20
				2mΩ~10mΩ: 0.75±0.20
RA2512	6.4±0.2	3.2±0.2	0.40±0.20	1mΩ: 1.80±0.20
				2mΩ~10mΩ: 1.10±0.20

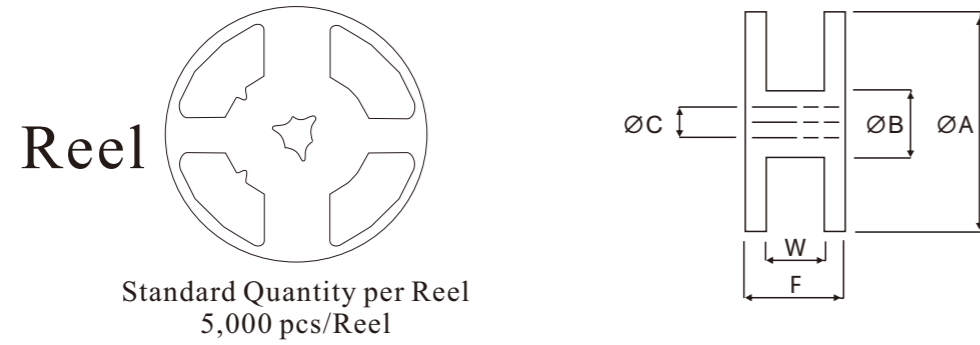
性能&信赖性测试
Performance Specifications&Reliability Test Methods

内容 Item	测试条件 Test Conditions	规格 Specification Limits
温度系数 Temperature Coefficient	IEC60115-1 4.8 TCR= (R-R ₀) / (t-t ₀) R ₀ × 10 ⁶ (ppm) R ₀ 电阻在室温下的阻值(resistance at room temperature) R 电阻在-55°C或+155°C下的阻值(resistance at -55°C or +155°C) t ₀ 室温(room temperature) t 测试温度 (test temperature -55°C or +155°C)	请参考特性规格表 Pls refer to the Spec.
高温储存 High Temperature Exposure	MIL-STD-202 Method 108 125°C下放置1000H, 试验结束24±4小时后量测试前后阻值变化率. 1000 hrs. @T=125°C. Measure the variation of resistance at 24±4 hours after test conclusion. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(1% + 0.0005Ω)
低温储存 Low Temperature operation	IEC60115-1 4.23.4 -55°C下放置45分钟, 后量测试前后阻值变化率. 45 min. @T=-55°C. Measure the variation of resistance after test conclusion. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
温度循环 Temperature cycling	JESD22 Method JA-104 -55°C&+125°C, 循环1000次, 试验结束24±4小时后量测试前后阻值变化率. 1000Cycles (-55°C to +125°C) Measurement at 24±4 hours after test conclusion. Measure the variation of resistance at 24±4 hours after test conclusion. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
短时间过负荷 Short-time overload	IEC60115-1 4.13 加载5倍的额定功率, 时间5秒后测量试验前后的阻值变化率. Applied 5.0 times of rated power for 5 second. Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)

内容 Item	测试条件 Test Conditions	规格 Specification Limits
耐湿特性 Biased Humidity	MIL-STD-202 METHOD 103 加载10%额定功率, 85°C/85%RH, 持续通电1000H,试验结束24±4小时后进行测试 1000 hours 85°C/85%RH. Note: Specified conditions: 10% of operating power. Measurement at 24±4 hours after test conclusion. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
负荷寿命 Operational life	MIL-STD-202 METHOD 108 电阻放入恒温箱中, 温度70±2°C, 通电额定电流1.5小时, 断电0.5小时; 重复通断电至试 验时间1000 +48/-0 小时. 量测试验前后阻值变化率。 Put the specimen in a chamber at 70±2°C temperature, and applied rated current for 1.5H and rested for 0.5H repeatedly till total test time is 1000 +48/-0 .. Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(1% + 0.0005Ω)
焊锡性 Solder ability	J-STD-002B test B 沾助焊剂后浸入锡炉, 锡炉温度245±5°C, 时间2~3秒 Dip the terminal in a flux and then dip into a soldering bath at 245±5°C for 2~3sec.	最少95%面积上锡 (Min 95% coverage)
抗焊锡热 Resist to soldering heat	IEC60115-1 4.18 沾助焊剂后浸入锡炉, 锡炉温度260±5°C, 时间10±1秒, 测量试验前后的阻 值变化率。 Dip the terminal in a flux and then dip into a soldering bath at 260±5°C for 10±1sec. Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
机械冲击 Mechanical Shock	MIL-STD-202 METHOD 213 半正弦, 100g's, 震动6ms, 速度12.3 ft/s100Hz, 量测试验前后阻值变 化率。 100g's, Normal duration is 6ms, half sine shock pulse .Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)

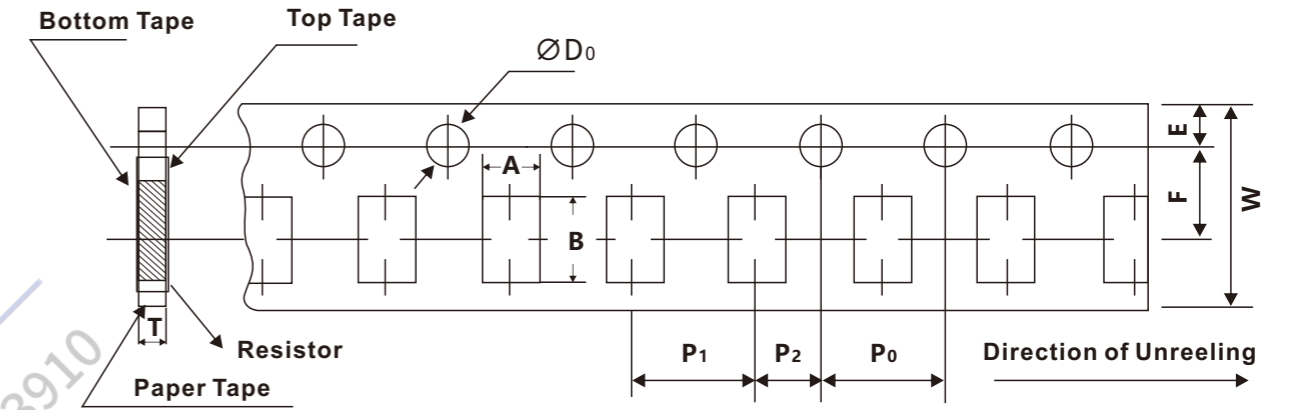
内容 Item	测试条件 Test Conditions	规格 Specification Limits
振动 Resistance to vibration	MIL-STD-202 METHOD 204 15g's的力20分钟, 12个循环, 测试频率从10-2000赫兹, 量测试验前后 阻值变化率。 5g's for 20min.12cycles, 10-2000Hz . Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
端子弯曲 Board Flex	AEC-Q200-005 弯曲2mm, 60秒, 量测试验前后阻值变化率。 Min 2mm deflection ,60sec. Measure the variation of resistance. Measure the variation of resistance.	±(0.5% + 0.0005Ω)
端子强度 Terminal Strength	AEC-Q200-006 应用17.7N (1.8Kg), 时间60±1秒 Applied a 17.7N (1.8Kg) for 60±1seconds.	±(1% + 0.0005Ω)
冷热冲击 Thermal shock	MIL-STD-202 METHOD 107 温度-55/+125°C, 周期数是300,设备安装. 最大传输时间是20秒。 use -55/+125°C · Number of cycles is 300. Devices mounted. Maximum transfer time is 20 seconds.Dwell time is 15 minutes. Air -Air $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)	±(0.5% + 0.0005Ω)
易燃 Flammability	V-0 or V-1可接受的, 电气特性测试不要求 V-0 or V-1 are acceptable, Electrical test not required.	/
ESD试验 ESD test	AEC-Q200-002 加载规定静电电压2KV.2次/间隔1秒, Other:2KV, 2times/1s	±(1% + 0.0005Ω)

包装规格 (Tapping Specification)
卷盘尺寸(Reel Dimension)



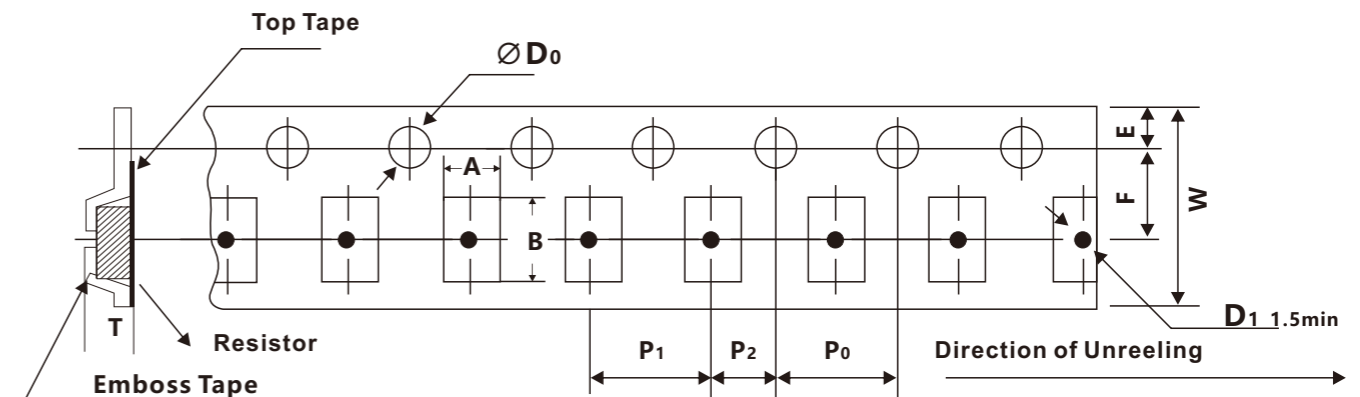
尺寸 Dimensions		ØA	ØB	ØC	F	W	Packing (pcs/reel)
RA0201	mm	178±2.0	60.0±1.0	13.50±0.50	11.4±0.1	9.0±0.3	10000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
RA0402	mm	178±2.0	60.0±1.0	13.50±0.50	11.4±0.1	9.0±0.3	10000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
RA0603	mm	178±2.0	60.0±1.0	13.50±0.50	11.4±0.1	9.0±0.3	5000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
RA0805	mm	178±2.0	60.0±1.0	13.50±0.50	11.4±0.1	9.0±0.3	5000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
RA1206	mm	178±2.0	60.0±1.0	13.50±0.50	11.4±0.1	9.0±0.3	5000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
RA2512	mm	178±2.0	60.00±1.00	13.50±0.50	11.4±0.1	13.00±0.3	4000
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.512±0.012	

包装尺寸 (packing dimension)



单位毫米 Unit:mm

Packing	Type	A	B	W	F	F	P1	P2	P0	D0	T
Paper Tape	RA0201	0.42±0.05	0.70±0.05	8.0±0.1	3.5±0.05	1.75±0.1	2.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07
Paper Tape	RA0402	0.65±0.1	1.15±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07
Paper Tape	RA0603	1.0±0.1	1.8±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07 0.60±0.07
Paper Tape	RA0805	1.65±0.1	2.4±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07 0.60±0.07
Paper Tape	RA1206	2.0±0.2	3.6±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07 0.60±0.07



Emboss	RA2512	3.6±0.2	6.8±0.2	12.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5± ^{0.1} / _{0.0}	0.42±0.07 0.60±0.07
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T★ : T=0.60±0.07 is for which Resistance ≤ 2mΩ.

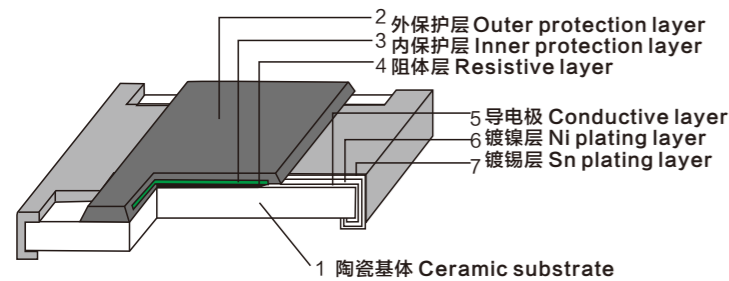
特性 Features

铅含量 < 100ppm
 适合贴片机组装 Suitable for SMT
 短小轻薄 Small Size & Light Weight
 符合RoHS和无卤标准 Meet RoHS & HF Requirement

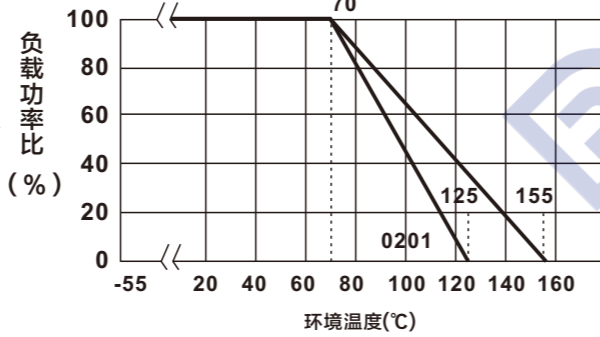
应用 Application

一般用途 General Purpose
 通用型 Universal type

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如:0603 5% 1/10W 100Ω)

Ordering Procedure (Example: 0603 1/10W 5% 100Ω)

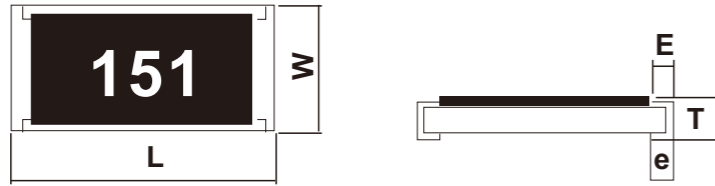
料号 (Part Number) : PF0603JA0101G

PF	0603	J	A	0101	G
类型 (Type) PF:无铅厚膜贴片电阻 (Total Lead Free Thick Film Chip Resistors)	尺寸 (Size) 0201 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance B=±0.1% D=±0.5% F=±1% G=±2% J=±5%	额定功率 Rated Power 1=1W 2=3/4W 3=1/2W 4=1/4W 8=1/8W A=1/10W F=1/16W H=1/20W	阻值 Resistance Value ±1%,±0.5%, ±0.1% 49R9=49.9Ω 1002=10KΩ ±2%,±5%: 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	PF0201	PF0402	PF0603	PF0805	PF1206	PF1210	PF2010	PF2512
额定功率 70°C Rated Power at 70°C	1/20W	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	25V	50V	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	50V	100V	150V	300V	400V	500V	500V	500V
绝缘耐压 Withstanding Voltage Dielectric	75V	150V	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55 ~ +125°C	-55 ~ +125°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C	-55 ~ +155°C
零欧姆电阻阻值 Resistance Value of Jumper	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ	< 50mΩ
零欧姆额定电流 Rated Current of Jumper	0.5A	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A	2.0A
零欧姆最大电流 Max Current of jumper	1.0A	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A	10.0A
0.1%阻值范围 Resistance Range of 0.1%	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ	100Ω-1MΩ
0.5%阻值范围 Resistance Range of 0.5%	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	1Ω-1MΩ	10Ω-1MΩ
1%阻值范围 Resistance Range of 1%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
5%阻值范围 Resistance Range of 5%	1Ω-10MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

外形尺寸 Dimension



类型 Type	PF0402	PF0402	PF0603	PF0805	PF1206	PF1210	PF2010	PF2512	
尺寸 Dimension	L(mm)	0.60±0.03	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20	6.25±0.20
	W(mm)	0.30±0.03	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	2.50±0.20	3.10±0.20
	T(mm)	0.23±0.03	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15	0.55±0.15
	E(mm)	0.10±0.05	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25	0.85±0.25
	e(mm)	0.15±0.05	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25	0.95±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	0201规格: 1Ω ≤ R ≤ 10Ω: -100 ~ +300 PPM/°C 10Ω < R ≤ 10MΩ: ±200 PPM/°C 0402 ~ 2512规格: 1Ω ≤ R ≤ 10Ω: ±200 PPM/°C 10Ω < R ≤ 10MΩ: ±100 PPM/°C 10MΩ < R ≤ 22MΩ: ±200 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

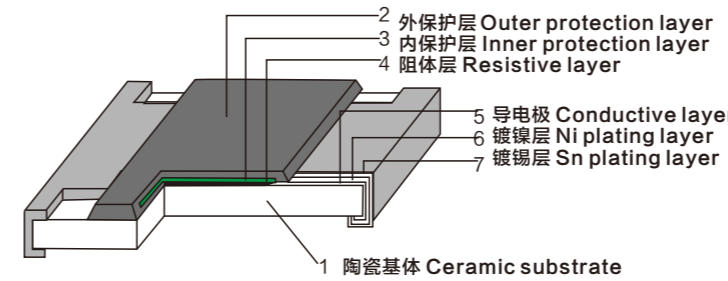
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
高电压 High Voltage

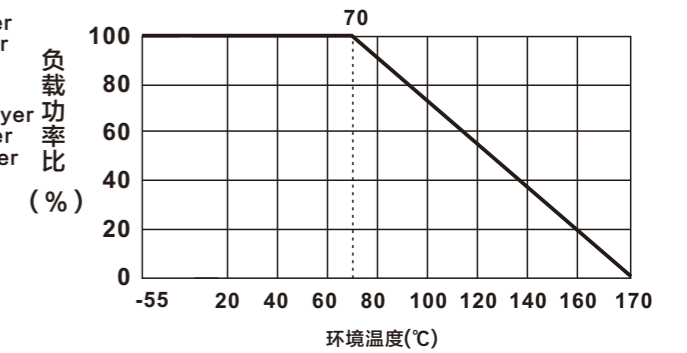
应用 Application

相机闪光灯电路 Camera Flash Circuit
打印设备 Printing equipment
电源电路 Power Circuit

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如0603 1% 1/10W 47Ω)

Ordering Procedure (Example 0603 1% 1/10W 47Ω)

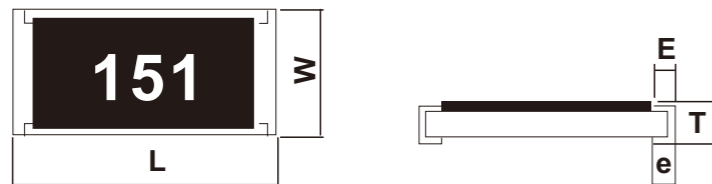
料号 (Part Number) : RC0603FA47R0G

RC	0603	F	A	47R0	G
类型 (Type) RC: 高压厚膜贴片电阻 (High voltage thick film chip resistors)	尺寸 (Size) 0603 0805 1206 1210 2010 2512	公差 Tolerance D = ±0.5% F = ±1% G = ±2% J = ±5%	额定功率 Rated Power 1 = 1W 2 = 3/4W 3 = 1/2W 4 = 1/4W 8 = 1/8W A = 1/10W	阻值 Resistance Value ±1%: 47R0 = 47Ω 1002 = 10KΩ ±2%, ±5%: 0470 = 47Ω 0564 = 560KΩ	包装代码 Packing Code G = reel (卷装) V = bulk (散料) S = Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	RC0603	RC0805	RC1206	RC1210	RC2010	RC2512
额定功率 70°C Rated Power at 70°C	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	350V	400V	500V	500V	500V	500V
最大过负荷电压 Max Overload Voltage	500V	800V	1000V	1000V	1000V	1000V
绝缘耐压 Withstanding Voltage Dielectric	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C
0.5%阻值范围 Resistance Range of 0.5%	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ
1%阻值范围 Resistance Range of 1%	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ
2%阻值范围 Resistance Range of 2%	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ
5%阻值范围 Resistance Range of 5%	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ	1Ω-100MΩ

外形尺寸 Dimension



类型 Type		RC0603	RC0805	RC1206	RC1210	RC2010	RC2512
尺寸 Dimension	L(mm)	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20	6.25±0.20
	W(mm)	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	2.50±0.20	3.10±0.20
	T(mm)	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15	0.55±0.15
	E(mm)	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25	0.85±0.25
	e(mm)	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25	0.95±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	1Ω≤R≤10Ω: ±200 PPM/°C 10Ω<R≤10MΩ: ±100 PPM/°C 10MΩ<R≤100MΩ: ±200PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 METHOD 108	±(1.0%+0.0.05Ω)Max(最大)

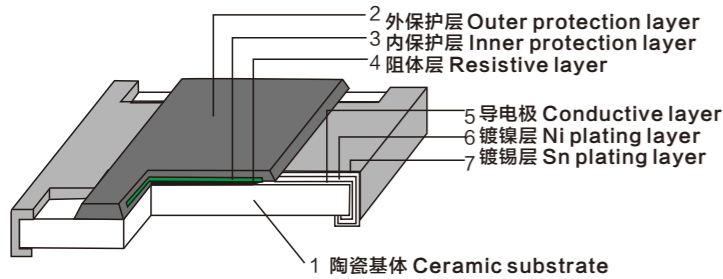
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
抗浪涌电压 Anti-Surge Voltage

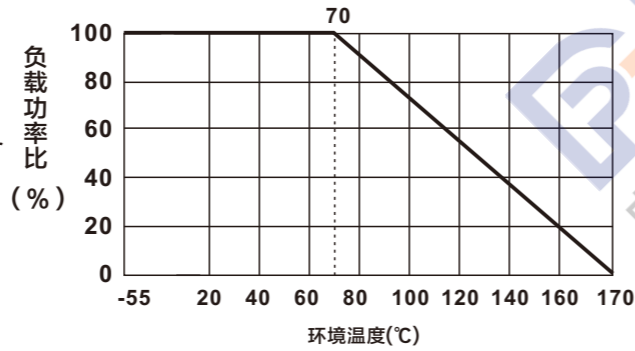
应用 Application

显示器, 电源, 电脑, 数码相机, 开关
Monitor, Power, Computer, Digital camera, Switch
医疗设备, 军事装备, 自动化设备, 电信设备
Medical equipment, Military equipment, Automation equipment, Telecommunications equipment

构造 Construction

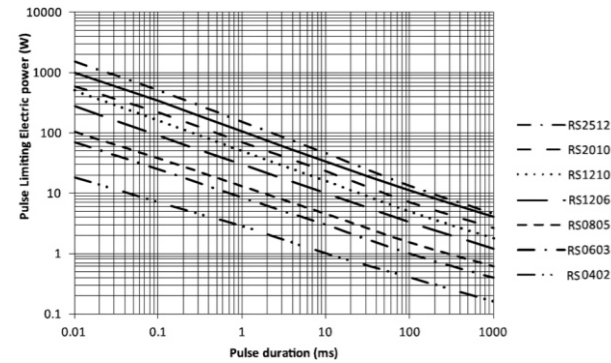


功率衰减曲线 Power decay curve

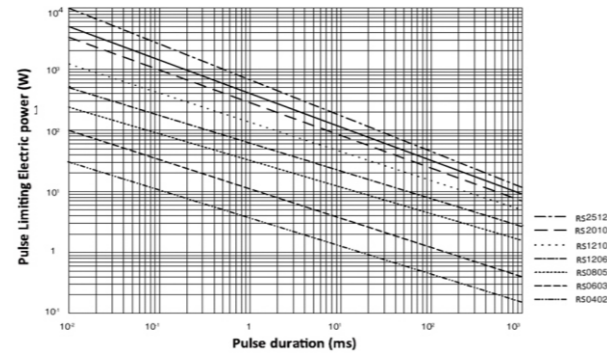


脉冲功率曲线 Curve of Pulse Duration

公差Tolerance:
±0.50%、±1.00%、±2.00%如下:



公差Tolerance:
±5.00%、±10.00%、±15.00%、±20.00%如下:



订货方式 (例如0603 1% 1/10W 47Ω)

Ordering Procedure (Example 0603 1% 1/10W 47Ω)

料号 (Part Number) : RS0603FA47R0G

RS	0603	F	A	47R0	G
类型 (Type) RS:抗浪涌厚膜贴片电阻(Anti-surge thick film chip resistors)	尺寸 (Size) 0402 0603 0805 1206 1210 2010 2512	公差 Tolerance D=±0.5% F=±1% G=±2% J=±5% K=±10% L=±15% M=±20%	额定功率 Rated Power 1= 1W 2= 3/4W 3= 1/2W 4= 1/4W 8= 1/8W A= 1/10W F= 1/16W	阻值 Resistance Value ±0.5% , ±1%: 49R9=49.9Ω 1002=10KΩ ±2% , ±5% , ±10% , ±15% , ±20%: 06R8=6.8Ω 0564=560KΩ	包装代码 Packing Code G=Reel(卷装) V=Bulk (散料) S=Double Standard Quantity (两倍卷盘标准包装量)

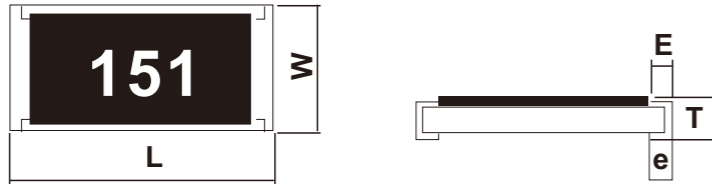
特性 Characteristics

类型 Type	RS0402	RS0603	RS0805	RS1206	RS1210	RS2010	RS2512
额定功率 70°C Rated Power at 70°C	1/16W	1/10W	1/8W	1/4W	1/2W	3/4W	1W
最大工作电压 Max Working Voltage	50V	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	100V	150V	300V	400V	500V	500V	500V
绝缘耐压 WithStanding Voltage Dielectric	150V	220V	430V	570V	710V	710V	710V
操作温度范围 Operating Temperature	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C
0.5%阻值范围 Resistance Range of 0.5%	10Ω-1MΩ	10Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ
1%阻值范围 Resistance Range of 1%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
2%阻值范围 Resistance Range of 2%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

特性 Characteristics

类型 Type	RS0402	RS0603	RS0805	RS1206	RS1210	RS2010	RS2512
5%阻值范围 Resistance Range of 5%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
10%阻值范围 Resistance Range of 10%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
15%阻值范围 Resistance Range of 15%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ
20%阻值范围 Resistance Range of 20%	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

外形尺寸 Dimension



类型 Type	RS0402	RS0603	RS0805	RS1206	RS1210	RS2010	RS2512	
尺寸 Dimension	L(mm)	1.00±0.05	1.60±0.10	2.00±0.15	3.10±0.15	3.10±0.15	5.00±0.20	6.25±0.20
	W(mm)	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	2.50±0.20	3.10±0.20
	T(mm)	0.30±0.05	0.45±0.10	0.50±0.10	0.55±0.10	0.55±0.15	0.55±0.15	0.55±0.15
	E(mm)	0.15±0.10	0.25±0.20	0.35±0.20	0.45±0.25	0.35±0.25	0.65±0.25	0.85±0.25
	e(mm)	0.20±0.10	0.30±0.20	0.40±0.20	0.40±0.25	0.60±0.25	0.50±0.25	0.95±0.25

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	1Ω ≤ R ≤ 10Ω: ±200 PPM/°C 10Ω < R ≤ 10MΩ: ±100 PPM/°C 10MΩ < R ≤ 100MΩ: ±200PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 METHOD 108	±(1.0%+0.05Ω)Max(最大)
脉冲 Pulse	IEC 60115-1 4.27	±(2.0%+0.05Ω)Max(最大)

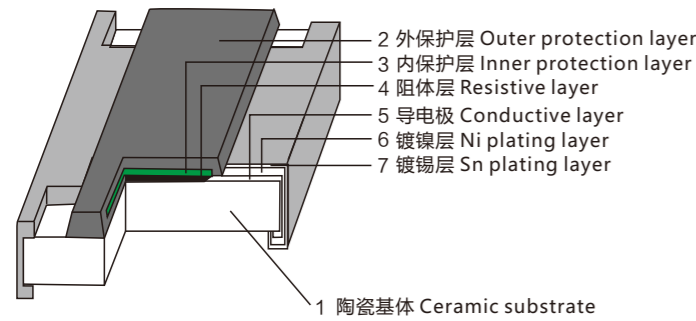
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
宽电极Wide Terminal

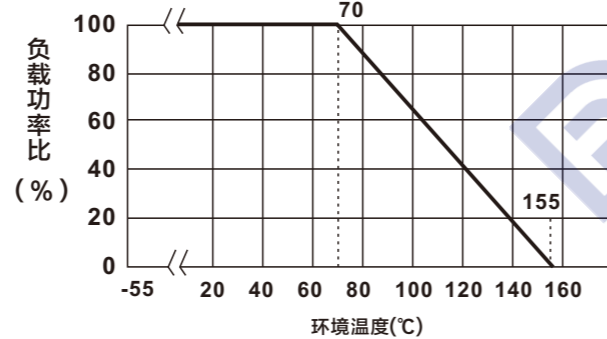
应用 Application

电源供应器 Power supply
开关电源 Switching power supply
电压调节器 Voltage regulator

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如1225 1% 2W 20Ω)

Ordering Procedure (Example 1225 1% 2W 20Ω)

料号 (Part Number) : RW1225FB20R0G

RW	1225	F	B	20R0	G
类型 (Type) RW: 宽电极厚膜贴片电阻 (Wide Terminal thick film chip resistors)	尺寸 (Size) 0204 0306 0508 0612 1020 1225	公差 Tolerance F=±1% J=±5%	额定功率 Rated Power 1= 1W 2= 3/4W 3= 1/2W N= 1/3W B= 2W	阻值 Resistance Value ±1%: 20R0=20Ω 49R9=49.9Ω 1002=10KΩ ±5%: 06R8=6.8Ω 0200=20Ω 0564=560KΩ	包装代码 Packing Code G= reel (卷装) V= bulk (散料) S= Double Standard Quantity (两倍卷盘标准包装量)

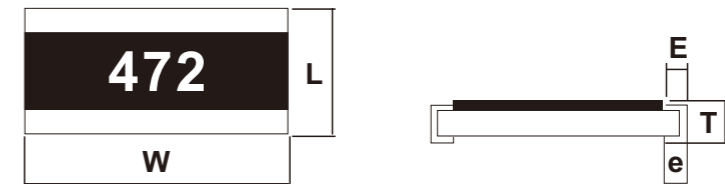
标准包装数量 Standard Packing Quantity

0204: 10,000Pcs Per Reel(每卷10,000Pcs)
0306/0508/0612: 5,000Pcs Per Reel(每卷5,000Pcs)
1020/1225: 4,000Pcs Per Reel(每卷4,000Pcs)

特性 Characteristics

类型 Type	RW0204	RW0306	RW0508	RW0612	RW1020	RW1225
额定功率 70°C Rated Power at 70°C	1/3W	1/2W	3/4W	3/4W	1W	2W
最大工作电压 Max Working Voltage	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	100V	200V	400V	400V	400V	400V
绝缘耐压 With Standing Voltage Dielectric	150V	220V	430V	570V	710V	710V
操作温度范围 Operating Temperature	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C
零欧姆阻值 Resistance Value of Jumper	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ
零欧姆额定电流 Rated Current of Jumper	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A
零欧姆电阻最大电流 Max Current of Jumper	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A
1%阻值范围 Resistance Range of 1%	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ
5%阻值范围 Resistance Range of 5%	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ

外形尺寸 Dimension



类型 Type	RW0204	RW0306	RW0508	RW0612	RW1020	RW1225	
尺寸 Dimension	L(mm)	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	3.10±0.15
	W(mm)	1.00±0.05	1.60±0.10	2.00±0.15	3.20±0.20	5.00±0.15	6.30±0.15
	T(mm)	0.35±0.05	0.45±0.10	0.55±0.10	0.60±0.10	0.60±0.10	0.60±0.10
	E(mm)	0.10±0.05	0.15±0.10	0.30±0.20	0.30±0.20	0.40±0.20	0.45±0.20
	e(mm)	0.15±0.05	0.15±0.10	0.30±0.20	0.45±0.15	0.75±0.15	0.75±0.15

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	1Ω≤R≤10Ω: ±200 PPM/°C 10Ω<R≤1MΩ: ±100 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)

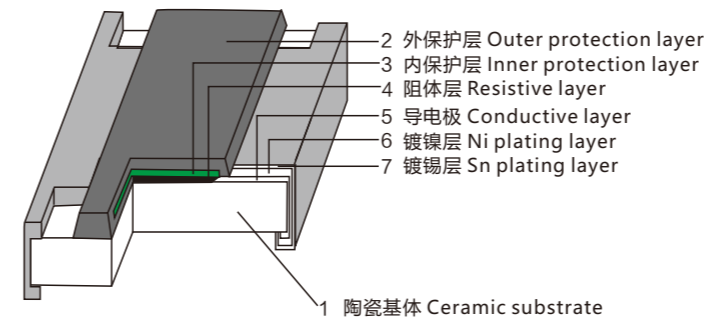
特性 Features

适合贴片机组装 Suitable for SMT
符合RoHS和无卤标准 Meet RoHS & HF Requirement
宽电极Wide Terminal
符合AEC-Q200标准 Comply with AEC-Q200 standard
卓越的抗硫化特性 Superior resistance against sulfur containing atmosphere

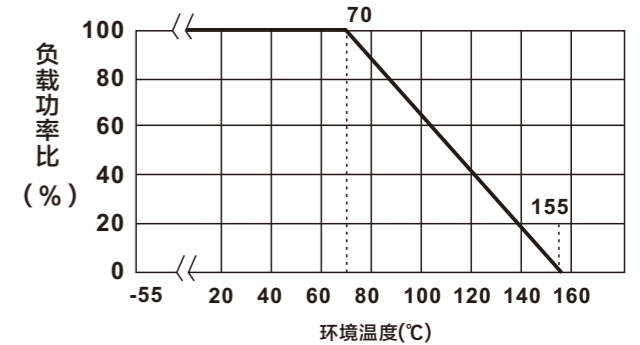
应用 Application

汽车电子 Automotive electronics
电信设备 Telecommunications equipment
电源电压控制 Voltage control in power supplies
测试和测量设备 Test & Measurement equipment
医疗设备 Medical Equipment
户外电子应用 Outdoor Electronic Applications

构造 Construction



功率衰减曲线 Power decay curve



订货方式 (例如1225 1% 2W 20Ω)

Ordering Procedure (Example 1225 1% 2W 20Ω)

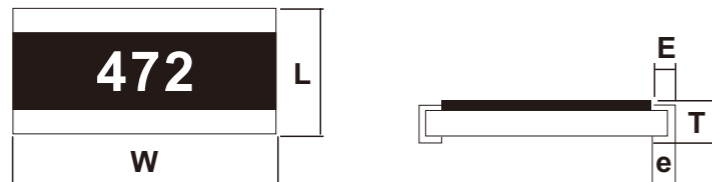
料号 (Part Number) : AW1225FB20R0G

AW	1225	F	B	20R0	G
类型 (Type) AW: 抗硫车用宽电极厚膜贴片电阻 (Anti-Sulfuration wide Terminal thick film chip resistors)	尺寸 (Size) 0204 0306 0508 0612 1020 1225	公差 Tolerance F=±1% J=±5%	额定功率 Rated Power 1= 1W 2=3/4W 3=1/2W N=1/3W B= 2W	阻值 Resistance Value ±1% : 20R0=20Ω 49R9=49.9Ω 1002=10KΩ ±5% : 06R8=6.8Ω 0200=20Ω 0564=560KΩ	包装代码 Packing Code G= reel (卷装) V= bulk (散料) S= Double Standard Quantity (两倍卷盘标准包装量)

特性 Characteristics

类型 Type	AW0204	AW0306	AW0508	AW0612	AW1020	AW1225
额定功率 70°C Rated Power at 70°C	1/3W	1/2W	3/4W	3/4W	1W	2W
最大工作电压 Max Working Voltage	75V	150V	200V	200V	200V	200V
最大过负荷电压 Max Overload Voltage	100V	200V	400V	400V	400V	400V
绝缘耐压 Withstanding Voltage Dielectric	150V	220V	430V	570V	710V	710V
操作温度范围 Operating Temperature	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C	-55~+155°C
零欧姆阻值 Resistance Value of Jumper	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ
零欧姆额定电流 Rated Current of Jumper	1.0A	1.0A	2.0A	2.0A	2.0A	2.0A
零欧姆电阻最大电流 Max Current of Jumper	2.0A	2.0A	5.0A	10.0A	10.0A	10.0A
1%阻值范围 Resistance Range of 1%	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ
5%阻值范围 Resistance Range of 5%	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ	1Ω-1MΩ

外形尺寸 Dimension



类型 Type	RW0204	RW0306	RW0508	RW0612	RW1020	RW1225	
尺寸 Dimension	L(mm)	0.50±0.05	0.80±0.10	1.25±0.15	1.60±0.15	2.50±0.15	3.10±0.15
	W(mm)	1.00±0.05	1.60±0.10	2.00±0.15	3.20±0.20	5.00±0.15	6.30±0.15
	T(mm)	0.35±0.05	0.45±0.10	0.55±0.10	0.60±0.10	0.60±0.10	0.60±0.10
	E(mm)	0.10±0.05	0.15±0.10	0.30±0.20	0.30±0.20	0.40±0.20	0.45±0.20
	e(mm)	0.15±0.05	0.15±0.10	0.30±0.20	0.45±0.15	0.75±0.15	0.75±0.15

标准包装数量 Standard Packing Quantity

0204: 10,000Pcs Per Reel(每卷10,000Pcs)

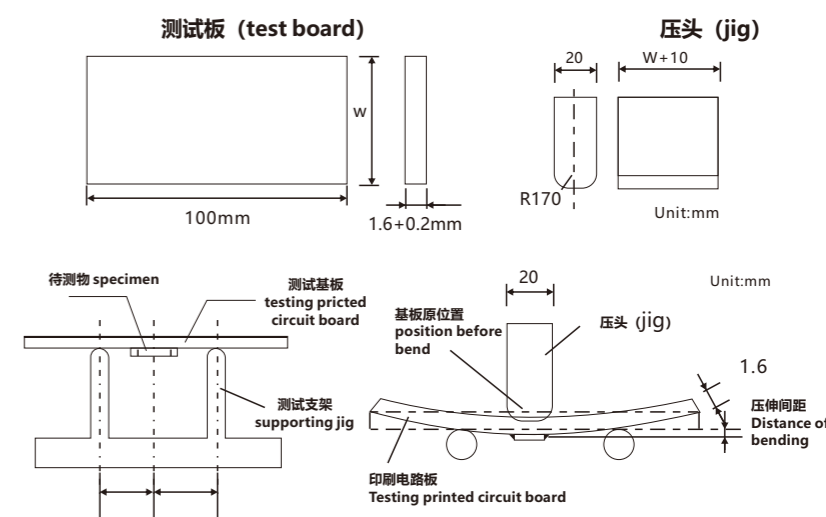
0306/0508/0612: 5,000Pcs Per Reel(每卷5,000Pcs)

1020/1225: 4,000Pcs Per Reel(每卷4,000Pcs)

性能 Performance Specifications

内容 Item	测试方法 Test Methods	规格 Specification Limits
温度系数 Temperature Coefficient	JIS C5201 4.8	1Ω≤R≤10Ω: ±200 PPM/°C 10Ω<R≤1MΩ: ±100 PPM/°C
焊锡性 Solderability	JIS C5201 4.17	最少95%面积上锡 (Min95%coverage)
绝缘电阻 Insulation Resistance	JIS C5201 4.6	> 10GΩ
绝缘耐压 Dielectric Withstanding Voltage	JIS C5201 4.7	无击穿、飞弧及可见机械性损伤 No evidence of flashover, mechanical damage arcing or insulation breakdown
短时间过负荷 Short-Time Overload	JIS C5201 4.13	±(1.0%+0.0.05Ω)Max(最大)
端子弯曲 Terminal Bending	JIS C5201 4.33	±(1.0%+0.0.05Ω)Max(最大)
抗焊锡热 Resist to Soldering Heat	JIS C5201 4.18	±(1.0%+0.05Ω)Max(最大)
负荷寿命 Load Life	JIS C5201 4.25.1	±(2.0%+0.05Ω)Max(最大)
耐湿特性 Humidity	JIS C5201 4.24	±(2.0%+0.05Ω)Max(最大)
温度循环 Temperature Cycling	JIS C5201 4.19	±(2.0%+0.05Ω)Max(最大)
温湿循环 Moisture Resistance	MIL-STD-202 METHOD106	±(2.0%+0.05Ω)Max(最大)
高温储存 High Temperature Exposure(Storage)	MIL-STD-202 METHOD108	±(1.0%+0.05Ω)Max(最大)
ESD试验 ESD test	AEC-Q200-002	±(3.0%+0.05Ω)Max(最大)
抗硫化试验 Sulfuration test	ASTM-B-809-95	±(3.0%+0.05Ω)Max(最大)

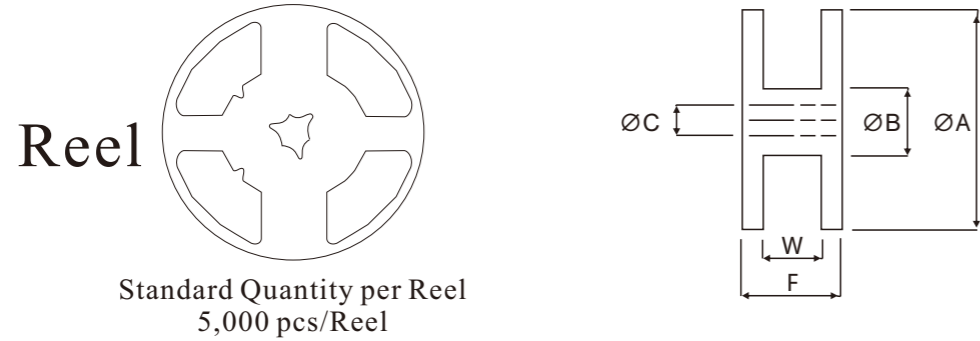
内容 Item	测试条件 Test Conditions
温度系数 Temperature Coefficient	JIS C5201 4.8 $TCR = (R - R_0) / (t - t_0) R_0 \times 10^6$ (ppm) R ₀ 电阻在室温下的阻值(resistance at room temperature) R 电阻在125°C或-55°C下的阻值(resistance at 125°C or -55°C) t ₀ 室温(room temperature) t 测试温度 (test temperature 125°C or -55°C)
焊锡性 Solderability	JIS C 5201 4.17 沾助焊剂后浸入锡炉, 锡炉温度245±5°C, 时间3±0.5秒。 Dip the terminal in a flux and then dip into a soldering bath at 245±5°C for 3±0.5sec. J-STD-002 用于引脚型和表面贴装型元件, 不需要电气测试. 放大倍数50倍。 测试条件: 表面贴装型: a)方法B, 干热@155°C,4小时,@235°C,3±0.5秒 b)方法B, 蒸煮8小时,@235°C,3±0.5秒 For pin and surface-mount components, no electrical testing required. Magnification 50 times. Test conditions: Surface mount type: a) Method B: dry heat @155°C,4 hours, @235°C,3±0.5 seconds b) Method B: cook for 8 hours at @235°C,3±0.5 seconds
绝缘电阻 Insulation resistance	JIS C 5201 4.6 电阻本体上加载绝缘耐压60±5秒后, 测量绝缘阻抗 Applied the dielectric withstanding voltage on the center of body for 60±5seconds. Then measure insulation resistance
绝缘耐压 Dielectric withstanding voltage	JIS C 5201 4.7 电阻本体上加载绝缘耐压60±5秒。 Applied the dielectric withstanding voltage on the center of body for 60±5seconds.
短时间过负荷 Short-time overload	JIS C 5201 4.13 加载2.5倍的额定电压, 时间5秒后测量试验前后的阻值变化率。 Applied 2.5 times of rated voltage for 5 second. Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100$ ----(%) R1 = 试验前阻值(resistance before test) R2 = 试验后阻值(resistance after test)
抗焊锡热 Resist to soldering heat	JIS C 5201 4.18 沾助焊剂后浸入锡炉, 锡炉温度260±5°C, 时间10±0.5秒, 测量试验前后的阻值变化率。 Dip the terminal in a flux and then dip into a soldering bath at 260±5°C for 10±0.5sec. Measure the variation of resistance. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100$ ----(%) R1 = 试验前阻值(resistance before test) R2 = 试验后阻值(resistance after test) MIL-STD-202 METHOD 210 锡炉温度260±5°C,时间10±0.5秒, 样品不进行预热。注意:单一波峰焊-表面贴装元件按程序, 浸入器件本体的1.5mm的深度。 Soldering bath at 260±5°C for 10±0.5sec. No pre-heat of samples. Note: Single Wave Solder-Procedure 2 for SMD and Procedure 1 for Leaded with solder within 1.5mm of device body. $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100$ ----(%) R1 = 试验前阻值(resistance before test) R2 = 试验后阻值(resistance after test)

内容 Item	测试条件 Test Conditions
端子弯曲 Terminal bending	IS C 5201 4.33 电阻焊接在测试板上进行弯折,弯折保持时间20±1秒, 1206(含)以下的尺寸弯曲 5+0.2/0 mm; 1206以上的尺寸弯曲2+0.2/0 mm; 量测试前后阻值变化率 Specimen shall be mounted on test board, then bend the board and maintained for 20±1s. the distance of bending is 5+0.2/0 mm for resistors which size no larger than 1206 or 2+0.2/0 mm which size larger than 1206. Measure the variation of resistance.  $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100$ ----(%) R1 = 试验前阻值(resistance before test) R2 = 试验后阻值(resistance after test)
端子弯曲 Board Flex	AEC-Q200-005 焊接在PCB板上, 0201 ~ 1206弯板深度5mm, 1210以上弯板深度2mm; 保持60±1s Reflow solder the samples on PCB, 0201 ~ 1206 bending plate depth 5mm, 1210 above bending plate depth 2mm;Keep 60±1 s $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100$ ----(%) R1 = 试验前阻值(resistance before test) R2 = 试验后阻值(resistance after test)

内容 Item	测试条件 Test Conditions
温度循环 Temperature cycling	<p>JIS C 5201 4.19 电阻放入温度循环机中, 温度155±2°C至-55±3°C, 共5个循环。 量测试验前后阻值变化率。 Put specimen in a chamber which temperature can be changed to 155±2°C or -55±3°C, repeated 5 times. Measure the variation of resistance.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
	<p>JESD22 METHOD JA-104 -55°C~+155°C, 循环1000次, 在每一个极限温度持续时间不超过30分钟, 且温度转换时间不超过1分钟, 试验结束24±4小时后进行测试。 1000 Cycles (-55°C to +155°C) Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1min. maximum transition time.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
温湿循环 Moisture resistance	<p>MIL-STD-202 METHOD 106 25°C~65°C, 90~100%RH, 2.5小时; 65°C 90~100%RH, 3小时; 65°C~25°C, 80~100%RH, 2.5小时, 10个循环, 试验结束24±4小时后进行测试。 25°C~65°C, 90~100%RH, 2.5H; 65°C 90~100%RH, 3H; 65°C~25°C 80~100%RH, 2.5H, 10 cycles, Measurement at 24±4 hours after test conclusion.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
负荷寿命 Load life	<p>JIS C 5201 4.25.1 电阻放入恒温箱中, 温度70±2°C, ON TIME:1.5H, OFF TIME:0.5H, 通电额定电压1000⁺²⁴/₀小时, 量测试验前后阻值变化率。 Put the specimen in a chamber at 70±2°C temperature, ON TIME:1.5H, OFF TIME:0.5H, and applied rated voltage for 1000⁺²⁴/₀H. Measure the variation of resistance.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
负荷寿命 Operational life	<p>MIL-STD-202 METHOD 108 恒定温度125°C加载额定功率, ON TIME:1.5H, OFF TIME:0.5H, 额定电压1000⁺²⁴/₀小时 Load rated power, ON TIME:1.5H, OFF TIME:0.5H, rated voltage 1000⁺²⁴/₀ hours</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
耐湿特性 Humidity	<p>JIS C 5201 4.24 电阻放入恒温恒湿箱, 温度40±2°C, 湿度90~95%RH; 通电额定电压1.5小时, 断电0.5小时; 重复通断电至试验时间1000+48/-0小时。量测试验前后阻值变化率。 Put the specimen in a chamber at 40±2°C temperature and 90~95% relative humidity, then applied rated voltage for 1.5H and rested for 0.5H repeatedly till total test time is 1000+48/-0.. Measure the variation of resistance.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>

内容 Item	测试条件 Test Conditions
耐湿特性 Biased Humidity	<p>MIL-STD-202 METHOD 103 加载10%额定功率, 85°C/85%RH, 持续通电1000H, 试验结束24±4小时后进行测试 1000 hours 85°C/85%RH. Note: Specified conditions: 10% of operating power. Measurement at 24±4 hours after test conclusion.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
高温储存 High Temperature Exposure (Storage)	<p>MIL-STD-202 METHOD 108 155°C下放置1000h, 不加载功率, 试验结束24±4小时后进行测试。 1000 hrs. @ T=155°C. Unpowered. Measurement at 24±4 hours after test conclusion</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
ESD试验 ESD test	<p>AEC-Q200-002 加载规定静电电压2次/间隔1秒, 0201/0402规格: 0.5KV, 0603规格: 1KV, 其它规格2KV: 0201/0402: 0.5KV, 0603: 1.0KV, Other: 2KV, 2times/1s</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
抗硫化试验 Sulfurston test	<p>ASTM-B-809-95 汽车电阻: 方法一: 温度60°C, 湿热蒸硫粉试验 (加饱和硝酸钾) 750hrs 方法二: 切削油:硫粉=96.5:3.5, 温度60°C, 100 hrs; 预处理: 前后先经历3次回流焊+100次温冲 Method 1: steam sulfur powder test (with saturated potassium nitrate) at 60°C with humidity and heat (750hrs) Method 2: cutting oil: sulfur powder =96.5:3.5, temperature 60°C, 100 hrs; Pretreatment: before and after three reflow soldering + 100 thermal shock</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p> <p>抗硫化电阻: 方法一: 温度105°C, 湿热蒸硫粉试验 (加饱和硝酸钾) 750hrs 方法二: 切削油:硫粉=96.5:3.5, 温度105°C, 100H; 预处理: 前后先经历3次回流焊+100次温冲 Method 1: steam sulfur powder test (with saturated potassium nitrate) at 105°C with humidity and heat (750hrs) Method 2: cutting oil: sulfur powder =96.5:3.5, temperature 105°C, 100H; Pretreatment: before and after three reflow soldering + 100 thermal shock</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>
脉冲 Pulse	<p>IEC 60115-1 4.27 按照脉冲功率曲线加载脉冲功率1次, 测试前后阻值变化率。 Load pulse power 1 time according to Curve of pulse duration. Measure the variation of resistance.</p> $\Delta R\% = \frac{R_2 - R_1}{R_1} * 100 \text{----}(\%)$ <p>R1=试验前阻值(resistance before test) R2=试验后阻值(resistance after test)</p>

包装规格 (Tapping Specification)
卷盘尺寸(Reel Dimension)

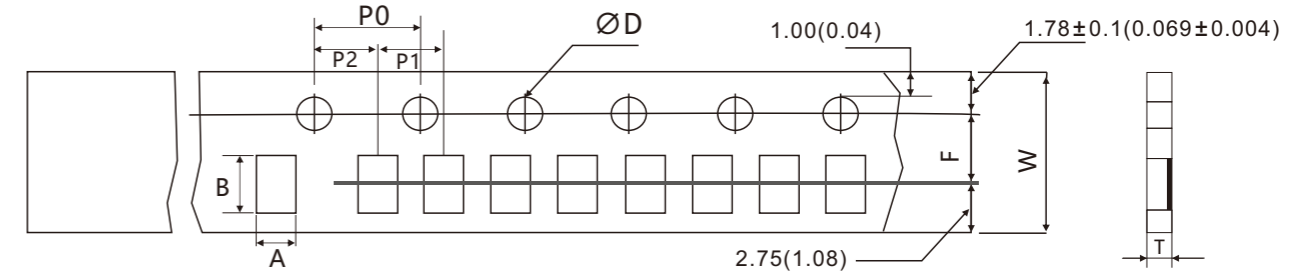


尺寸 Dimensions		A	B	C	F	W	
1005 0201 0402 0603 0805 1206 1210 0204 0306 0508 0612	mm	178±2.0	60.0±1.0	13.5±0.5	11.4±0.1	9.00±0.03	
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012	
	1812 2010 2512 1020 1225	mm	178±2.0	60.0±1.0	13.5±0.5	15.4±1.0	13.0±0.3
		Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.606±0.039	0.512±0.012

备注 (Remark) :

- (1)01005 每卷20,000pcs (01005为1005规格尺寸)
01005 Quantity per Reel 20,000pcs/Reel (01005 is 1005 size)
- (2)0201/0402/CA024A 每卷10,000pcs
0201/0402 Quantity per Reel 10,000pcs/Reel
- (3)1812/2010/2512 每卷4,000pcs
1812/2010/2512 Quantity per Reel 4,000pcs/Reel
- (4)0603/0805/1206/1210/CA034A 每卷5,000pcs
0603/0805/1206/1210 Quantity per Reel 5,000pcs/Reel
- (5)0402可依客户要求 每卷20,000pcs
0402 Quantity per Reel 20,000pcs/Reelas customer requirement

包装尺寸 (packing dimension)



单位毫米 Unit:mm

Dimension	A	B	D	F	P0	P1	P2	W	T
01005	0.24±0.05	0.45±0.05	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	2.00±0.05	2.00±0.05	8.00±0.20	0.40±0.07
0201	0.38±0.05	0.68±0.05	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	2.00±0.10	2.00±0.05	8.00±0.20	0.42±0.07
0402 0204	0.65±0.10	1.15±0.10	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	2.00±0.10	2.00±0.05	8.00±0.20	0.42±0.07
0603 0306	1.10±0.10	1.90±0.10	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	8.00±0.20	0.60±0.07
0805 0508	1.65±0.20	2.40±0.20	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	8.00±0.20	0.75±0.07
1206 0612	2.00±0.20	3.60±0.20	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	8.00±0.20	0.75±0.07
RM1206	2.0±0.15	3.6±0.20	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	8.00±0.20	0.84±0.10
1210	2.80±0.20	3.50±0.20	1.5± ^{0.1} / _{0.0}	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	8.00±0.20	0.75±0.07
1812	3.30±0.20	4.60±0.20	1.5± ^{0.1} / _{0.0}	5.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	12.0±0.10	1.0±0.07
2010 1020	2.90±0.10	5.30±0.10	1.5± ^{0.1} / _{0.0}	5.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	12.0±0.10	1.0±0.07
2512 1225	3.40±0.10	6.60±0.10	1.5± ^{0.1} / _{0.0}	5.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	12.0±0.10	1.0±0.07
RM2512	3.60+0.2 /-0.18	6.90±0.20	1.5± ^{0.1} / _{0.0}	5.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	12.0±0.20	1.0±0.15

特性 Features

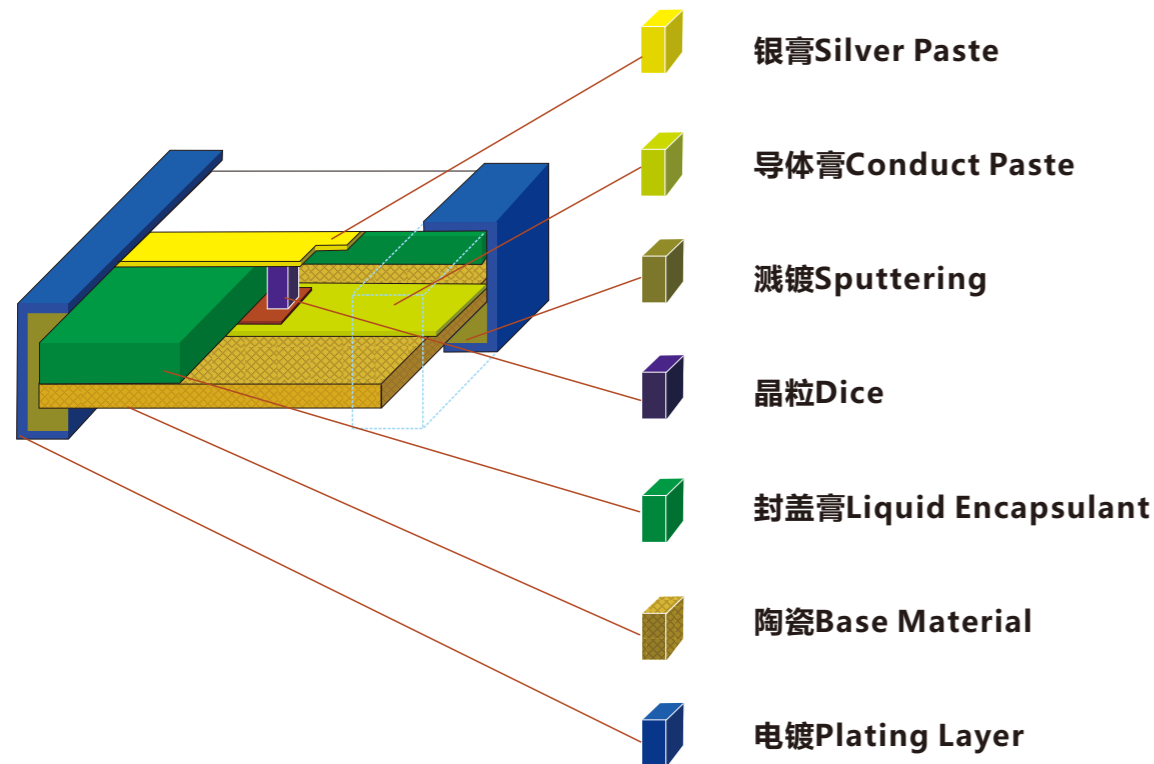
- 1.表面贴装组件, 适合应用于表面自动贴装应用.
Surface Mounted Device(SMD), Suitable for Auto-placement Surface Mounting Application
- 2.电极表面为电镀锡, 适合波峰焊和回流焊.
Matte Tin Plating Termination Layer for Reflow & Wave Soldering
- 3.产品基材为氧化铝陶瓷基板, 具有抗高热量及机械应力的能力
Aluminum Oxide Ceramic Substrate as Body, High Thermal and Mechanical Resist

应用 Application

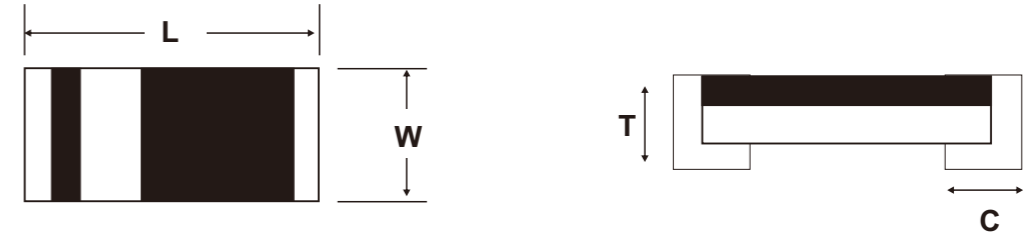
- 1.快速切换Fast Switching
- 2.适合各种电子电路板For General Purpose on Electronics Circuit Board

标识 Marking

标识为负电极Marking as Cathode Terminal



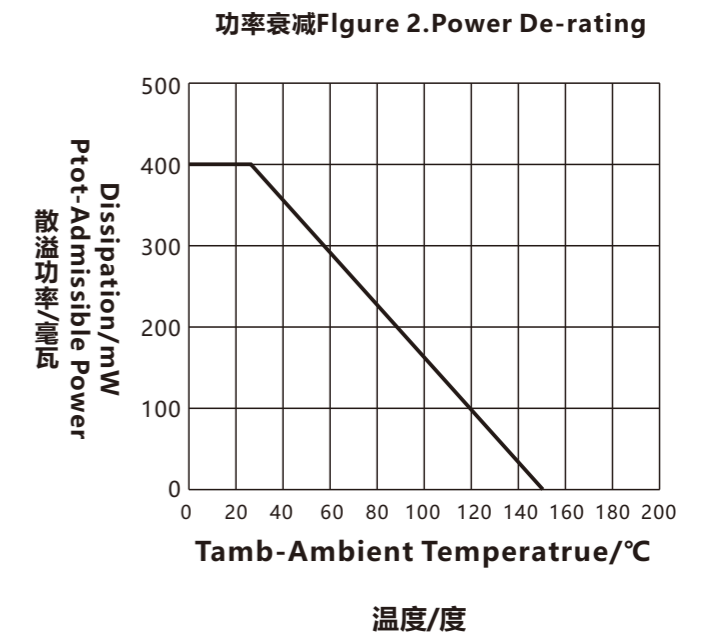
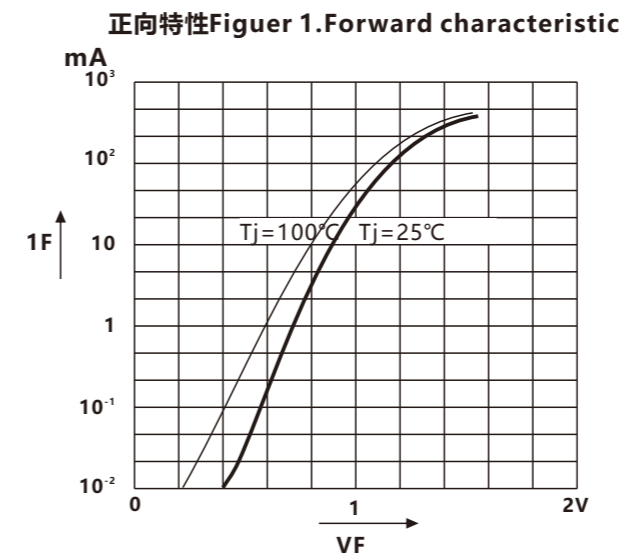
产品尺寸 Product Size



单位Unit:mm

系列Series	CD4148WP(1206)	CD4148WSP(0805)	CD4148WTP(0603)
长L	3.20±0.20	2.00±0.20	1.55±0.10
宽W	1.50±0.20	1.25±0.20	0.80±0.10
高T	0.75±0.10	0.75±0.10	0.65±0.10
背导长C	0.55±0.20	0.45±0.20	0.35±0.10

特性曲线 Characteristic Curve



电气特性, 温度=25°C Electrical Characteristic, Tamb=25°C

系列 Series		CD4148WP	CD4148WSP	CD4148WTP	CD4148WN	CD4148WSN	CD4148WTN
尺寸代码 (英寸/毫米) Size Code(Inch/mm)		1206 (3216)	0805 (2012)	0603 (1608)	1206 (3216)	0805 (2012)	0603 (1608)
操作温度 Operating Temperature		-55 ~ +150°C					
散溢温度 Power Dissipation	Ptot	400mW	200mW	200mW	400mW	200mW	200mW
可重复反向峰值电压 Repetitive Peak Reverse Voltage	VRRM	75V	75V	75V	100V	100V	90V
重复恢复电流 Repetitive Peak Forward Current	IFRM	300mA	300mA	225mA	300mA	300mA	225mA
非重复正向电流 Non-repetitive Surge Forward Current, at t < 1s	IFSM	500mA Max	500mA Max	400mA Max	500mA Max	500mA Max	400mA Max
平均整流电流 Average Rectified Current, at f > = 50Hz	IF(AV)	150mA Max	150mA Max	100mA Max	150mA Max	150mA Max	100mA Max
正向电压 Forward Voltage, at 10mA	VF	1.0V Max	1.0V Max	1.0V Max	1.0V Max	1.0V Max	1.0V Max
漏电流 Leakage Current, at 20V	IR	25nA Max	25nA Max	25nA Max	25nA Max	25nA Max	25nA Max
漏电流 Leakage Current, at 75V		5uA Max	5uA Max	5uA Max			
漏电流 Leakage Current, at 80V					0.5uA Max	0.5uA Max	0.1uA Max
电容 Capacitance, at VF=VR=0V	Ctot	4pF Max	4pF Max	4pF Max	4pF Max	4pF Max	3pF Max
反向恢复时间 Reverse Recovery Time, at IF=10mA & IR=1mA	Trr	4ns Max	4ns Max	4ns Max	4ns Max	4ns Max	4ns Max

特性测试 Test Characteristic

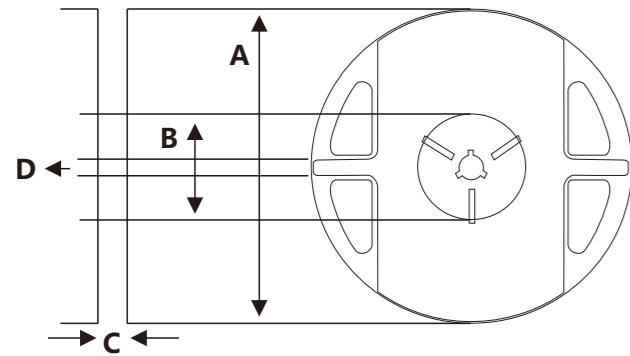
测试项目 Test Item	测试条件 Test Condition	规格 Requirement
可焊性 Solderability	245±5°C, 2±0.5秒锡炉浸锡 Sn bath at 245±5°C for 2±0.5s	焊锡面积 > 95% > 95% area tin covered
焊接耐热 Resistance To Soldering Heat	没有物理破损, 电性在规格内 Sn bath at 260±5°C for 10±2s 260±5°C, 10±1秒	V _{F1} V _R & I _R 电性在规格内, 外观 没有破损 V _{F1} V _R & I _R within spec; no mechanical damage
高温高湿 Humidity Steady State	85±5°C 85%RH 条件下保持168小时. At 85±5°C 85%RH for 168hrs	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
连续正向负荷寿命 Continue Forward Operating Life	IF=1.1*IO(165mA), 保持1000小时. 电性在规格内 At 25°C IF=1.1IF for 1000hrs	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
冷热冲击 Thermal Shock	-55±3°C/5分钟→150±3°C/5分钟; 10循环. 电性在 规格内 -55±5°C/5min to 150±5°C/5min for 10cycles	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
弯折 Bending Strength	弯曲2mm. 外观没有破损, 电性在规格 Bending up to 2mm for icycle	V _{F1} V _R & I _R 电性在规格内, 外观没有 破损 V _{F1} V _R & I _R Within Spec; no mechanical damage

包装 Packing

组件的纸带及卷盘的规格如 "IEC 60286-3自动封装处理"

Components tape and reel specifications are referring to "IEC 60286-3 Packaging of components for automatic handling"

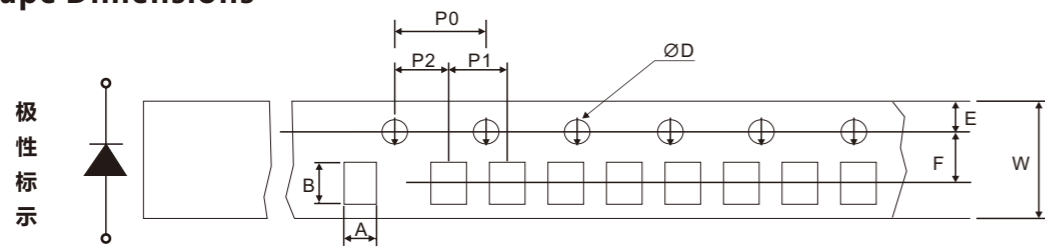
卷盘尺寸 Reel Dimensions



单位毫米 Unit:mm

项目 Item	尺寸 Dimension
A	178.0±1.0
B	60.0±1.0
C	9.5±0.3
D	13.0±0.3

纸带尺寸 Tape Dimensions



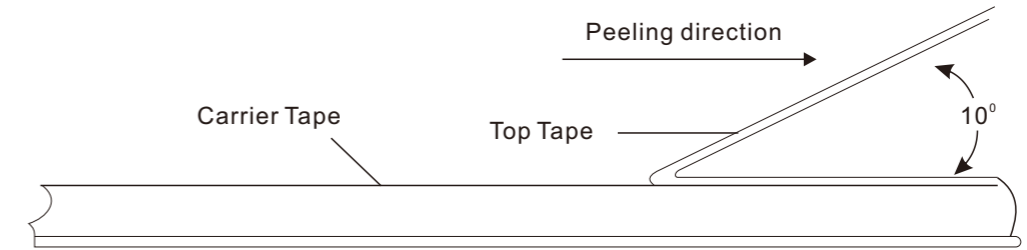
单位毫米 Unit:mm

尺寸 Dimension	1206	0805	0603
A	2.00±0.20	1.65±0.20	1.10±0.10
B	3.60±0.20	2.40±0.20	1.90±0.10
W	8.00±0.20	8.00±0.20	8.00±0.20
D	1.50±0.10	1.50±0.10	1.50±0.10
E	1.75±0.10	1.75±0.10	1.75±0.10
F	3.50±0.10	3.50±0.10	3.50±0.10
P0	4.00±0.10	4.00±0.10	4.00±0.10
P1	4.00±0.10	4.00±0.10	4.00±0.10
P2	2.00±0.05	2.00±0.05	2.00±0.05

上胶带剥离 Top Tape Peeling

上胶带剥离角度在165°~180°之间, 从载体上剥离角度如下图所示

The top tape peeling-off angle from carrier tape is within 165°C~180°C during application



订货方式 Ordering Procedure

订货方式(例如 芯片开关二极管4148 1206 75V Lead Free)

Ordering Procedure (Example Chip Switching Diode 4148 1206 75V)

料号 (Part Number):CD4148WP

CD	4148	W	P
产品系列 Product Series CD:贴片二极管 Chip Diode	产品类别 Product Type 4148:75V 4448:75V(IF=100mA) BAV21: 高压200V (High voltage 200V)	尺寸 Size WQ:0402 WT:0603 WS:0805 W:1206	特别码 Special Code P:无铅 Lead-free N:反向电压100V VRRM 100V

卷装数量 Reel Quantity

每卷5,000PCS/5,000PCS Per Reel

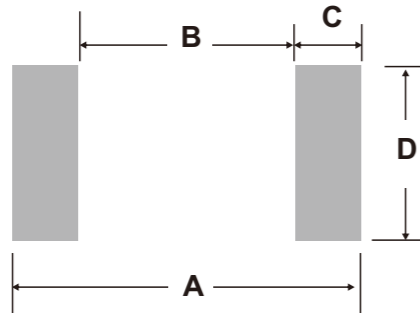
储存条件 Storage Condition

由于高温和潮湿或化学环境, 产品终端的可焊性会降低. 环境温度需在40°C以下, 环境相对湿度需小于75%, 远离化学物
Product termination solderability can degrade due to high temperature and humidity or chemical environment.
Storage condition must be in an ambient temperature of < 40°C and ambient humidity of < 75%RH, and free from chemical.

免责声明 Disclaimers

以下情况应避免使用这些产品: 故障可能造成人身伤亡, 严重的财产或环境损害, 如医疗, 军事, 航空, 太空或生命支持设备损坏等
These products are not designed for use in applications where any failure or malfunction may result in personal injury, death or severe property or environmental damage such as medical, military, aircraft, space or life support equipments.

推荐焊盘尺寸 Recommended Soldering PAD

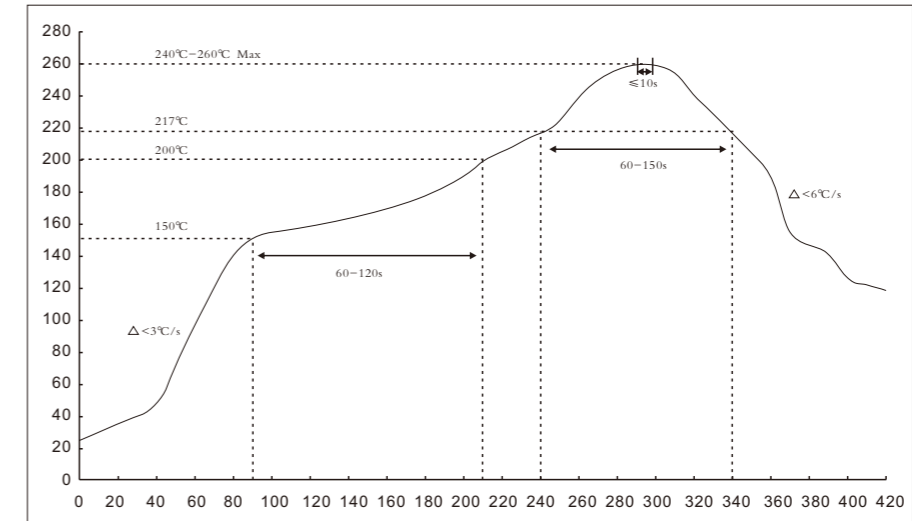


回流焊接/波峰焊接 Reflow/Wave Soldering				
产品尺寸 Product Size	尺寸/毫米 Dimension/mm			
	A	B	C	D
1206	3.8-4.6	2.2	0.8-1.2	1.5-1.7
0805	2.6-3.4	1.2	0.7-1.1	1.2-1.4
0603	1.8-2.6	0.8	0.5-0.9	0.8-1.0

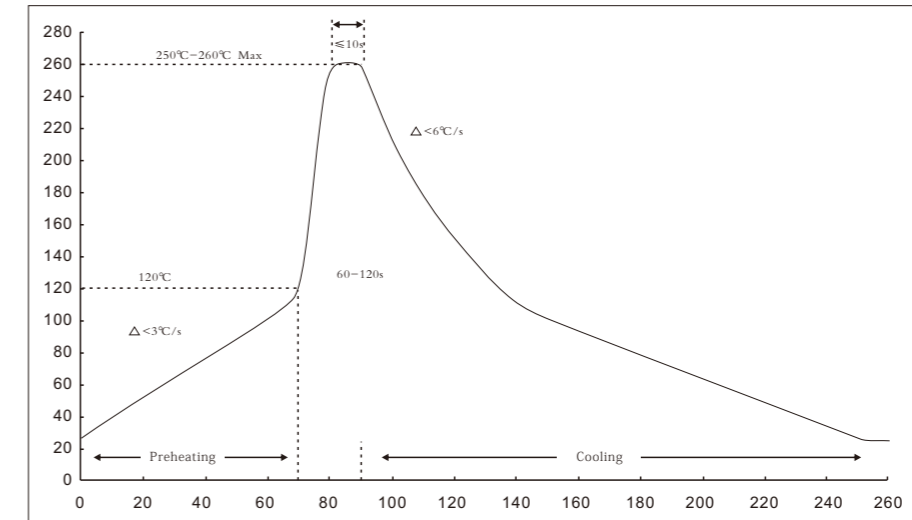
焊接条件与提示 Soldering Condition & Caution

推荐焊接条件 Recommended Soldering Condition (Refer to IPC/JEDEC J-STD-020D 4-1&5.2)			
推荐曲线条件 Recommended Profile Condition	锡铅焊接 Sn-Pb Soldering	无铅焊接 Lead free Soldering	波峰焊接 Wave Soldering
升温速度 (从预热阶段开始) Ramp-up Rate(From Pre-heat Stage)	< 3°C/s	< 3°C/s	Δ T < 150°C
预热温度与时间 Pre-heat Temperature & Time	100-150°C 60-120s	150-200°C 60-120s	100-150°C 60-120s
焊接温度与时间 Soldering Temperature & Time	183°C 60-150s	217°C 60-150s	260±5°C 5±2s
最高温度 Peak Temperature	230±5°C < 260°C	240±5°C < 260°C	260±5°C
最高温度为5°C的时间 Time Within 5°C of Peak Temperature	10-20s	20-30s	—
降温速度 Ramp-down Rate	< 6°C/s	< 6°C/s	< 6°C/s
从25°C到最高温度时间 Time 25°C to Peak Temperature	< 6min	< 8min	—
手工烙铁焊接条件: 350°C 3S, 避免烙铁头直接接触材料本体 Manual Soldering: Approx. 350°C for 3s, avoid solder iron tip direct touch component's body			

推荐焊接温度曲线 Recommended Soldering Profile



图一：无铅回流焊接温度曲线 (锡银铜)
Fig1: Reflow Soldering Profile for Lead-free Solder (SnAgCu)



图二：波峰焊接温度曲线
Fig2: wave Soldering Profile

1. 推荐的配置文件是指IPC/JEDEC J-STD-020D & IEC-60068-2-58

The recommended profiles are referring to IPC/JEDEC J-STD-020D & IEC-60068-2-58

2. 贴片二极管能承受最高焊接温度为260摄氏度的最长时间是10秒，最大焊接周期的三倍；参考文献：IEC-60068-2-58

Chip diodes are able to stand maximum soldering temperature up to 260°C max for 10s, and the soldering cycles with max 3 times, referring to IEC-60068-2-58

特性 Features

- 1.SMD模式, 适合各种尺寸
SMD Chip Pattern, Available In Various Dimensions
- 2.电极表面为电镀锡, 适合波峰焊和回流焊
Matte Tin Plating Termination Layer for Reflow & Wave Soldering
- 3.产品基材为氧化铝陶瓷基板, 具有抗高热量及机械应力的能力
Aluminum Oxide Ceramic Substrate as Body, High Thermal and Mechanical Resist

应用 Application

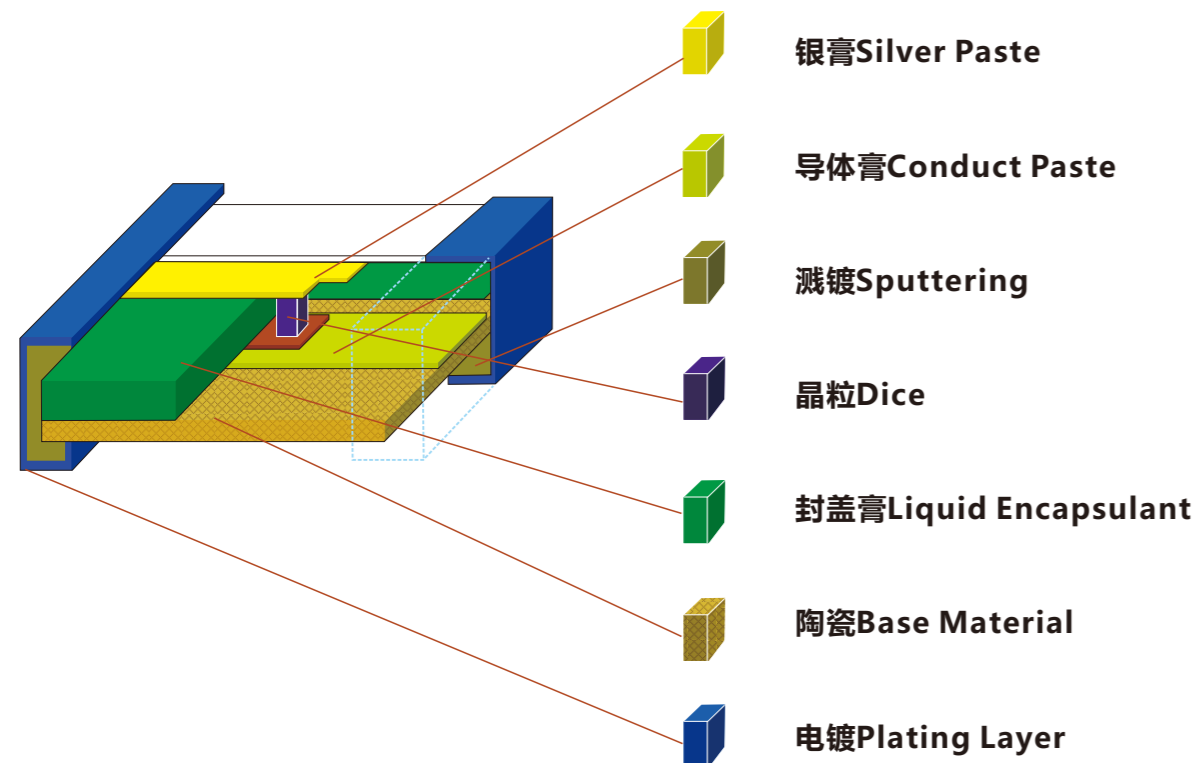
适用于各种电子电路板
For General Purpose on Eleceronics Circuit Board

标识 Marking

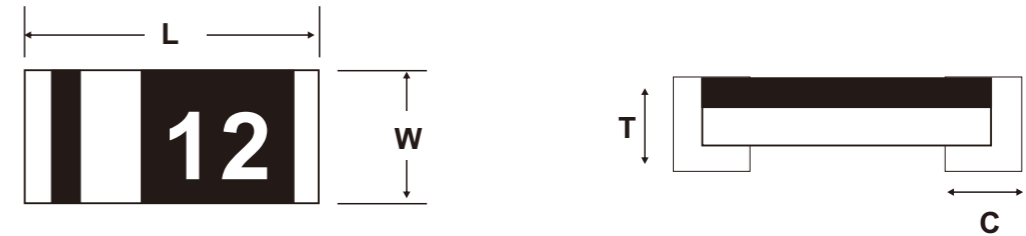
标记为肖特基电压代码 & 阴极终端
Marking as Schottky Voltage Code & Cathode Terminal



产品结构 Product Structure



产品尺寸 Product Size

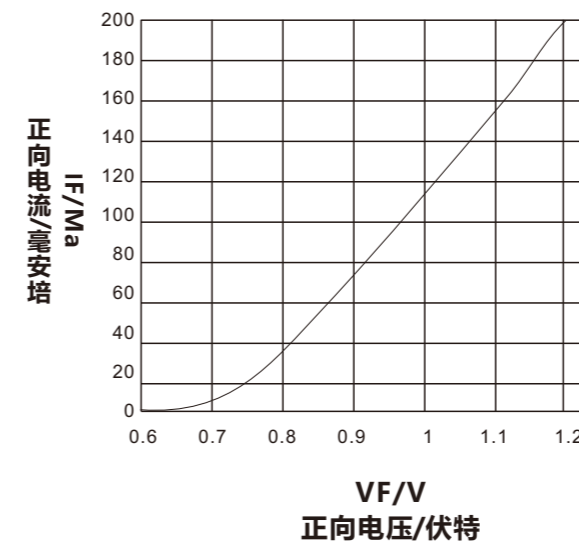


单位 Unit: mm

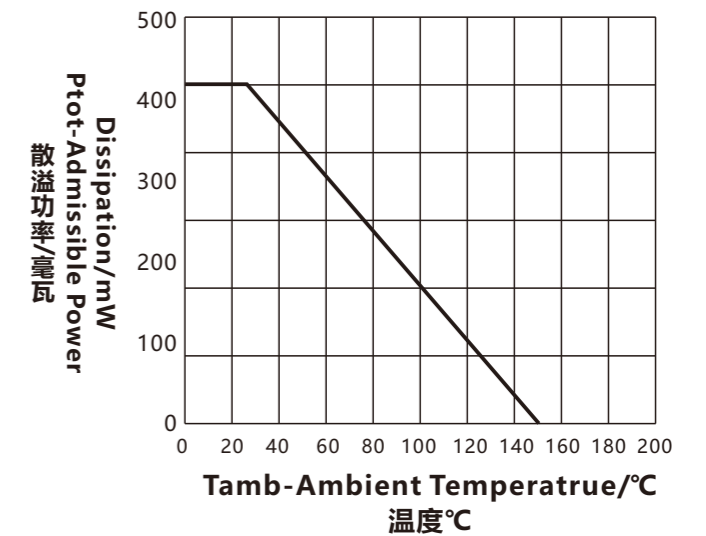
系列 Series	CDZ55	CDZ55-S	CDZ55-T
长 L	3.2±0.20	2.00±0.20	1.55±0.10
宽 W	1.50±0.20	1.25±0.20	0.80±0.10
高 T	0.75±0.10	0.75±0.10	0.65±0.10
背导长 C	0.55±0.20	0.45±0.20	0.35±0.10

特性曲线 Characteristic Curve

正向电流和电压 Figure 1. Forward Current vs Forward Voltage



功率衰减 Figure 2. Power De-rating



电气特性, 温度=25°C Electrical Characteristic, Tamb=25°C

系列 Series	CDZ55B	CDZ55C	CDZ55B-S	CDZ55C-S	CDZ55B-T	CDZ55C-M	CDZ55C-SM	CDZ55C-TM	
尺寸代码 (英寸/毫米) Size Code(Inch/mm)	1206 (3216)	1206 (3216)	0805 (2012)	0805 (2012)	0603 (1608)	0603 (1608)	0805 (2012)	0603 (1608)	
操作温度 Operating Temperature	-55 ~ +150°C								
散热功率 Power Dissipation	Ptot	500mW			200mW		500mW	200mW	
正向电压, 在200毫安 Forward Voltage, at 200mA	VF	1.5V MAX							
齐纳电压公差 Zener Voltage Tolerance		2%	5%	2%	5%	2%	5%	5%	
齐纳电压范围 Zener Voltage Range	VZ	2.4 ~ 75V (2.4V only 5%)				5.1 ~ 5.6V			
最大齐纳阻抗 Max Zener Impedance	ZZT, ZZK	Refer Next Page Electrical Data				5 Refer Next Page Electrical Data			
最大反向漏电流 Max Reverse Leakage Current	IR	< 100uA@4.2V							

特性测试 Test Characteristic

测试项目 Test Item	测试条件 Test Condition	规格 Requirement
可焊性 Solderability	245±5°C, 2±0.5秒锡炉浸锡 Sn bath at 245±5°C for 2±0.5s	焊锡面积 > 95% > 95% area tin covered
焊接耐热 Resistance To Soldering Heat	没有物理破损, 电性在规格内 Sn bath at 260±5°C for 10±2s 260±5°C, 10±1秒	V _{F1} , V _R & I _R 电性在规格内, 外观没有破损 V _{F1} , V _R & I _R within spec; no mechanical damage
高温高湿 Humidity Steady State	85±3°C 85%RH 条件下保持168小时. At 85±5°C 85%RH for 168hrs	V _{F1} , V _R & I _R 电性在规格内 V _{F1} , V _R & I _R Within Spec
连续正向负荷寿命 Continue Forward Operating Life	IF=1.1*IO(165mA), 保持1000小时. 电性在规格内 At 25°C IF=1.1IF for 1000hrs	V _{F1} , V _R & I _R 电性在规格内 V _{F1} , V _R & I _R Within Spec
冷热冲击 Thermal Shock	-55±3°C/5分钟 → 150±3°C/5分钟; 10循环. 电性在规格内 -55±5°C/5min to 150±5°C/5min for 10cycles	V _{F1} , V _R & I _R 电性在规格内 V _{F1} , V _R & I _R Within Spec
弯折 Bending Strength	弯曲2mm. 外观没有破损, 电性在规格 Bending up to 2mm for 1cycle	V _{F1} , V _R & I _R 电性在规格内, 外观没有破损 V _{F1} , V _R & I _R Within Spec; no mechanical damage

电性数据 Electrical Data

CDZ55B & CDZ55B-S & CDZ55B-T 齐纳电压公差 2%
CDZ55B & CDZ55B-S & CDZ55B-T 2% Zener Voltage Tolerance

料号 Part Number	标识 Marking	正常齐纳电压 Nominal Zener Voltage		最大齐纳阻抗 Max Zener Impedance				最大反向漏电流 Max Reverse Leakage Current		
		VZ @ IZT		ZZT @ IZT		ZZK @ IZK		IR @ VR		
CDZ55B	CDZ55B-S	Min V	Max V	Ω	mA	Ω	mA	uA	V	
CDZ55B2V7	CDZ55B2V7S	2V7	2.65	2.75	85	5	600	1	10	1
CDZ55B3V0	CDZ55B3V0S	3	2.94	3.06	85	5	600	1	4	1
CDZ55B3V3	CDZ55B3V3S	3V3	3.23	3.37	85	5	600	1	2	1
CDZ55B3V6	CDZ55B3V6S	3V6	3.53	3.67	85	5	600	1	2	1
CDZ55B3V9	CDZ55B3V9S	3V9	3.82	3.98	85	5	600	1	2	1
CDZ55B4V3	CDZ55B4V3S	4V3	4.21	4.39	80	5	600	1	1	1
CDZ55B4V7	CDZ55B4V7S	4V7	4.61	4.79	70	5	600	1	0.5	1
CDZ55B5V1	CDZ55B5V1S	5V1	5.00	5.20	50	5	550	1	0.1	1
CDZ55B5V6	CDZ55B5V6S	5V6	5.49	5.71	30	5	450	1	0.1	1
CDZ55B6V2	CDZ55B6V2S	6V2	6.08	6.32	10	5	200	1	0.1	2
CDZ55B6V8	CDZ55B6V8S	6V8	6.66	6.94	8	5	150	1	0.1	3
CDZ55B7V5	CDZ55B7V5S	7V5	7.35	7.65	7	5	50	1	0.1	5
CDZ55B8V2	CDZ55B8V2S	8V2	8.04	8.36	7	5	50	1	0.1	6.2
CDZ55B9V1	CDZ55B9V1S	9V1	8.92	9.28	10	5	50	1	0.1	6.8
CDZ55B10	CDZ55B10S	10	9.80	10.20	15	5	70	1	0.1	7.5
CDZ55B11	CDZ55B11S	11	10.78	11.22	20	5	70	1	0.1	8.2
CDZ55B12	CDZ55B12S	12	11.79	12.24	20	5	90	1	0.1	9.1
CDZ55B13	CDZ55B13S	13	12.74	13.26	26	5	110	1	0.1	10
CDZ55B15	CDZ55B15S	15	14.70	15.30	30	5	110	1	0.1	11
CDZ55B16	CDZ55B16S	16	15.68	16.32	40	5	170	1	0.1	12
CDZ55B18	CDZ55B18S	18	17.64	18.36	50	5	170	1	0.1	13
CDZ55B20	CDZ55B20S	20	19.60	20.40	55	5	220	1	0.1	15
CDZ55B22	CDZ55B22S	22	21.56	22.44	55	5	220	1	0.1	16
CDZ55B24	CDZ55B24S	24	23.52	24.48	80	5	220	1	0.1	18
CDZ55B27	CDZ55B27S	27	26.46	27.54	80	5	220	1	0.1	20
CDZ55B30	CDZ55B30S	30	29.40	30.60	80	5	220	1	0.1	22
CDZ55B33	CDZ55B33S	33	32.34	33.66	80	5	220	1	0.1	24
CDZ55B36	CDZ55B36S	36	35.28	36.72	80	5	220	1	0.1	27

*39V-75V可用 39V-75V Available Upon Request

CDZ55B & CDZ55B-S & CDZ55C-T 齐纳电压公差5%
CDZ55C & CDZ55C-S & CDZ55C-T 5% Zener Voltage Tolerance

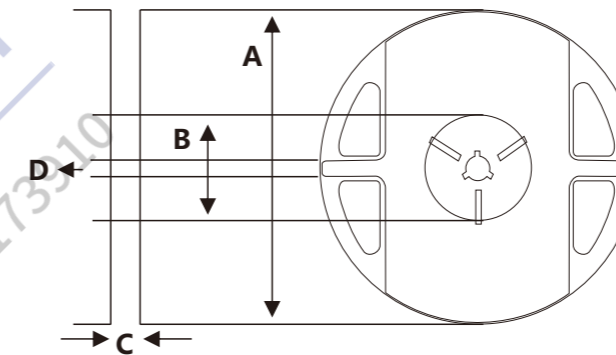
料号 Part Number		标识 Marking	正常齐纳电压 Nominal Zener Voltage		最大齐纳阻抗 Max Zener Impedance				最大反向漏电流 Max Reverse Leakage Current	
			VZ @ IZT		ZZT @ IZT		ZZK @ IZK		IR @ VR	
CDZ55C	CDZ55C-S		Min V	Max V	Ω	mA	Ω	mA	uA	V
CDZ55C2V4	CDZ55C2V4S	2V4	2.28	2.52	85	5	600	1	100	1
CDZ55C2V7	CDZ55C2V7S	2V7	2.57	2.84	85	5	600	1	10	1
CDZ55C3V0	CDZ55C3V0S	3V0	2.85	3.15	85	5	600	1	4	1
CDZ55C3V3	CDZ55C3V3S	3V3	3.14	3.47	85	5	600	1	2	1
CDZ55C3V6	CDZ55C3V6S	3V6	3.42	3.78	85	5	600	1	2	1
CDZ55C3V9	CDZ55C3V9S	3V9	3.71	4.10	85	5	600	1	2	1
CDZ55C4V3	CDZ55C4V3S	4V3	4.09	4.52	80	5	600	1	1	1
CDZ55C4V7	CDZ55C4V7S	4V7	4.47	4.94	70	5	600	1	0.5	1
CDZ55C5V1	CDZ55C5V1S	5V1	4.85	5.36	50	5	550	1	0.1	1
CDZ55C5V6	CDZ55C5V6S	5V6	5.32	5.88	30	5	450	1	0.1	1
CDZ55C6V2	CDZ55C6V2S	6V2	5.89	6.51	10	5	200	1	0.1	2
CDZ55C6V8	CDZ55C6V8S	6V8	6.46	7.14	8	5	150	1	0.1	3
CDZ55C7V5	CDZ55C7V5S	7V5	7.13	7.88	7	5	50	1	0.1	5
CDZ55C8V2	CDZ55C8V2S	8V2	7.79	8.61	7	5	50	1	0.1	6.2
CDZ55C9V1	CDZ55C9V1S	9V1	8.65	9.56	10	5	50	1	0.1	6.8
CDZ55C10	CDZ55C10S	10	9.50	10.50	15	5	70	1	0.1	7.5
CDZ55C11	CDZ55C11S	11	10.45	11.55	20	5	70	1	0.1	8.2
CDZ55C12	CDZ55C12S	12	11.40	12.60	20	5	90	1	0.1	9.1
CDZ55C13	CDZ55C13S	13	12.35	13.65	26	5	110	1	0.1	10
CDZ55C15	CDZ55C15S	15	14.25	15.75	30	5	110	1	0.1	11
CDZ55C16	CDZ55C16S	16	15.20	16.80	40	5	170	1	0.1	12
CDZ55C18	CDZ55C18S	18	17.10	18.90	50	5	170	1	0.1	13
CDZ55C20	CDZ55C20S	20	19.00	21.00	55	5	220	1	0.1	15
CDZ55C22	CDZ55C22S	22	20.90	23.10	55	5	220	1	0.1	16
CDZ55C24	CDZ55C24S	24	22.80	25.20	80	5	220	1	0.1	18
CDZ55C27	CDZ55C27S	27	25.65	28.35	80	5	220	1	0.1	20
CDZ55C30	CDZ55C30S	30	28.50	31.50	80	5	220	1	0.1	22
CDZ55C33	CDZ55C33S	33	31.35	34.65	80	5	220	1	0.1	24
CDZ55C36	CDZ55C36S	36	34.20	37.80	80	5	220	1	0.1	27

*39V-75V可用39V-75V Available Upon Request

包装 Packing

组件的纸带及卷盘的规格如 "IEC 60286-3自动封装处理"
Components tape and reel specifications are referring to "IEC 60286-3 Packaging of components for automatic handling"

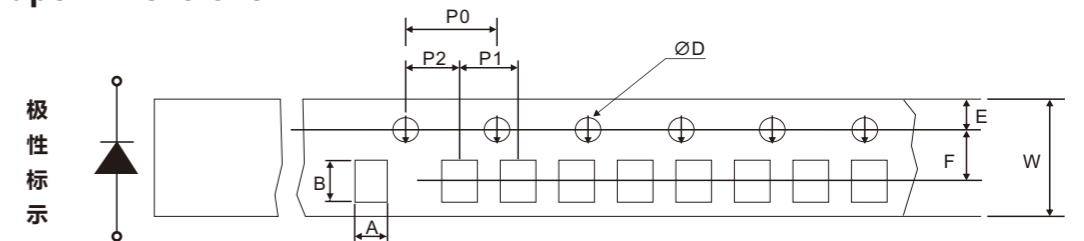
卷盘尺寸 Reel Dimensions



单位毫米 Unit:mm

项目 Item	尺寸 Dimension
A	178.0±1.0
B	60.0±1.0
C	9.5±0.3
D	13.0±0.3

纸带尺寸 Tape Dimensions

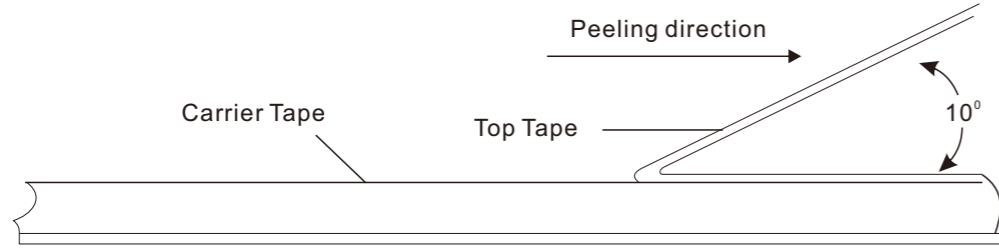


单位毫米 Unit:mm

尺寸 Dimension	1206	0805	0603
A	2.00±0.20	1.65±0.20	1.10±0.10
B	3.60±0.20	2.40±0.20	1.90±0.10
W	8.00±0.20	8.00±0.20	8.00±0.20
D	1.50±0.10	1.50±0.10	1.50±0.10
E	1.75±0.10	1.75±0.10	1.75±0.10
F	3.50±0.10	3.50±0.10	3.50±0.10
P0	4.00±0.10	4.00±0.10	4.00±0.10
P1	4.00±0.10	4.00±0.10	4.00±0.10
P2	2.00±0.05	2.00±0.05	2.00±0.05

上胶带剥离 Top Tape Peeling

上胶带剥离角度在165°~180°之间，从载体上剥离角度如下图所示
The top tape peeling-off angle from carrier tape is within 165°-180° during application



订货方式 Ordering Procedure

订货方式(例如 芯片稳压二极管0805 5% 12V 0.1-0.5W 5mA)

Ordering Procedure (Example Chip Zener Diode 0805 5% 12V 0.1-0.5W 5mA)

料号 (Part Number):CDZ55C12S

CD	Z55	C	12	S	
产品系列 Product Series CD:贴片二极管 Chip Diode	产品类型 Product Type Z55:Zener 0.1-0.5W 5mA Z52:Zener 0.1-0.5W 20mA Z47:Zener 1W	公差 Tolerance B=±2% C=±5% L=±3% M=+5%	电压 Voltage 2V2=2.2V 3V0=3V 12=12V 30=30V	尺寸 Size A:2010(SMA 等同equivalent) S:0805 T:0603 Q:0402	特殊代码 Special Code :Lead-free M:Low IR

卷装数量 Reel Quantity

每卷5,000PCS/5,000PCS Per Reel

储存条件 Storage Condition

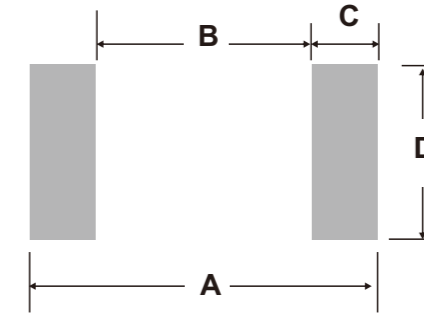
由于高温和潮湿或化学环境，产品终端的可焊性会降低。环境温度需在40°C以下，环境相对湿度需小于75%，远离化学物
Product termination solderability can degrade due to high temperature and humidity or chemical environment.
Storage condition must be in an ambient temperature of < 40°C and ambient humidity of < 75%RH, and free from chemical.

免责声明 Disclaimers

以下情况应避免使用这些产品：故障可能造成人身伤亡，严重的财产或环境损害，如医疗，军事，航空，太空或生命支持设备损坏等

These products are not designed for use in applications where any failure or malfunction may result in personal injury, death or severe property or environmental damage such as medical, military, aircraft, space or life support equipments.

推荐焊盘尺寸 Recommended Soldering PAD

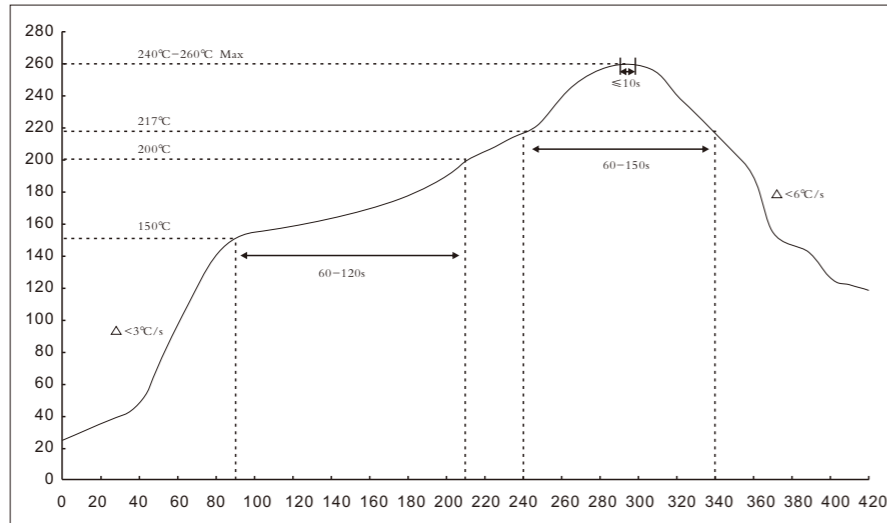


回流焊接/波峰焊接 Reflow/Wave Soldering				
产品尺寸 Product Size	尺寸/毫米 Dimension/mm			
	A	B	C	D
1206	3.8-4.6	2.2	0.8-1.2	1.5-1.7
0805	2.6-3.4	1.2	0.7-1.1	1.2-1.4
0603	1.8-2.6	0.8	0.5-0.9	0.8-1.0

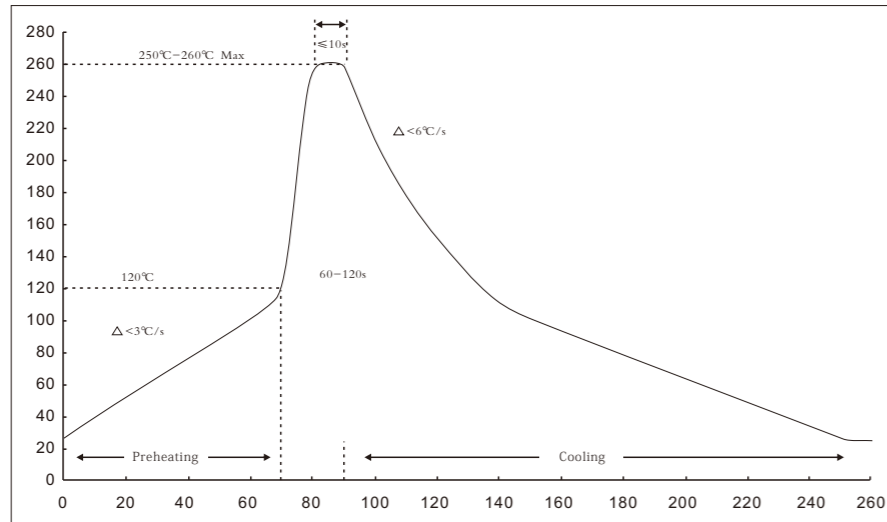
焊接条件与提示 Soldering Condition & Caution

推荐焊接条件 Recommended Soldering Condition (Refer to IPC/JEDEC J-STD-020D 4-1 & 5.2)			
推荐曲线条件 Recommended Profile Condition	锡铅焊接 Sn-Pb Soldering	无铅焊接 Lead free Soldering	波峰焊接 Wave Soldering
升温速度 (从预热阶段开始) Ramp-up Rate (From Pre-heat Stage)	< 3°C/s	< 3°C/s	Δ T < 150°C
预热温度与时间 Pre-heat Temperature & Time	100-150°C 60-120s	150-200°C 60-120s	100-150°C 60-120s
焊接温度与时间 Soldering Temperature & Time	183°C 60-150s	217°C 60-150s	260±5°C 5±2s
最高温度 Peak Temperature	230±5°C < 260°C	240±5°C < 260°C	260±5°C
最高温度为5°C的时间 Time Within 5°C of Peak Temperature	10-20s	20-30s	—
降温速度 Ramp-down Rate	< 6°C/s	< 6°C/s	< 6°C/s
从25°C到最高温度时间 Time 25°C to Peak Temperature	< 6min	< 8min	—
手工烙铁焊接条件：350°C 3S，避免烙铁头直接接触材料本体 Manual Soldering: Approx. 350°C for 3s, avoid solder iron tip direct touch component's body			

推荐焊接温度曲线 Reommended Soldering Profile



图一：无铅回流焊接温度曲线（锡银铜）
Fig1: Reflow Soldering Profile for Lead-free Solder (SnAgCu)



图二：波峰焊接温度曲线
Fig2: wave Soldering Profile

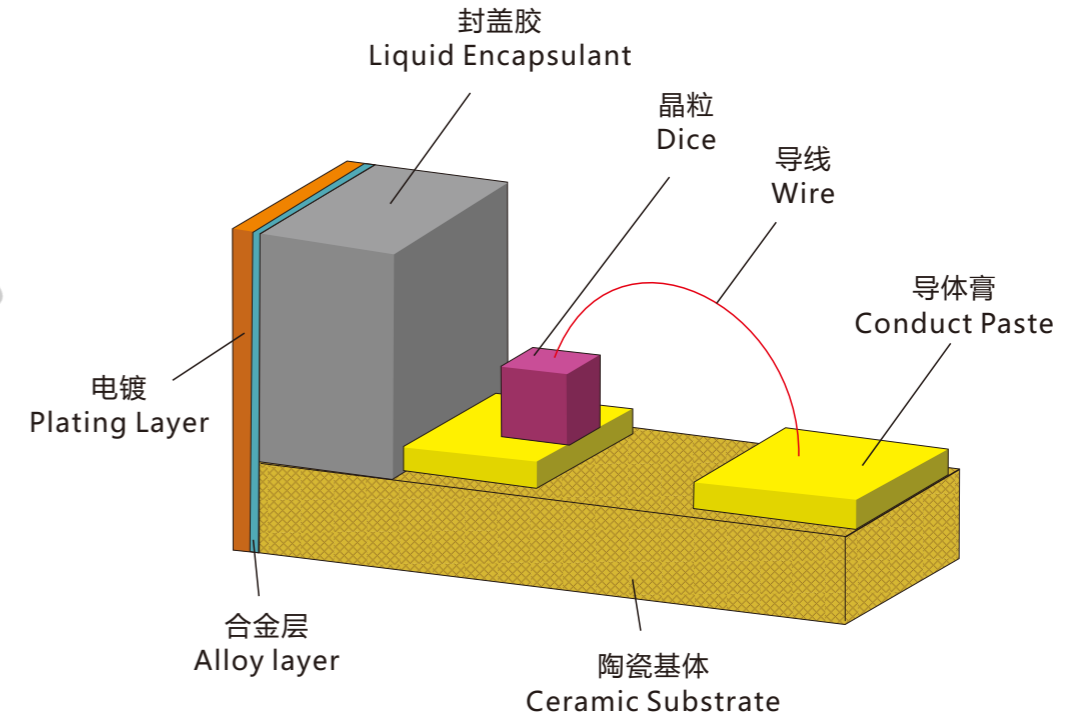
1. 推荐的配置文件是指IPC/JEDEC J-STD-020D & IEC-60068-2-58

The recommended profiles are referring to IPC/JEDEC J-STD-020D & IEC-60068-2-58

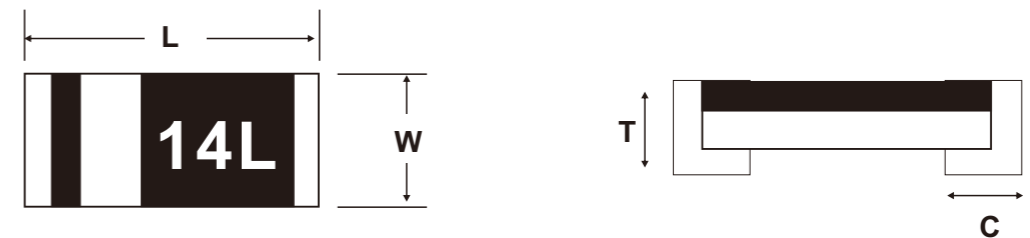
2. 贴片二极管能承受最高焊接温度为260摄氏度的最长时间是10秒，最大焊接周期的三倍；参考文献：IEC-60068-2-58

Chip diodes are able to stand maximum soldering temperature up to 260°C max for 10s, and the soldering cycles with max 3 times, referring to IEC-60068-2-58

产品结构 Product Structure



产品尺寸 Product Size



单位Unit:mm

系列Series	CDB140SL	CDB0530SL	CDB0230TL	CDB0230TM
长L	2.00±0.20	2.00±0.20	1.55±0.10	1.55±0.10
宽W	1.25±0.20	1.25±0.20	0.80±0.10	0.80±0.10
高T	0.75±0.10	0.75±0.10	0.65±0.10	0.65±0.10
背导长C	0.45±0.20	0.45±0.20	0.35±0.10	0.35±0.10

特性 Features

- 1.SMD模式, 适合各种尺寸
SMD Chip Pattern, Available In Various Dimensions
- 2.电极表面为电镀锡, 适合波峰焊和回流焊
Matte Tin Plating Termination Layer for Reflow & Wave Soldering
- 3.产品基材为氧化铝陶瓷基板, 具有抗高热量及机械应力的能力
Aluminum Oxide Ceramic Substrate as Body, High Thermal and Mechanical Resist

应用 Application

适用于各种电子电路板
For General Purpose on Eleceronics Circuit Board

标识 Marking

标记为肖特基电压 & 电流代码 & 阴极终端
Marking as Schottky Voltage & Current Code & Cathode Terminal



电气特性, 温度=25°C Electrical Characteristics, Tamb=25°C

系列 Series		CDB140SL	CDB0530SL	CDB0230TL	CDB0230TM
尺寸代码 (英寸/毫米) Size Code(Inch/mm)		0805(2012)	0805(2012)	0603(1608)	0603(1608)
反向电压 (重复峰值) Reverse voltage (repetitive peak)	VRM	40V	30V	30V	30V
反向电压 (直流) Reverse voltage(DC)	VR	40V	20V	30V	30V
平均整流正向电流 Average rectified forward current	Io	1A	0.5A	0.2A	0.2A
正向峰值突波电流 Forward current surge peak	IFSM	5A	5A	1A	1A
界面温度 Junction Temperature	Tj	150°C	150°C	150°C	150°C
操作温度 & 储存温度范围 Operating & Storage Temperature range	Tstg	-55°C ~ +150°C			

特性测试 Test Characteristic

测试项目 Test Item	测试条件 Test Condition	规格 Requierment
可焊性 Solderability	245±5°C, 2±0.5秒锡炉浸锡 Sn bath at 245±5°C for 2±0.5s	焊锡面积 > 95% > 95% area tin covered
焊接耐热 Resistance To Soldering Heat	没有物理破损, 电性在规格内 Sn bath at 260±5°C for 10±2s 260±5°C, 10±1秒	V _{F1} V _R & I _R 电性在规格内, 外观没有破损 V _{F1} V _R & I _R within spec; no mechanical damage
高温高湿 Humidity Steady State	85±3°C 85%RH 条件下保持168小时. At 85±5°C 85%RH for 168hrs	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
连续正向负荷寿命 Continue Forward Operating Life	IF=1.1*IO(165mA), 保持1000小时. 电性在规格内 At 25°C IF=1.1IF for 1000hrs	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
冷热冲击 Thermal Shock	-55±3°C/5分钟→150±3°C/5分钟; 10循环. 电性在规格内 -55±5°C/5min to 150±5°C/5min for 10cycles	V _{F1} V _R & I _R 电性在规格内 V _{F1} V _R & I _R Within Spec
弯折 Bending Strength	弯曲2mm. 外观没有破损, 电性在规格 Bending up to 2mm for icycle	V _{F1} V _R & I _R 电性在规格内, 外观没有破损 V _{F1} V _R & I _R Within Spec; no mechanical damage

电性数据 Electrical Data

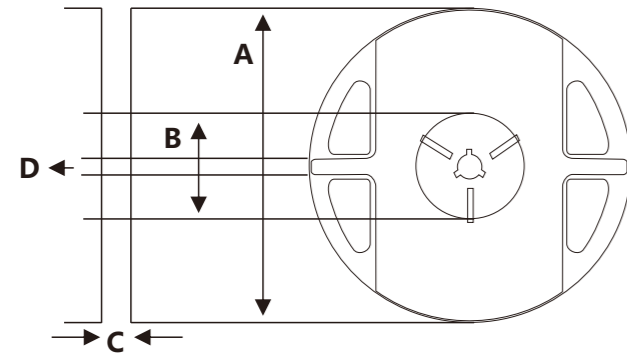
料号 Part Number	封装尺寸 Package Size	正向电压 Forward Voltage		反向电流 Resistive Current		标识 Marking
		VF	IF	IR	VR	
CDB140SL	0805	0.55V	0.7A	50uA	40V	14L
CDB0530SL	0805	0.36V	0.1A	100uA	20V	O3L
		0.47V	0.5A			
CDB0230TL	0603	0.5V	0.2A	30uA	10V	YL
CDB0230TM	0603	0.6V	0.2A	1uA	10V	YM

包装 Packing

组件的纸带及卷盘的规格如 "IEC 60286-3自动封装处理"

Components tape and reel specifications are referring to "IEC 60286-3 Packaging of components for automatic handling"

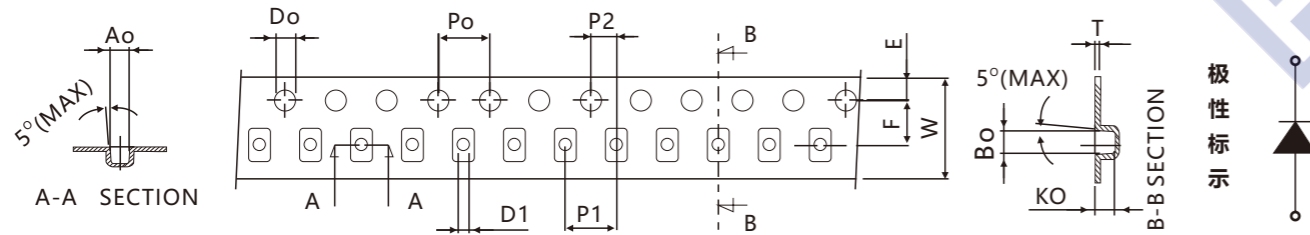
卷盘尺寸 Reel Dimensions



单位毫米 Unit:mm

项目 Item	尺寸 Dimension
A	178.0±1.0
B	60.0±1.0
C	9.5±0.3
D	13.0±0.3

纸带尺寸 Tape Dimensions



单位毫米 Unit:mm

尺寸 Dimension	0805	0603
Ao	1.65±0.10	1.10±0.05
Bo	2.35±0.10	1.90±0.05
Ko	1.50±0.10	1.05±0.05
Po	4.00±0.10	4.00±0.10
P1	4.00±0.10	4.00±0.10
P2	2.00±0.10	2.00±0.05
T	0.25±0.10	0.20±0.05
E	1.75±0.10	1.75±0.10
F	3.50±0.10	3.50±0.05
Do	1.55±0.05	1.55±0.05
D1	1.00±0.10	0.50±0.05
W	8.00±0.30	8.00±0.30
10Po	40.0±0.20	40.0±0.20

上胶带剥离 Top Tape Peeling

上胶带剥离角度165°-180°之间, 从载体上剥离角度如下图所示

The top tape peeling-off angle from carrier tape is within 165°-180° during application



订货方式(例如 芯片肖特基二极管0805 1A 40V Low VF)

Ordering Procedure (Example Chip Schottky Diode 0805 1A 40V Low VF)

料号 (Part Number):CDB140SL

CD	B140	S	L
产品系列 Product Series	产品类别 Product Type	封装尺寸 Package Size	特殊代码 Special Code
CD:贴片二极管 CD:Chip Diode	B肖特基二极管 B: Schottky Barrier Diode 120:1A,20V 130:1A,30V 140:1A,40V 160:1A,60V 0504:0.5A,40V 0230:0.2A,30V	C:SMC B:SMB A:2010 :1206 S:0805 T:0603	:Lead-free L:Low VF M:Low IR

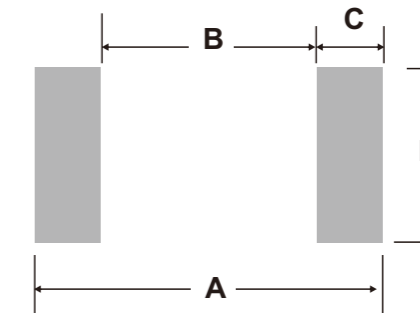
卷装数量 Reel Quantity

每卷5,000PCS/5,000PCS Per Reel

焊接条件 Soldering Condition

焊接条件与提示 Soldering Condition & Caution			
推荐焊接条件 Recommendee Soldering Condition (Refer to IPC/JEDEC J-STD-020D 4-1 & 5.2)			
推荐曲线条件 Recommended Profile Condition	锡铅焊接 Sn-Pb Soldering	无铅焊接 Lead free Soldering	波峰焊接 Wave Soldering
升温速度 (从预热阶段开始) Ramp-up Rate(From Pre-heat Stage)	< 3°C/s	< 3°C/s	ΔT < 150°C
预热温度与时间 Per-heat Temperature & Time	100-150°C 60-120s	150-200°C 60-120s	100-150°C 60-120s
焊接温度与时间 Soldering Temperature & Time	183°C 60-150s	217°C 60-150s	260±5°C 5±2s
最高温度 Peak Temperature	230±5°C < 260°C	240±5°C < 260°C	260±5°C
最高温度为5°C的时间 Time Within 5°C of Peak Temperatrue	10-20s	2030s	—
降温速度 Ramp-down Rate	< 6°C/s	< 6°C/s	< 6°C/s
从25°C到最高温度时间 Time 25°C to Peak Temperatrue	< 6min	< 8min	—
手工烙铁焊接条件: 350℃ 3S, 避免烙铁头直接接触材料本体 Manual Soldering: Approx. 350°C for 3s, avoid solder iron tip direct touch component's body			

推荐焊盘尺寸 Recommended Soldering PAD



回流焊接/波峰焊接 Reflow/Wave Soldering				
产品尺寸 Product Size	尺寸/毫米 Dimension/mm			
	A	B	C	D
0805	2.6-3.4	1.2	0.7-1.1	1.2-1.4
0603	1.8-2.6	0.8	0.5-0.9	0.8-1.0

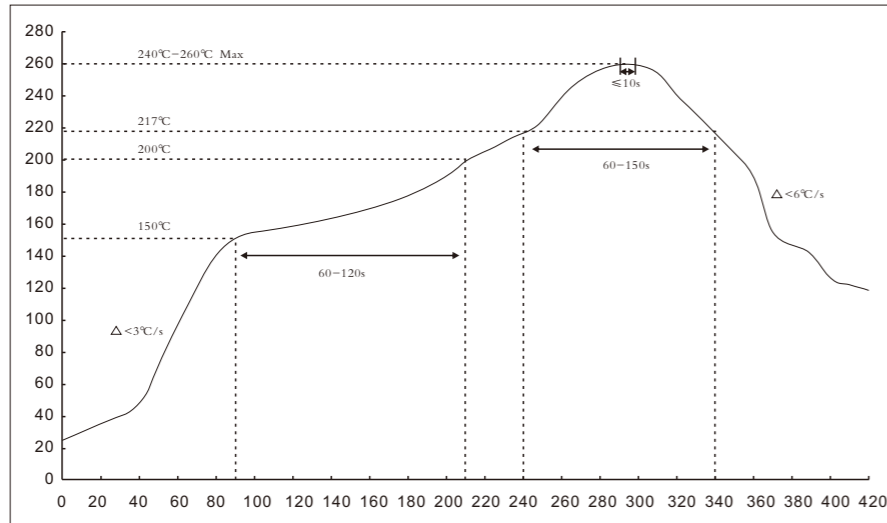
储存条件 Storage Condition

由于高温和潮湿或化学环境，产品终端的可焊性会降低。环境温度需在40°C以下，环境相对湿度需小于75%，远离化学物。Product termination solderability can degrade due to high temperature and humidity or chemical environment. Storage condition must be in an ambient temperature of < 40°C and ambient humidity of < 75%RH, and free from chemical.

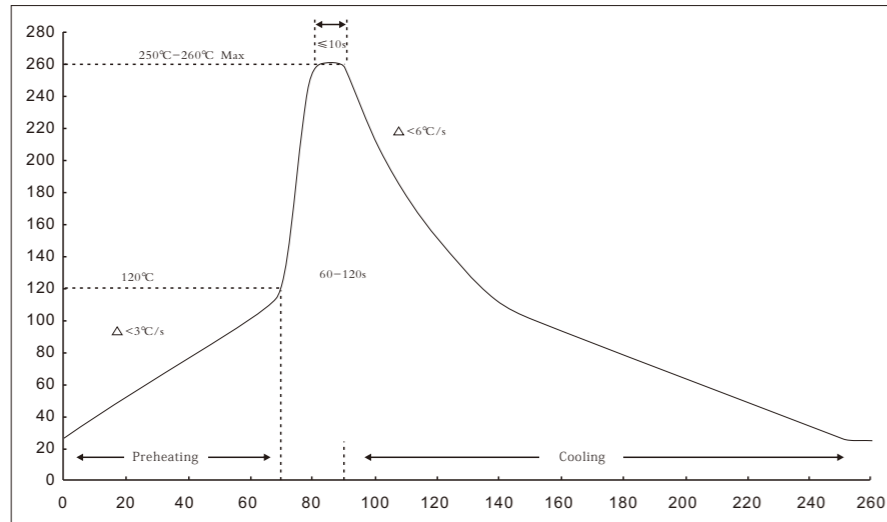
免责声明 Disclaimers

以下情况应避免使用这些产品：故障可能造成人身伤亡，严重的财产或环境损害，如医疗，军事，航空，太空或生命支持设备损坏等。These products are not designed for use in applications where any failure or malfunction may result in personal injury, death or severe property or environmental damage such as medical, military, aircraft, space or life support equipments.

推荐焊接温度曲线 Reommended Soldering Profile



图一：无铅回流焊接温度曲线（锡银铜）
Fig1:Reflow Soldering Profile for Lead-free Solder(SnAgCu)



图二：波峰焊接温度曲线
Fig2:wave Soldering Profile

1.推荐的配置文件是指IPC/JEDEC J-STD-020D & IEC-60068-2-58

The recommended profiles are referring to IPC/JEDEC J-STD-020D & IEC-60068-2-58

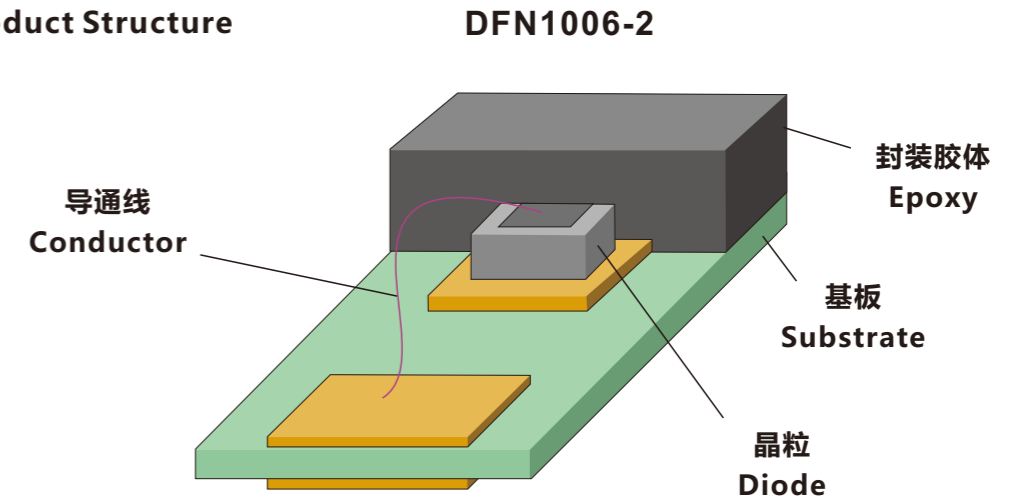
2.贴片二极管能承受最高焊接温度为260摄氏度的最长时间是10秒，最大焊接周期的三倍；参考文献：IEC-60068-2-58

Chip diodes are able to stand maximum soldering temperature up to 260°C max for 10s,and the soldering cycles with max 3 times,referring to IEC-60068-2-58

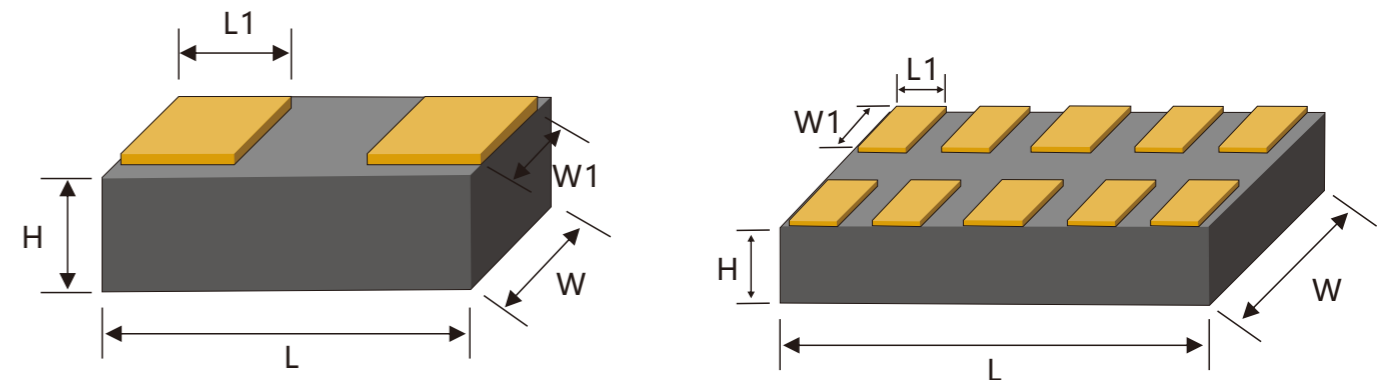
特性 Features

- 无卤素 Halogen Free
- 无铅 Lead Free
- 超薄封装 Extremely Thin Package
- 表面粘着封装 Surface Mount Package
- 低正向电压 Low Forward voltage

产品结构 Product Structure



产品尺寸 Product Size



封套 Package	尺寸 Dimension	长度 L	宽度 W	高度 H	电极长 L1	电极宽 W1
DFN0603-2	毫米mm	0.60±0.05	0.30±0.05	0.30±0.05	0.16±0.035	0.26±0.035
	英寸Inch	0.024±0.002	0.012±0.002	0.012±0.002	0.006±0.001	0.010±0.001
DFN1006-2	毫米mm	1.00±0.05	0.60±0.05	0.50±0.05	0.35±0.05	0.50±0.05
	英寸Inch	0.039±0.002	0.024±0.002	0.020±0.002	0.014±0.002	0.020±0.002
DFN2510-10	毫米mm	2.50±0.05	1.00±0.05	0.50±0.05	0.25±0.05	0.35±0.05
	英寸Inch	0.098±0.002	0.039±0.002	0.020±0.002	0.008±0.002	0.014±0.002

电气特性 Electrical Characteristics

料号 Part Number	封装尺寸 Package Size	操作温度 Operating Temperature	功耗 Power Dissipation	最大反向电压 Maximum Reverse Voltage	平均正向电流 Average Forward Current	正向冲击电流 Forward Surge Current	最大正向电压 (平均正向电流时) Maximum Forward Voltage (at IF)	最大反向漏电流 Maximum Reverse Current (at VR)	标识 Marking
		Tsgt	PD	VR	IF	IFSM	VF	IR	
CDB0130QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	30V	100 mA	1A	420mV	30uA	BP
CDB0140QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	40V	100 mA	1A	550mV	40uA	B8
CDB0230QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	30V	200 mA	1A	500mV	30uA	BA
CDB0240QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	40V	200 mA	1A	520mV	40uA	B7
CDB0520QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	20V	500 mA	1A	520mV	60uA	12
CDB0530QRL	DFN 1006-2	-55°C ~ 125°C	125 mW	30V	500 mA	1A	520mV	100uA	13
CDB0130QRM	DFN 1006-2	-55°C ~ 125°C	125 mW	30V	100 mA	1A	500mV	1uA	BQ
CDB0230QRM	DFN 1006-2	-55°C ~ 125°C	125 mW	30V	200 mA	1A	600mV	1uA	BB
CDB0140QRM	DFN 1006-2	-55°C ~ 125°C	125 mW	40V	100 mA	1A	510mV	5uA	B9
CDB0240QRM	DFN 1006-2	-55°C ~ 125°C	125 mW	40V	200 mA	1A	600mV	5uA	BX
CDB0130KRL	DFN 0603-2	-55°C ~ 125°C	125 mW	30V	100 mA	1A	650mV	30uA	L
CDB0130KRM	DFN 0603-2	-55°C ~ 125°C	125 mW	30V	100 mA	1A	800mV	0.4uA	B

订货方式 (例如 0402肖特基二极管0.1A 30V 低正向电压)

Ordering Procedure (Example 0402 Schottky Barrier Diode 0.1A 30V Low Forward Voltage)

料号 (Part Number):CDB0130QRL

CD	B	0130	Q	R	L
产品系列 Product Series CD:贴片二极管 Chip Diode	产品类别 Product Type B:肖特基二极管 Schottky Barrier Diode	电气特性 Electrical Characteristics 0130: 0.1A 30V 0140:0.1A 40V 0230:0.2A 30V 0240:0.2A 40V 0520:0.5A 20V	封装尺寸 Package Size K:0603-2 Q:1006-2	工艺类型 Process Type R:DFN	特殊代码 Special Code L:Low VF M:Low IR

电气特性 Electrical Characteristics

料号 (Part Number)	CD4448WQR	
封装尺寸 Package Size	DFN1006-2	
操作温度 Operating Temperature	Tsgt	-55°C ~ 125°C
功耗 Power Dissipation	PD	125mW
反向重复峰值电压 Repetitive Peak Revers Voltage	VRRM	90V
正向重复峰值电流 Repetitive Peak Forward Current	IFRM	225mA
正向冲击电流 Forward Surge Current	IFSM	1A
平均整流电流 Average Rectified Current	IF	100mA
正向压降 Forward Voltage	VF	1000mA
反向电流 Reverse Current	IR	1uA
标识 Marking	■	

订货方式(例如 0402开关二极管4448 0.1A 80V)

Ordering Procedure (Example 0402 Chip Diode 4448 0.1A 80V)

料号 (Part Number):CD4148WP

CD	4448	WQ	R
产品系列 Product Series CD:贴片二极管 Chip Diode	产品类别 Product Type 4448:0.1A 80V	封装尺寸 Package Size WQ:1006-2 WK:0603-2	特殊代码 Special Code R:DFN

电气特性 Electrical Characteristics

料号 Part Number	方向类型 Direction Type	封装尺寸 Package Size	操作温度 Operating Temperature	启动电压 Reverse Stand-Off Voltage	反向崩溃电压 Reverse Breakdown Voltage	漏电流 Reverse Leakage Current	容值 Capacitance (at VR=0V, f=1MHz)	最大脉冲电流 Maximum Peak Pulse Current tp=8/20us	标识 Marking
			Tj	VRWM	VBR	IR	Cj	Ipp	
ESDQR3V3B	B	DFN1006-2	-55°C ~ 125°C	3.3V	4.5V	5nA	25pF	20A	E2
ESDQR5V0B	B	DFN1006-2	-55°C ~ 125°C	5V	6V	5nA	10pF	5A	E5
ESDQR5V0BJ	B	DFN1006-2	-55°C ~ 125°C	5V	6V	5nA	0.3pF	2A	S
ESDQR5V0U	U	DFN1006-2	-55°C ~ 125°C	5V	6V	5nA	45pF	10A	5U
ESDQR5V0UJ	U	DFN1006-2	-55°C ~ 125°C	5V	6V	5nA	0.3pF	3A	U5
ESDQR12V0U	U	DFN1006-2	-55°C ~ 125°C	12V	13.3V	5nA	45pF	5A	E2
ESDQR3V3BS	B	DFN1006-2	-55°C ~ 125°C	3.3V	4V	5nA	8pF	5A	E3
ESDQR5V0BS	B	DFN1006-2	-55°C ~ 125°C	5V	5.6V	5nA	3pF	5A	M
ESDQR5V0BX	B	DFN1006-2	-55°C ~ 125°C	5V	6V	5nA	0.19pF	3.5A	R
ESDQR24V0B	B	DFN1006-2	-55°C ~ 125°C	24V	26.5V	5nA	9.8pF	3A	E4
ESDQR24V0U	U	DFN1006-2	-55°C ~ 125°C	24V	26.5V	5nA	25.7pF	3A	E4
ESDQR36V0U	U	DFN1006-2	-55°C ~ 125°C	36V	40V	100nA	20PF	1.5A	E6
ESDQR36V0B	B	DFN1006-2	-55°C ~ 125°C	36V	40V	100nA	10PF	1.5A	E6
ESDKR5V0BS	B	DFN0603-2	-55°C ~ 125°C	5V	5.6V	5nA	3pF	4A	I
ESDKR5V0B	B	DFN0603-2	-55°C ~ 125°C	5V	5.6V	5nA	10pF	5A	H
ESDKR5V0BX	B	DFN0603-2	-55°C ~ 125°C	5V	6.0V	10nA	0.30PF	1.8A	2
ESDKR5V0UJ	U	DFN0603-2	-55°C ~ 125°C	5V	5.6V	5nA	0.45pF	2A	2
RESMRA3V3J	Array	DFN251010	-55°C ~ 150°C	3.3V	3.4V	100nA	0.65PF	4A	.J33
RESMRA5V0J	Array	DFN251010	-55°C ~ 150°C	5V	6.0V	5nA	0.80pF	5A	.P524
RESMRA5V0X	Array	DFN251010	-55°C ~ 150°C	5V	6.0V	5nA	0.30pF	5A	.P424

订货方式(例如 0402抗静电二极管 双向5V 电容小于1pF)

Ordering Procedure (Example 0402 ESD 5V Bi-directional capacitance less than 1pF)

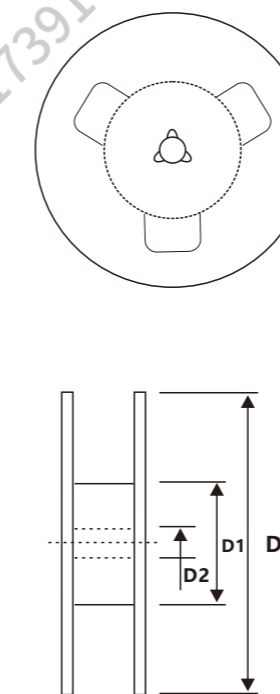
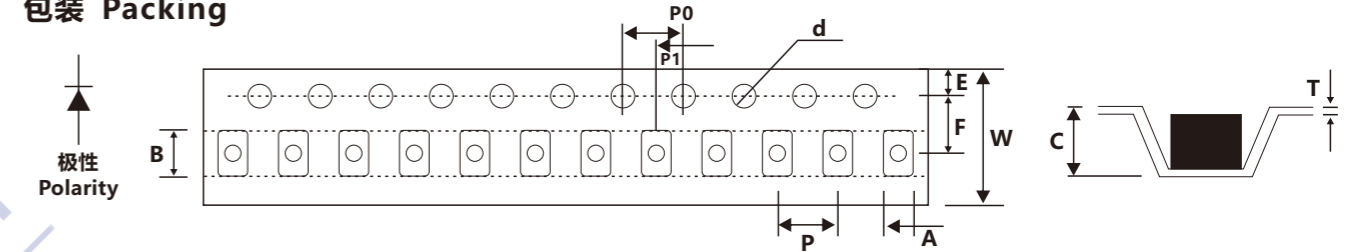
料号 (Part Number):ESDQR5V0BJ

ESD	Q	R	5V0	B	J
产品系列 Product Series ESD:静电保护二 极管 ESD Protection Diode	封装尺寸 Package Size K:0603-2 Q:1006-2 M:2510-10	工艺类型 Process Type R:DFN	电压 Voltage 3V3=3.3V 5V0=5V 8V0=8V 12V0=12V	方向类型 Direction Type B:Bi-directional (双向) U: Uni-directional (单向)	容抗类型 Capacitance Type X:0 ~ 0.3pF J:0.3 ~ 1.0pF S:1 ~ 10pF > 10pF

卷装数量 Reel Quantity

每卷5,000PCS/5,000PCS Per Reel 依客户要求可提供每卷10,000PCS/10,000PCS Per Reel as Customer request

包装 Packing



封装 Package Size	DFN1006-2		DFN1006-2		DFN0603-2		DFN2510-10	
	5,000pcs/Reel		10,000pcs/Reel		10,000pcs/Reel		3,000pcs/Reel	
尺寸	毫米mm	英寸Inch	毫米mm	英寸Inch	毫米mm	英寸Inch	毫米mm	英寸Inch
A	0.67±0.10	0.026±0.004	0.67±0.10	0.026±0.004	0.37±0.03	0.015±0.001	1.23±0.10	0.048±0.004
B	1.12±0.10	0.044±0.004	1.12±0.10	0.044±0.004	0.67±0.03	0.026±0.001	2.77±0.10	0.109±0.004
C	0.6±0.10	0.024±0.004	0.60±0.10	0.024±0.004	0.32±0.03	0.013±0.001	0.7±0.10	0.028±0.004
d	1.5±0.10	0.059±0.004	1.50±0.10	0.060±0.004	1.50±0.10	0.060±0.004	1.5±0.10	0.059±0.004
D	178±1	7.008±0.004	178±1	7.008±0.004	178±1	7.008±0.04	178±1	7.008±0.04
D1	60Min	2.362Min	60Min	2.362Min	60Min	2.362Min	60Min	2.362Min
D2	13±0.20	0.512±0.008	13.0±0.20	0.512±0.008	13.0±0.20	0.512±0.008	13.0±0.20	0.512±0.008
E	1.75±0.10	0.069±0.004	1.75±0.10	0.069±0.004	1.75±0.10	0.069±0.004	1.75±0.10	0.069±0.004
F	3.5±0.10	0.1378±0.004	3.5±0.10	0.138±0.004	3.5±0.10	0.138±0.004	3.5±0.10	0.138±0.004
P	4±0.10	0.157±0.004	2.0±0.10	0.079±0.004	2.0±0.03	0.079±0.001	4±0.10	0.157±0.004
P0	4±0.10	0.157±0.004	2.0±0.10	0.079±0.004	4.0±0.10	0.157±0.004	4±0.10	0.157±0.004
P1	2±0.10	0.079±0.004	1.0±0.10	0.039±0.004	2.0±0.10	0.079±0.004	2±0.10	0.079±0.004
T	0.22±0.03	0.009±0.002	0.22±0.03	0.009±0.002	0.18±0.05	0.007±0.002	0.22±0.03	0.009±0.002
W	8±0.10	0.315±0.004	8.0±0.10	0.315±0.004	8.0±0.10	0.315±0.004	8.0±0.10	0.315±0.004

上胶带剥离 Top Tape Peeling

上胶带剥离角度在165°~180°之间, 从载体上剥离角度如下图所示
The top tape peeling-off angle from carrier tape is within 165°-180° during application

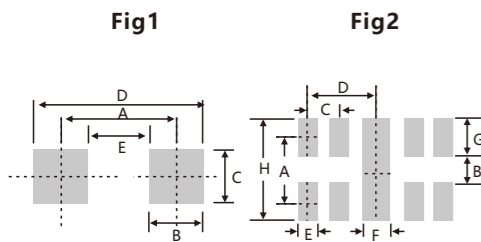


环境特性 Environmental Characteristics

产品Product	有害物质或有害元素/百万分率 Hazardous Substance or Element/ppm					
	铅Pb	镉Cd	汞Hg	铬Cr ⁶⁺	多溴联苯PBB	多溴二苯醚PBDE
	< 1000	< 100	< 1000	< 1000	< 1000	< 1000

产品Product	含卤物质/百万分率 Halogen Substance/ppm				
	氟F	氯Cl	溴Br	碘I	总计
	< 900	< 900	< 900	< 900	< 1500

推荐焊盘尺寸 Recommended Soldering PAD

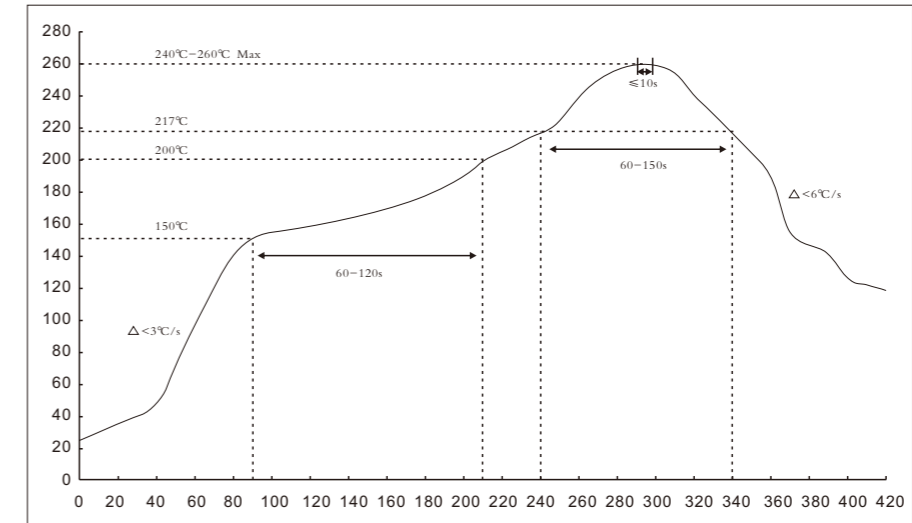


封装	DFN1006-2(Fig.1)		DFN0603-2(Fig.1)		DFN2510-10(Fig.1)	
尺寸	毫米 mm	英寸 Inch	毫米 mm	英寸 Inch	毫米 mm	英寸 Inch
A	0.75	0.03	0.42	0.017	0.88	0.034
B	0.50	0.02	0.22	0.009	0.20	0.008
C	0.70	0.028	0.36	0.014	0.50	0.020
D	1.25	0.049	0.64	0.024	1.00	0.039
E	0.25	0.01	0.20	0.008	0.20	0.008
F	/	/	/	/	0.40	0.016
G	/	/	/	/	0.68	0.027
H	/	/	/	/	1.55	0.061

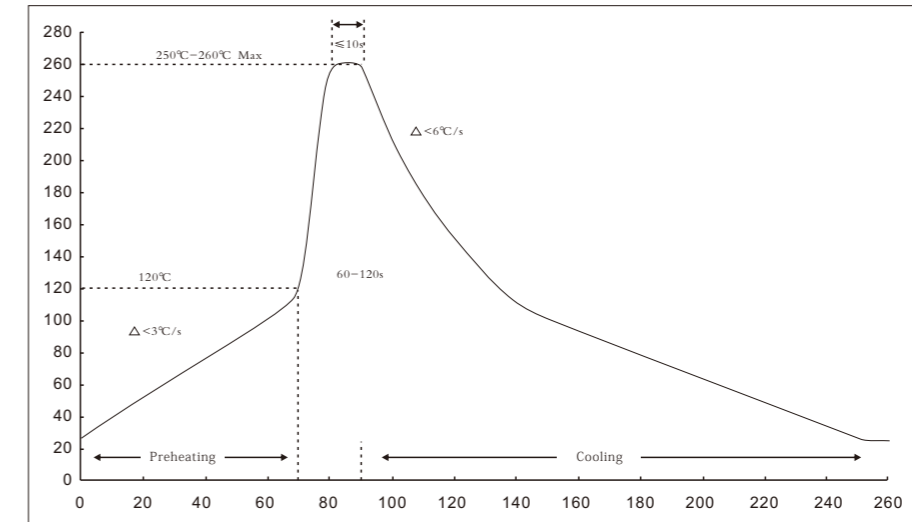
焊接条件与提示 Soldering Condition & Caution

推荐焊接条件 Recommended Soldering Condition(Refer to IPC/JEDEC J-STD-020D 4-1&5.2)			
推荐曲线条件 Recommended Profile Condition	锡铅焊接 Sn-Pb Soldering	无铅焊接 Lead free Soldering	波峰焊接 Wave Soldering
升温速度 (从预热阶段开始) Ramp-up Rate(From Pre-heat Stage)	< 3°C/s	< 3°C/s	Δ T < 150°C
预热温度与时间 Per-heat Temperature & Time	100-150°C 60-120s	150-200°C 60-120s	100-150°C 60-120s
焊接温度与时间 Soldering Temperature & Time	183°C 60-150s	217°C 60-150s	260±5°C 5±2s
最高温度 Peak Temperature	230±5°C < 260°C	245±5°C < 260°C	260±5°C
最高温度为5°C的时间 Time Within 5°C of Peak Temperatruue	10-20s	20-30s	—
降温速度 Ramp-down Rate	< 6°C/s	< 6°C/s	< 6°C/s
从25°C到最高温度时间 Time 25°C to Peak Temperatruue	< 6min	< 8min	—
手工烙铁焊接条件: 350°C 3S, 避免烙铁头直接接触材料本体 Manual Soldering: Approx.350°C for 3s,avoid solder iron tip direct touch component's body			

推荐焊接温度曲线 Reommended Soldering Profile



图一：无铅回流焊接温度曲线 (锡银铜)
Fig1:Reflow Soldering Profile for Lead-free Solder(SnAgCu)



图二：波峰焊接温度曲线
Fig2:wave Soldering Profile

1. 推荐的配置文件是指IPC/JEDEC J-STD-020D & IEC-60068-2-58
The recommended profiles are referring to IPC/JEDEC J-STD-020D & IEC-60068-2-58
2. 贴片二极管能承受最高焊接温度为260摄氏度的最长时间是10秒，最大焊接周期的三倍；参考文献：IEC-60068-2-58
Chip diodes are able to stand maximum soldering temperature up to 260°C max for 10s,and the soldering cycles with max 3 times,referring to IEC-60068-2-58

Item 项目	Test Procedure 测试方法
Solderability 焊锡性 MIL-STD-202G METHOD208H	245±5°C, 2±0.5s solder bath dipping.Termination tinned area covered > 95% 245±5°C, 2±0.5秒锡炉浸锡, 焊锡面积 > 95%
Steam Aging Solderability 蒸汽老化可焊性 JESD22-B102-C	98±3°C, 100%RH, 4Hrs then for solderability test.Termination tinned area covered > 95% 98±3°C, 100%RH,4小时后做焊锡性测试, 焊锡面积 > 95%
Resistance to soldering heat 抗焊锡热 MIL-STD-750D METHOD2031.2	260±5°C,10±1s solder bath dipping.No mechanical damaged.Electrcal properties within spec 260±5°C,10±1秒, 脱脂棉擦拭, 外观保护层& 字码没有破损
Hi-Pressure Steady State 高压稳定状态 JESD22-A 102-B	121°C, 16PSIG(101KPa) 100%RH for 24Hrs.Electrical properties within spec. 121°C, 16PSIG(101KPa) 100%RH for 24小时, 电性在规格内.
Thermal Shock State 冷热冲击 MIL-STD-750D METHOD1056.7	-55±3°C/5min -150±3°C/5min for 10 cycles.Electrical properties within spec. -55±3°C/5分钟 -150±3°C/5分钟; 10循环, 电性在规格内.
Temperature Cycle 温度循环 MIL-STD-750D METHOD1051.5	-55±3°C/30min -25±3°C/10min-150±3°C/30min-25±3°C/10min for 20 cycles.Electrical properties within spec. -55±3°C/30分 -25±3°C/10分-150±3°C/30分-25±3°C/10分; 20cycles(~2天), 电性在规格内.
Humidity Steady State 湿度稳定状态 MIL-STD-202G METHOD103B	85±3°C, 85%RH for 168Hrs.Electrical properties within spec. 85±3°C, 85%RH 条件下保持168小时, 电性在规格内.
Continue Forward Operating life 连续操作寿命 MIL-STD-750D METHOD1026.5	1F=1.1*IO.load for 1000Hrs.Electrical properties within spec. 1F=1.1*IO,保持1000小时, 电性在规格内.

Item 项目	Test Procedure 测试方法
Inermittent Forward Operating life 间歇操作寿命 MIL-STD-750D METHOD1036.3	1F=1.5*IO.ON 5 min&OFF 5 min,load for 1000cyc.Electrical properties within spec. 1F=1.5*IO,开启5分钟, 关闭5分钟, 循环1000次, 电性在规格内.
Hi-Temperature Reverse Bias 高温反向偏压 MIL-STD-750D METHOD1038.4	T=Ti(MAX),VR=80% RATED VR,load for 1000Hrs.Electrical properties within spec. T=Ti(MAX),VR=80%VR 条件下, 保持1000小时, 电性在规格内.
Hi-Temperature Storage Life 高温储存寿命测试 MIL-STD-750D METHOD1031.5	Ta=TstgMAX,T=168/1000hrs Electrical properties within spec. Ta=TstgMAX,T=168/1000小时, 电性在规格内.

DGPHNST
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