

承 认 书

APPROVAL SHEET

客户名称:	
Customer Name:	
产品名称:	片式压敏电阻器
Product Name:	chip Varistor
制造商料号:	FPV系列产品
Manufacturer P/N:	
客户料号:	
Customer P/N:	
版本号:	A-1
Version No.:	

制造厂商 Manufacturer	
拟制 Draft	审核 Check
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日期 Date	2014-1-17

客户承认印章 Approval Signet	
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【承认书样单号:】

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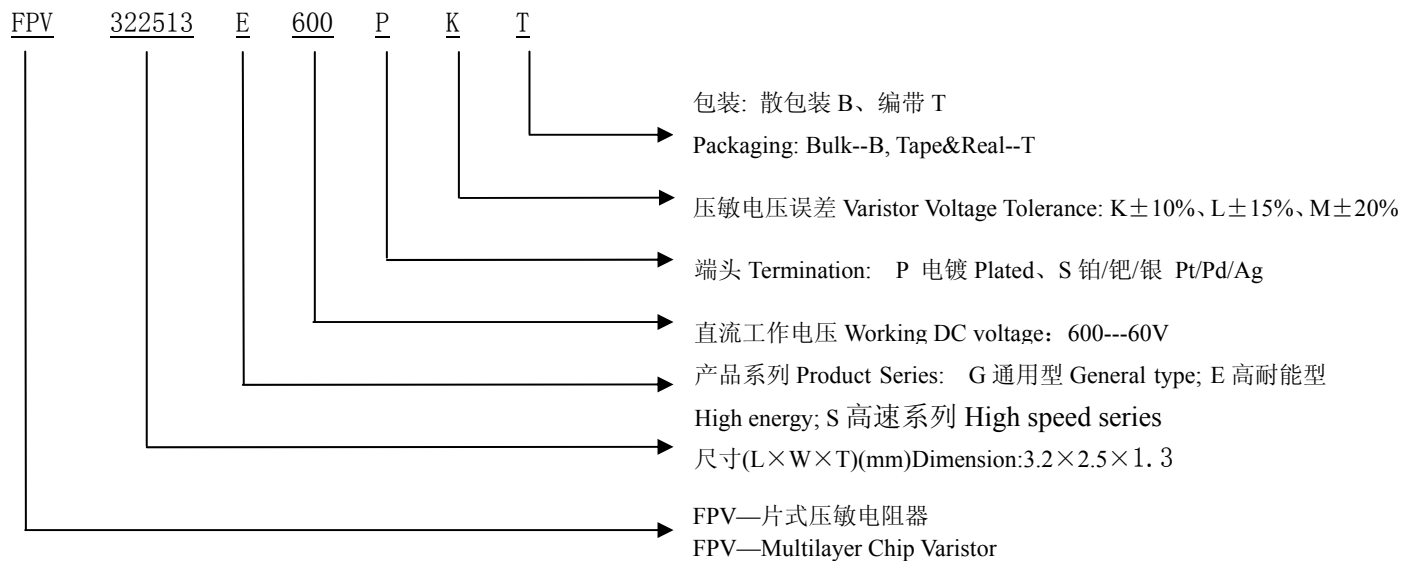
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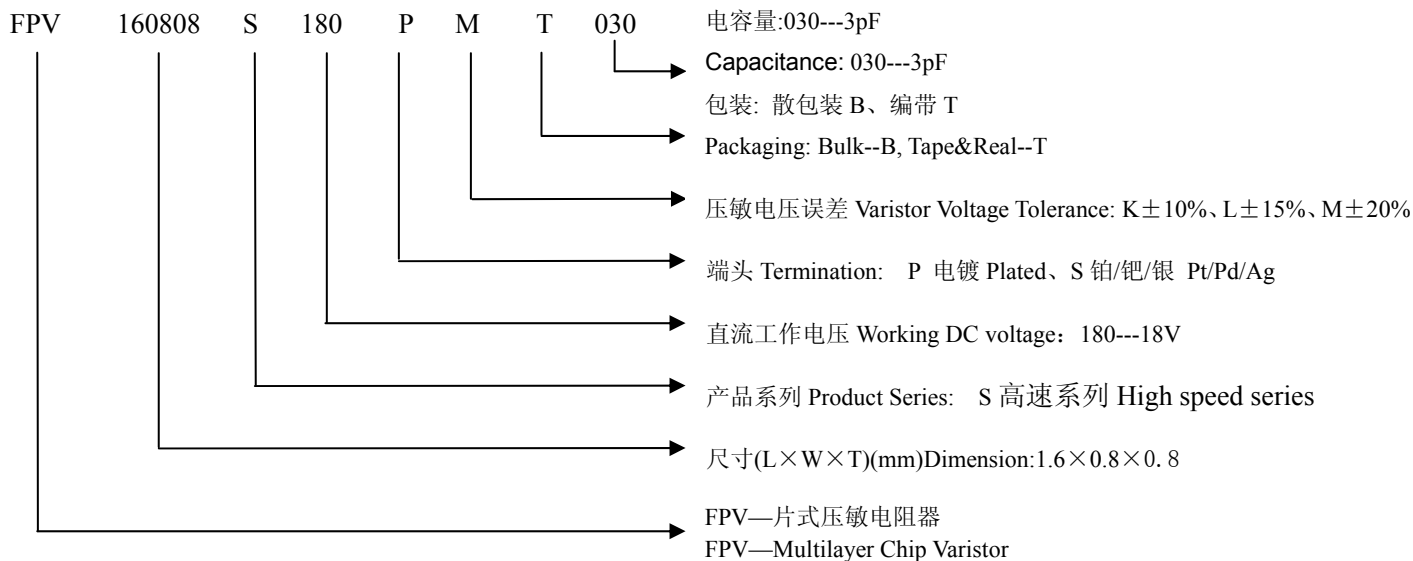
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2、产品品名构成 Product Spec. Model



超低电容量

Ultra-low capacitance chip varistor



1 电性能 ELECTRICAL CHARACTERISTICS

规格型号 Part Number	客户 物料号 Customers P/N	工作电压 Working Voltage		压敏电压 Varistor Voltage @ 1mA DC		最大限 制电压 Maximum Clamping Voltage 8/20 μs	能量耐量 Energy Absorption 10/1000μs	峰值电流 Peak Current 8/20μs	标准 电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC						
		伏特 Volts	伏特 Volts	V _B	ΔV _B	伏特 Volts	伏特 Volts	安培 Amps	pF

通用系列 general series

FPV100505G3R3PMT		3.3	2.5	5	±20%	14	0.05	20	300
FPV100505G5R6PLT		5.6	4	8	±15%	19	0.05	20	250
FPV100505G8R0PLT		8	5.7	12	±15%	27	0.05	20	230
FPV100505G9R0PLT		9	6.4	13	±15%	30	0.05	20	200
FPV100505G110PLT		11	7.8	16	±15%	33	0.05	20	180
FPV100505G120PLT		12	8.5	18	±15%	34	0.05	20	150
FPV100505G140PKT		14	10	20	±10%	35	0.05	20	120
FPV100505G160PKT		16	11.3	22	±10%	39	0.05	20	100
FPV100505G180PKT		18	12.7	25	±10%	44	0.05	20	90
FPV160808G3R3PMT		3.3	2.5	5	±20%	14	0.1	30	300
FPV160808G5R6PLT		5.6	4	8	±15%	19	0.1	30	280
FPV160808G8R0PLT		8	5.7	12	±15%	27	0.1	30	250
FPV160808G9R0PLT		9	6.4	13	±15%	30	0.1	30	240
FPV160808G110PLT		11	7.8	16	±15%	33	0.1	30	220
FPV160808G120PLT		12	8.5	18	±15%	34	0.1	30	210
FPV160808G140PKT		14	10	20	±10%	35	0.1	30	190
FPV160808 G160PKT		16	11.3	22	±10%	39	0.1	30	180
FPV160808G180PKT		18	12.7	25	±10%	44	0.1	30	170
FPV160808G220PKT		22	15.6	30	±15%	53	0.1	30	150
FPV160808G240PKT		24	17	33	±10%	58	0.1	30	140
FPV160808G260PKT		26	18.4	36	±10%	63	0.1	30	120
FPV160808G300PKT		30	21.2	42	±10%	74	0.1	30	100

1 电性能 ELECTRICAL CHARACTERISTICS

规格型号 Part Number	客户 物料号 Customers P/N	工作电压 Working Voltage		压敏电压 Varistor Voltage @ 1mA DC		最大限制电压 Maximum Clamping Voltage 8/20 μs	能量耐量 Energy Absorption 10/1000μs	峰值电流 Peak Current 8/20μs	标准 电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B	ΔV_B				
		伏特 Volts	伏特 Volts	V_B	ΔV_B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV201209G3R3PMT		3.3	2.5	5	±20%	14	0.1	40	350
FPV201209G5R6PLT		5.6	4	8	±15%	19	0.1	40	300
FPV201209G8R0PLT		8	5.7	12	±15%	27	0.1	40	270
FPV201209G9R0PLT		9	6.4	13	±15%	30	0.1	40	260
FPV201209G110PLT		11	7.8	16	±15%	33	0.1	35	240
FPV201209G120PLT		12	8.5	18	±15%	34	0.1	35	220
FPV201209G140PKT		14	10	20	±10%	35	0.1	35	200
FPV201209G160PKT		16	11.3	22	±10%	39	0.1	35	190
FPV201209G180PKT		18	12.7	25	±10%	44	0.1	35	180
FPV201209G220PKT		22	15.6	30	±15%	53	0.1	35	160
FPV201209G240PKT		24	17	33	±10%	58	0.1	35	150
FPV201209G260PKT		26	18.4	36	±10%	63	0.1	35	140
FPV201209G300PKT		30	21.2	42	±10%	74	0.1	35	110
FPV321611G3R3PMT		3.3	2.5	5	±20%	14	0.1	40	600
FPV321611G5R6PLT		5.6	4	8	±15%	19	0.1	40	560
FPV321611G8R0PLT		8	5.7	12	±15%	27	0.1	40	500
FPV321611G9R0PLT		9	6.4	13	±15%	30	0.1	40	450
FPV321611G110PLT		11	7.8	16	±15%	33	0.1	35	400
FPV321611G120PLT		12	8.5	18	±15%	34	0.1	35	300
FPV321611G140PKT		14	10	20	±10%	35	0.1	35	270
FPV321611G160PKT		16	11.3	22	±10%	39	0.1	35	250
FPV321611G180PKT		18	12.7	25	±10%	44	0.1	35	240
FPV321611G220PKT		22	15.6	30	±15%	53	0.1	35	220

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		直流 DC	交流 AC				10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	V _B	ΔV _B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV321611G240PKT		24	17	33	±10%	58	0.1	35	210
FPV321611G260PKT		26	18.4	36	±10%	63	0.1	35	200
FPV321611G300PKT		30	21.2	42	±10%	74	0.1	35	180
FPV321611G330PKT		33	23.3	45	±10%	79	0.1	35	150
FPV321611G380PKT		38	27	51	±10%	90	0.1	35	130
FPV321611G420PKT		42	30	56	±10%	99	0.1	35	110
FPV321611G480PKT		48	34	62	±10%	110	0.1	35	90
FPV321611G560PKT		56	40	72	±10%	120	0.1	35	80
FPV321611G600PKT		60	45	76	±10%	134	0.1	35	70
FPV321611G680PKT		68	48	86	±10%	151	0.1	35	60
高耐能系列 High energy absorb series									
FPV201209E3R3PMT		3.3	2.5	5	±20%	14	0.3	120	600
FPV201209E5R6PLT		5.6	4	8	±15%	19	0.3	120	550
FPV201209E8R0PLT		8	5.7	12	±15%	27	0.3	120	500
FPV201209E9R0PLT		9	6.4	13	±15%	30	0.3	120	450
FPV201209E110PLT		11	7.8	16	±15%	33	0.3	120	440
FPV201209E120PLT		12	8.5	18	±15%	34	0.3	120	420
FPV201209E140PKT		14	10	20	±10%	35	0.3	120	400
FPV201209E160PKT		16	11.3	22	±10%	39	0.3	120	380
FPV201209E180PKT		18	12.7	25	±10%	44	0.3	100	360
FPV201209E220PKT		22	15.6	30	±15%	53	0.3	100	320
FPV201209E240PKT		24	17	33	±10%	58	0.3	100	300
FPV201209E260PKT		26	18.4	36	±10%	63	0.3	100	280

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		直流 DC	交流 AC						
		伏特 Volts	伏特 Volts	V_B	ΔV_B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV201209E300PKT		30	21.2	42	$\pm 10\%$	74	0.3	100	220
FPV321611E3R3PMT		3.3	2.5	5	$\pm 20\%$	14	0.4	150	1200
FPV321611E5R6PLT		5.6	4	8	$\pm 15\%$	19	0.4	150	1100
FPV321611E8R0PLT		8	5.7	12	$\pm 15\%$	27	0.4	150	1000
FPV321611E9R0PLT		9	6.4	13	$\pm 15\%$	25	0.4	150	950
FPV321611E110PLT		11	7.8	16	$\pm 15\%$	33	0.4	150	800
FPV321611E120PLT		12	8.5	18	$\pm 15\%$	34	0.4	150	600
FPV321611E140PKT		14	10	20	$\pm 10\%$	35	0.4	150	540
FPV321611E160PKT		16	11.3	22	$\pm 10\%$	39	0.4	150	520
FPV321611E180PKT		18	12.7	25	$\pm 10\%$	44	0.4	150	500
FPV321611E220PKT		22	15.6	30	$\pm 15\%$	53	0.4	150	460
FPV321611E240PKT		24	17	33	$\pm 10\%$	58	0.4	150	420
FPV321611E260PKT		26	18.4	36	$\pm 10\%$	63	0.4	120	400
FPV321611E300PKT		30	21.2	42	$\pm 10\%$	74	0.4	120	360
FPV321611E330PKT		33	23.3	45	$\pm 10\%$	79	0.4	120	300
FPV321611E380PKT		38	27	51	$\pm 10\%$	90	0.4	120	250
FPV321611E420PKT		42	30	56	$\pm 10\%$	99	0.4	120	220
FPV321611E480PKT		48	34	62	$\pm 10\%$	110	0.4	120	180
FPV321611E560PKT		56	40	72	$\pm 10\%$	120	0.4	120	165
FPV321611E600PKT		60	45	76	$\pm 10\%$	134	0.4	120	150
FPV321611E680PKT		68	48	86	$\pm 10\%$	151	0.4	120	135
FPV322513E180PKT		18	12.7	25	$\pm 10\%$	44	1.5	300	1000
FPV322513E220PKT		22	15.6	30	$\pm 15\%$	53	1.5	300	900

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		直流 DC	交流 AC	V_B	ΔV_B				
		伏特 Volts	伏特 Volts	V_B	ΔV_B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV322513E240PKT		24	17	33	±10%	58	1.5	300	850
FPV322513E260PKT		26	18.4	36	±10%	63	1.5	280	800
FPV322513E300PKT		30	21.2	42	±10%	74	1.5	280	760
FPV322513E330PKT		33	23.3	45	±10%	79	1.5	280	700
FPV322513E380PKT		38	27	51	±10%	90	1.5	280	650
FPV322513E420PKT		42	30	56	±10%	99	1.5	280	580
FPV322513E480PKT		48	34	62	±10%	110	1.5	280	510
FPV322513E560PKT		56	40	72	±10%	120	1.5	250	450
FPV322513E600PKT		60	45	76	±10%	134	1.5	250	420
FPV322513E680PKT		68	48	86	±10%	151	1.5	250	360
FPV453215E180PKT		18	12.7	25	±10%	44	2.5	500	1500
FPV453215E220PKT		22	15.6	30	±15%	53	2.5	500	1200
FPV453215E240PKT		24	17	33	±10%	58	2.5	500	900
FPV453215E260PKT		26	18.4	36	±10%	63	2.5	500	800
FPV453215E300PKT		30	21.2	42	±10%	74	2.5	500	750
FPV453215E330PKT		33	23.3	45	±10%	79	2.5	500	700
FPV453215E380PKT		38	27	51	±10%	90	2.5	500	650
FPV453215E420PKT		42	30	56	±10%	99	2.5	500	600
FPV453215E480PKT		48	34	62	±10%	110	2.5	500	550
FPV453215E560PKT		56	40	72	±10%	120	2.5	500	500
FPV453215E600PKT		60	45	76	±10%	134	2.5	500	450
FPV453215E680PKT		68	48	86	±10%	151	2.5	500	400
FPV5750E180SKB		18	12.7	25	±10%	44	2.5	600	4000

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		直流 DC	交流 AC	V_B	ΔV_B				
		伏特 Volts	伏特 Volts	V_B	ΔV_B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV5750E220SKB		22	15.6	30	±15%	53	2.5	600	3500
FPV5750E240SKB		24	17	33	±10%	58	2.5	600	3000
FPV5750E260SKB		26	18.4	36	±10%	63	2.5	600	2500
FPV5750E300SKB		30	21.2	42	±10%	74	2.5	600	2200
FPV5750E330SKB		33	23.3	45	±10%	79	2.5	600	2000
FPV5750E380SKB		38	27	51	±10%	90	2.5	600	1800
FPV5750E420SKB		42	30	56	±10%	99	2.5	600	1600
FPV5750E480SKB		48	34	62	±10%	110	2.5	600	1400
FPV5750E560SKB		56	40	72	±10%	120	2.5	600	1000
FPV5750E600SKB		60	45	76	±10%	134	2.5	600	800
FPV5750E680SKB		68	48	86	±10%	151	2.5	600	700
FPV8063E14SKB		14	11	18	±10%	35	0.3	400	1750
FPV8063E18SKB		18	14	22	±10%	44	0.4	400	1450
FPV8063E22SKB		22	17	27	±10%	53	0.5	400	1200
FPV8063E26SKB		26	20	33	±10%	63	0.6	400	980
FPV8063E31SKB		31	25	39	±10%	69	0.7	400	850
FPV8063E38SKB		38	30	47	±10%	90	0.9	400	720
FPV8063E45SKB		45	35	56	±10%	99	1.1	400	620
FPV8063E56SKB		56	40	68	±10%	127	1.3	400	520
FPV8063E65SKB		65	50	82	±10%	144@5A	1.8	400	300
FPV8063E85SKB		85	60	100	±10%	176@5A	2.2	400	250
FPV8063E100SKB		100	75	120	±10%	211@5A	2.5	400	210
FPV8063E125SKB		125	95	150	±10%	264@5A	3.4	200	135

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		直流 DC	交流 AC	V _B	ΔV _B		10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts			伏特 Volts	伏特 Volts	安培 Amps	pF
FPV8063E150SKB		150	115	180	±10%	317@5A	3.6	200	110
FPV8063E170SKB		170	130	205	±10%	361@5A	4.2	200	100
FPV8063E180SKB		180	140	220	±10%	387@5A	4.5	100	95
FPV8063E200SKB		200	150	240	±10%	427@5A	4.9	100	90
FPV8063E225SKB		225	175	270	±10%	475@5A	5.6	100	75
FPV8063E300SKB		300	230	360	±10%	634@5A	7.2	100	60
FPV8063E320SKB		320	250	390	±10%	686@5A	8.2	100	55
FPV8063E350SKB		350	275	430	±10%	757@5A	8.6	100	50
FPV8063E385SKB		385	300	470	±10%	827@5A	9.6	100	45
FPV1080E14SKT		14	11	18	±10%	35@2.5A	0.8	1200	5000
FPV1080E18SKT		18	14	22	±10%	44@2.5A	0.9	1200	4500
FPV1080E22SKT		22	17	27	±10%	53@2.5A	1.1	1200	4000
FPV1080E26SKT		26	20	33	±10%	63@2.5A	1.3	1200	3500
FPV1080E31SKT		31	25	39	±10%	69@2.5A	1.6	1200	3000
FPV1080E38SKT		38	30	47	±10%	90@2.5A	2.0	1200	2800
FPV1080E45SKT		45	35	56	±10%	99@2.5A	2.5	1200	2500
FPV1080E56SKT		56	40	68	±10%	127@2.5A	3.0	1200	2000
FPV1080E65SKT		65	50	82	±10%	144@10A	4.2	1200	1900
FPV1080E85SKT		85	60	100	±10%	176@10A	4.8	1200	1700
FPV1080E100SKT		100	75	120	±10%	211@10A	5.9	1200	1500
FPV1080E125SKT		125	95	150	±10%	264@10A	7.6	1200	1350
FPV1080E150SKT		150	115	180	±10%	317@10A	8.4	1200	900
FPV1080E170SKT		170	130	205	±10%	361@10A	9.5	600	700

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		直流 DC	交流 AC	V_B	ΔV_B				
		伏特 Volts	伏特 Volts	V_B	ΔV_B	伏特 Volts	伏特 Volts	安培 Amps	pF
FPV1080E180SKT		180	140	220	±10%	387@10A	10.0	600	500
FPV1080E200SKT		200	150	240	±10%	422@10A	11.0	600	400
FPV1080E225SKT		225	175	270	±10%	475@10A	13.0	600	300
FPV1080E300SKT		300	230	360	±10%	634@10A	17.0	300	200
FPV1080E320SKT		320	250	390	±10%	686@10A	19.0	300	180
FPV1080E350SKT		350	275	430	±10%	757@10A	21.0	300	105
FPV1080E385SKT		385	300	470	±10%	827@10A	23.0	300	90
FPV1080E615SKT		615	460	750	±10%	1320@10A	36.0	300	55
高速系列 High speed series									
FPV100505S3R3PMT		3.3	2.5	7	±20%	15	0.05	20	70
FPV100505S5R6PLT		5.6	4	11	±15%	24	0.05	20	45
FPV100505S8R0PLT		8	5.7	14	±15%	31	0.05	20	30
FPV100505S9R0PLT		9	6.4	15	±15%	33	0.05	20	26
FPV100505S110PLT		11	7.8	18	±15%	40	0.05	20	24
FPV100505S120PLT		12	8.5	20	±15%	44	0.05	20	20
FPV100505S140PKT		14	10	22	±10%	49	0.05	20	18
FPV100505S160PKT		16	11.3	24	±10%	53	0.05	20	15
FPV100505S180PKT		18	12.7	27	±10%	60	0.05	20	15
FPV160808S3R3PMT		3.3	2.5	7	±20%	15	0.05	20	180
FPV160808S5R6PLT		5.6	4	11	±15%	24	0.05	20	110
FPV160808S8R0PLT		8	5.7	14	±15%	31	0.05	20	80
FPV160808S9R0PLT		9	6.4	15	±15%	33	0.05	20	70
FPV160808S110PLT		11	7.8	18	±15%	40	0.05	20	60

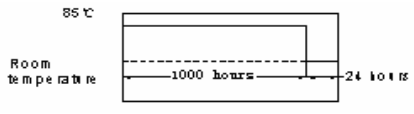
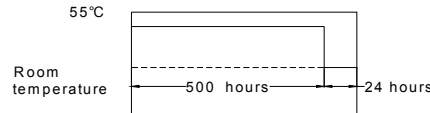
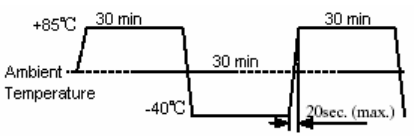
4、可靠性试验项目 Reliability Testing Items

序号 NO.	项目 Item	标准 Standard	测试方法 Test Method
1	工作温度范围 Operating Temperature Range	-55℃~+125℃	
1	可焊 Solder ability	至少 90%端电极表面被焊锡覆盖。 At least 90% of terminal electrode should be covered with solder	<p>预热温度:120~150℃ Preheating temperature:120 to 150℃ 预热时间:60s Preheating time: 60s 焊料: 锡铅产品使用 Sn/Pb=63/37 的焊料, 无铅产品使用纯锡焊料。 Solder Sn / Pb = 63/37, pure Sn product use 100% of the Sn solder. 焊锡温度:230±5℃ Solder temperature: 230±5℃ 浸锡时间:4±1s Duration : 4±1s 浸入松香助焊剂约 3~5s Immersion into the colophony flux for 3 to 5 sec 浸入速度:25mm/sec Immersion speed: 25mm/sec</p>
2	耐焊接热 Resistance to Soldering	瓷体没有破裂之类的损伤 No damage such as cracks should be caused in chip element. 至少75%端电极表面被焊锡覆盖。 At least 75% of terminal electrode is covered by new solder 压敏电压变化在±10%之内 Varistor voltage change within±10%	<p>预热温度:120~150℃ Preheating temperature: 120 to 150℃ 预热时间:60s Preheating time: 60s 焊料: 锡铅产品使用 Sn/Pb=63/37 的焊料, 无铅产品使用纯锡焊料。 Solder Sn / Pb= 63/37, pure Sn product use 100% of the Sn solder. 浸锡温度:260±5℃ Solder temperature: 260±5℃ 浸锡时间:10±0.5s Duration : 10±0.5s 浸入松香助焊剂约 3~5s Immersion into the colophony flux for 3 to 5 sec. 浸入速度:25mm/sec Immersion speed: 25mm/sec</p>

4、可靠性试验项目 Reliability Testing Items

序号 NO.	项目 Item	标准 Standard	测试方法 Test Method
4	端电极强度 Adhesion of electrode	端电极与瓷体不应受损，无可见机械损伤。 The termination and body should be no damage.	施加力: 1005 和 1608 系列为 5N; 2012、3216、3225、4516、4532 系列为 10N。 Applied force: 5N force for 1005 and 1608 series. 10N force for 2012、3216、3225、4516、4532 series. 保持时间: 10±1S Keep time : 10±1S 
5	耐低温 Low temperature resistance	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	测试温度:-40±2℃ Temperature: -40±2℃ 测试时间:500 ⁺²⁴ ₋₀ h Testing time: 500 ⁺²⁴ ₋₀ h
6	抗弯强度 Bending strength	无可见机械损伤, No mechanical damage. 压敏电压变化在±10%之内 Varistor voltage change within±10%	弯度:2mm Warp: 2mm 测试基板:玻璃环氧树脂基板 Testing board: glass epoxy-resin substrate 厚度:0.8mm Thickness: 0.8mm 
7	跌落 Drop	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	从高度为 1 米的空中自由落到混凝土地板重复 10 次。 Drop 10 times on a concrete floor from a high of 1m.
8	振动 Vibration	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	振幅:1.5mm Amplitude modulation: 1.5mm 测试时间:沿三个垂直方向各做 2 小时 Test time: A period of 2h in each of 3 mutually perpendicular directions. 频率范围:10Hz ~ 55Hz ~ 10Hz (1 分钟) Frequency range: 10Hz to 55Hz to 10Hz for 1min.

4、可靠性试验项目 Reliability Testing Items

序号 NO.	项目 Item	标准 Standard	测试方法 Test Method
9	耐高温 High temperature resistance	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	施加电压: 工作电压 Applied voltage: Working voltage 测试时间: 1000_{-0}^{+24} h Testing time: 1000_{-0}^{+24} h 测试温度: $85 \pm 2^{\circ}\text{C}$ Temperature: $85 \pm 2^{\circ}\text{C}$ 
10	耐潮湿 Humidity resistance	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	湿度: 90~95% RH, 温度: $55 \pm 2^{\circ}\text{C}$ 测试时间: 500_{-0}^{+24} h Humidity: 90 to 95% RH Temperature: $55 \pm 2^{\circ}\text{C}$ Testing time: 500_{-0}^{+24} h 
11	温度循环 Thermal Shock	无可见机械损伤, No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	温度: -40°C , 30 ± 3 分钟 $+85^{\circ}\text{C}$, 30 ± 3 分钟 Temperature: -40°C for 30 ± 3 min $+85^{\circ}\text{C}$ for 30 ± 3 min 转换时间: 20 秒 (最大) Transforming interval :max 20 sec 循环次数: 32 Number of cycles: 32 

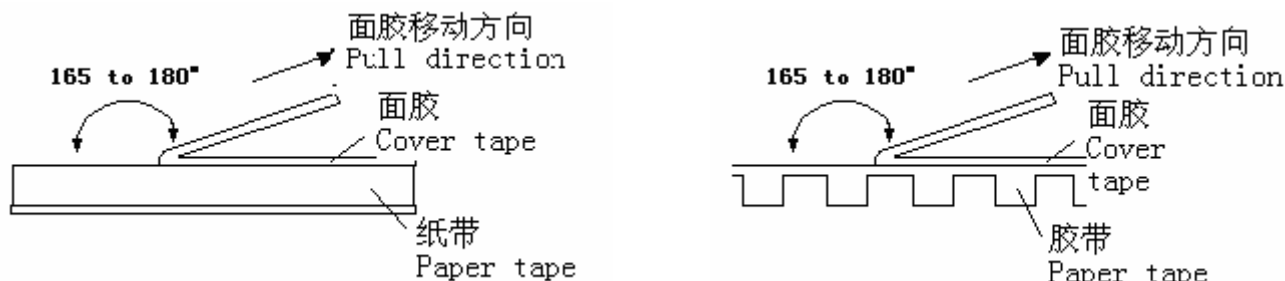
注: 以上要求测试电性能的项目, 应试验后在标准条件下放置 24 小时后测试。

Note:

When there are questions concerning, measurement shall be made after 24 ± 2 hrs of recovery under the standard condition.

5、产品包装 Packaging

1) 剥离力检验 Peeling off force



- ① 盖带的剥离力：沿面胶移动方向拉时要求剥离力为 0.1N~0.7N。

Peeling force should be 0.1~0.7N pulling in the direction of arrow.

- ② 剥离速度：300mm/min

Speed of peeling off: 300mm/min.

- ③ 在胶带、纸带剥落时，面胶不能有破损，不能粘纸带。

The cover bond should not be damaged and bond the tape when it peeled off.

2) 包装数量 (单位: 粒) Packaging number (Unit: Pcs)

类型 SIZE	1080	453215	322513	321611	201209	160808	100505
每卷数量 REEL	2500	3000	3000	3000	4000	4000	10000
每盒数量 BOX	7500	12000	15000	15000	20000	20000	50000
每箱数量 CASE	37500	60000	180000	180000	240000	240000	600000

6、推荐焊接条件 Recommend Soldering Conditions

1) 焊接条件 Soldering Conditions

产品适用于波峰焊和回流焊。Products can be applied to reflow and flow soldering.

① 焊剂要求 Flux, Solder

- a) 使用松香基助焊剂，禁止使用卤化物含量超过 0.2 (wt) % 的强酸性助焊剂。Use rosin-based flux.

Don't use highly acidic flux with halide content exceeding 0.2(wt)% (chlorine conversion value).

- b) 使用纯锡焊料。Using lead-free solder (96.5Sn /3.0Ag/0.5Cu)

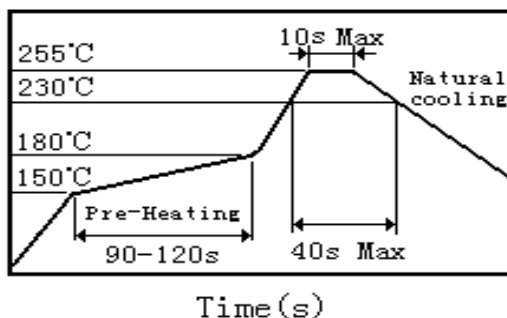
- c) 焊料的粘贴厚度: 100 μm 至 200 μm。Standard thickness of solder paste : 100μm to 200μm

6、推荐焊接条件 Recommend Soldering Conditions

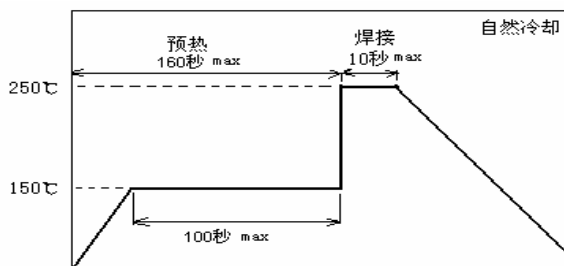
② 焊接要求 Soldering conditions

- 预热时，产品表温与焊料温度的温差最大不允许超出 150℃，焊接完冷却时，产品表温与溶剂温度之间的温差最大不超过 100℃。预热不足有可能引发产品表面裂纹，从而导致产品品质下降。
- Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150 °C max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100°C max. Un-enough pre-heating may cause cracks on the ferrite, resulting in the deterioration of product quality.
- 产品要在以下画出的曲线允许的范围进行焊接。其它焊接条件可能引起产品电极的腐蚀。当焊接重复时，允许的时间为第一次做的累计时间。
- Products should be soldered within the following allowable range indicated by the slanted line. The excessive soldering conditions may cause the corrosion of the electrode. When soldering is repeated, allowable time is the accumulated time.

2) 回流焊曲线 Reflow soldering profile



3) 波峰焊曲线 Flow soldering profile

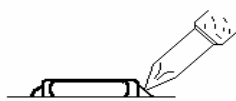


4) 手工焊接 Iron soldering

烙铁温度：350℃ Perform soldering at 350℃ on 30W max

功率：最大为 30W Time: < 5S

烙铁停留时间：< 5S (注意不要将烙铁碰到产品端电极) Take care not to apply the tip of the soldering iron to the terminal electrodes



5) 清洗条件 Cleaning Conditions

清洗温度：60℃ (最高) Cleaning temperature : 60℃ max

清洗时间：1 分钟 (最少) Cleaning time: 1 minute min.

超声波功率：最大为 200W Ultrasonic output power: 200W max

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7、存储条件 Storage Conditions

1) 存储期限 Storage period

距英达出厂检验时间 6 个月内，产品可以使用检验时间可以通过包装外侧标记的检验号确认。若时间超过 6 个月，应检查焊接性能后方可使用。

Products which inspected in YINGDA over 6 months ago should be examined and used, which can be Confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

2) 存储条件 Storage conditions

- (1) 存放货物的库房应满足以下条件：温度：-10 ~ +40℃，相对湿度：30 ~ 70%。
- (2) 禁止将产品保管在腐蚀性物质中，如硫磺、氯气或酸，否则将引起端头氧化，导致降低焊接性。
- (3) 为了避免受潮气、灰尘等物质的影响，产品应保管于货架上。
- (4) 产品保管在库房中，应避免热冲击、振动以及直接光照等等。
- (5) 产品应密封包装。

- (1) Products should be storage in the warehouse on the following conditions:

Temperature : -10~+40℃ Humidity: 30~70% relative humidity

- (2) Don't keep products in corrosive gases such as sulfur, chlorine gas or acid , or it may case oxidization of Electrodes resulting in poor solder ability.
- (3) Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.
- (4) Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.
- (5) Products should be stored under the airtight packaged condition.

8、ODS（消耗臭氧层物质）的使用情况 Usage Of ODS

- 1) 对于以下所列物质，我公司在生产过程中绝不使用。

ODS: CCl₄（四氯化碳）、HCFC 等。

- 1) For ODS listed below , we don't use in process.

ODS: CCl₄, HCFC, etc.

9、注意事项 Note

- (1) 若本次承认的为“整体无铅”产品，则表明该产品符合 RoHS 指令的要求。

(2) 本承认书保证我司产品作为一个单体时的质量情况，当我司产品被安装到贵公司产品上时请保证贵司的产品已根据贵司的规范进行了有效评价和确认。

- (3) 如果贵司对我司产品的试用已超过了本测试规范所界定的产品功能，对于此所引发的失效我司将不予保证。

- (1) If the parcel label on product is "Unitary lead free" that indicate the products in accord with ROHS appointed requests.

(2) This product specification guarantees the quality of our product as a single unit, Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.

(3) We can't warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.

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10、样品承认信息反馈单 Sample's feedback list

尊敬的客户，您好！

感谢您对我公司的信任及支持，在我们合作的过程中，我们将尽最大努力满足您的各种需求，为您提供最满意的服务。

如果你在对我们的产品（样品）进行承认的过程中出现任何问题，请将问题反馈给我们，我们将对您提出的问题进行认真分析并在最短的时间内给您满意的答复及解决方案，在此过程中您只需填写这张信息反馈单并传真（邮寄）给我们即可。

预祝我们合作愉快！

Respect customer,

Thank you for your trust and support, In cooperation, we will do our best to meet your all of requests, and provide the best service to you.

If you have any problem, please feel free to contact us, we would earnestly analyze the question which you asked for, and reply to you as soon as possible. You only need fill in this form and fax or mail it to us.

Wishes cooperate happily!

以下是您对产品（样品）使用情况的简单描述 Problem Description

规格型号 Part NO.	
产品批号 LOT NO.	
送样日期 Sample Date	
出现问题 Problem description	
您的分析（原因） Your analysis (for the reason)	
备注 Note	

您的联系方式（便于我们的交流） Your contact

您的姓名 Your Name		公司名称 Company	
职务 Business		地址 Address	
电话 Tel		邮编 Post	
传真 Fax		E-mail	

联系我们 Contact us

联系人 Contact person	李惠琴 Li huiqin	电话 Tel	0758-6923615
传真 Fax	0758-6923617	E-mail	2008lihuiqin@163.com
邮编 Post	526020	地址 Address	广东省肇庆市风华路 18 号风华电子工业城 Fenghua Electronic Industrial City, 18th Fenghua Road, Zhaoqing Guangdong, P.R, China
备注 Note	为了我们更好的合作，请您及时填写并回传。Please fill in the form and feedback to us in time, thanks!		