广东风华高新科技股份有限公司
GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO., LTD.

承　认　书

APPROVAL SHEET

客 户 名 称: Customer	/
产 品 名 称: Part Name	片式压敏电阻器 chip Varistor
产 品 规 格: Specification	FPV Series
版 本 号: Version No.	16.01
日　　期: DATE	2016.04.05

广东风华高新科技股份有限公司电子分公司 承认书专用章

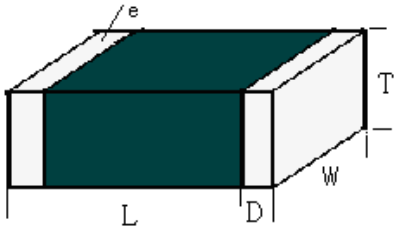
制造 Manufacturer			客户 Customer		
拟制 Draft by	审核 Checked by	确认 Approve by	检验 Check by	审核 Checked by	批准 Approval by
林晓华	徐雪枫	岑权进			

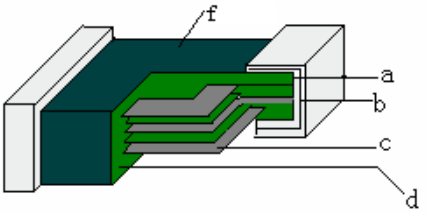
序号 No	目　　录 TABLE OF CONTENTS

1. 履 历 表 Resume

版本 Version No.	修 改 明 细 Modify Details	日期 **Date**
16.01	首次发行 Initial issue	2015-04-01

2. 外形尺寸与内部结构 Dimension & Inner-configuration:





a. 银层 Ag layer

b. Ni/Sn 镀层 Ni/Sn plating

c. 内电极 Inner electrode

d. 瓷体 Body

e. 端电极 Terminal electrode

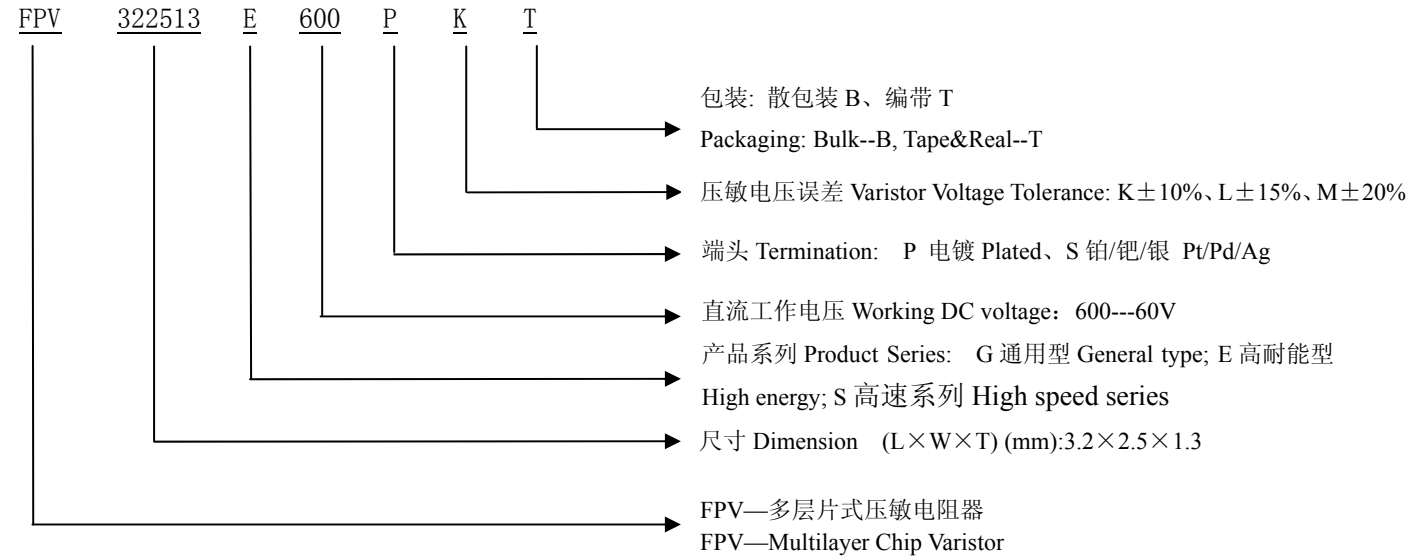
f. 玻璃层：Gass layer

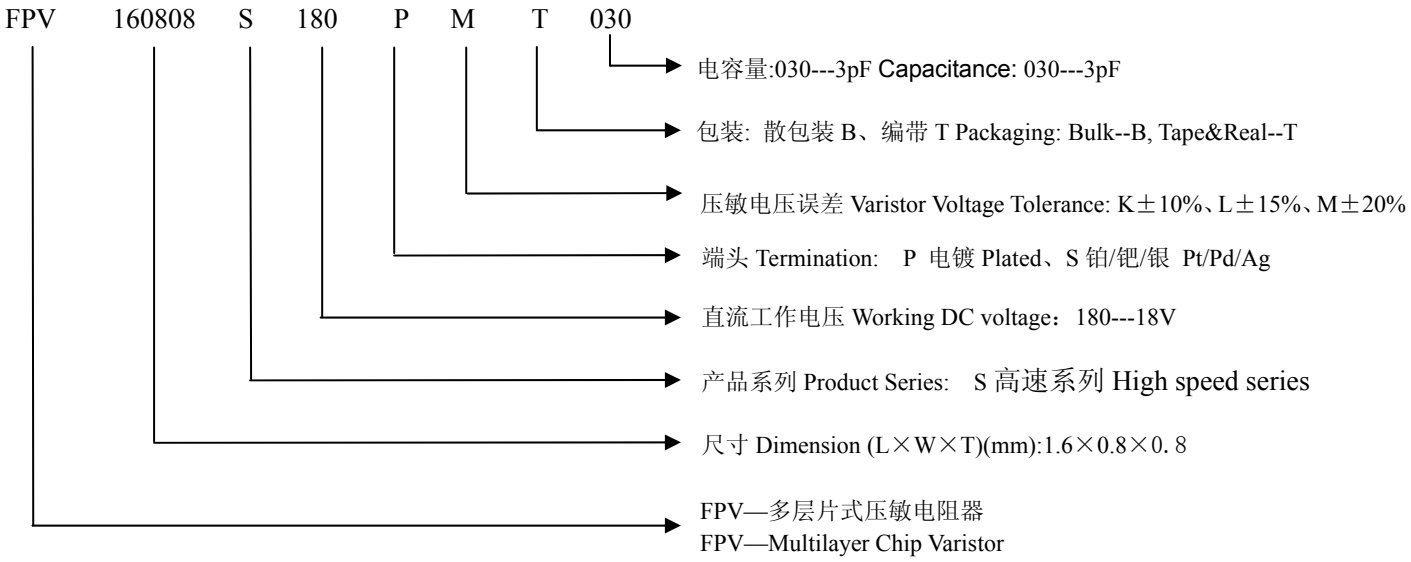
序号 No.	部位 Component		材料 Material
1	瓷体Body		氧化锌：ZnO
2	玻璃层：Gass layer		硅铋系Si-Bi
3	内电极Inner electrode		钯/银Pd/Ag
4	端电极 Terminal electrode	银层 Ag layer	银Ag
		Ni/Sn镀层Ni/Sn plating	镍层-锡层Ni-Sn

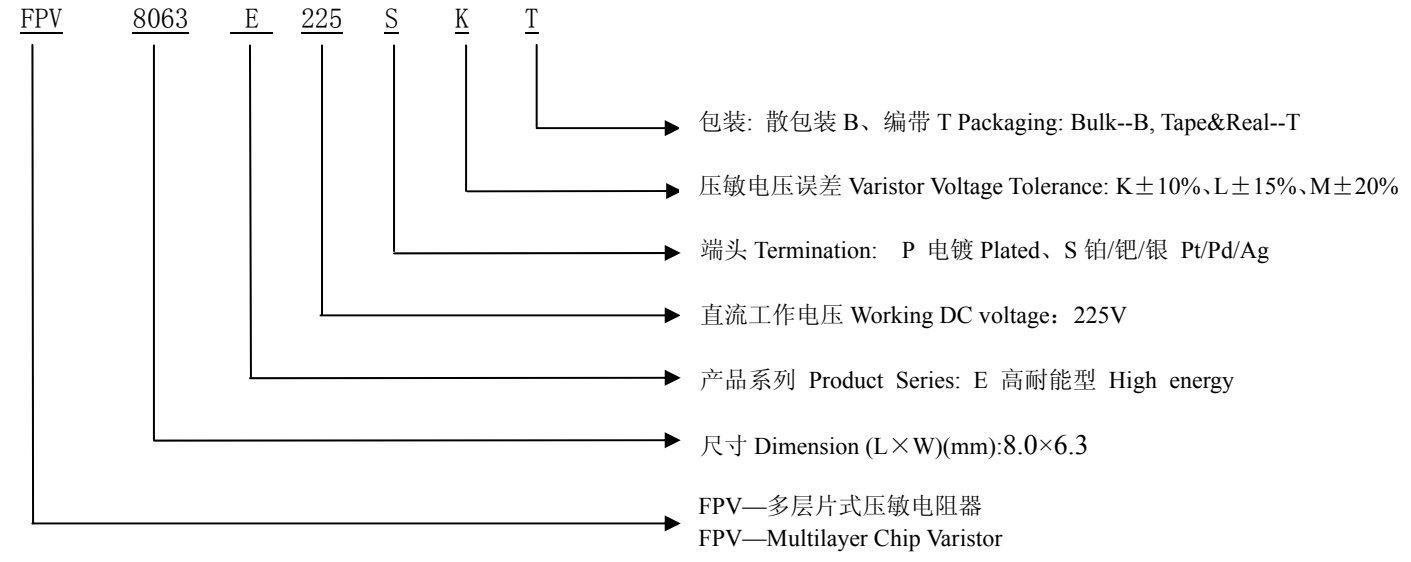
单位Unit: mm(inch)

型号 Size	L	W	T	D
100505	1.0±0.15（0.040±0.006）	0.5±0.15（0.020±0.006）	0.5±0.15（0.020±0.006）	0.25±0.1(0.010±0.004)
160808	1.6±0.20（0.063±0.008）	0.8±0.20（0.031±0.008）	0.8±0.20（0.031±0.008）	0.3±0.2(0.01±0.008)
201209	2.0±0.20（0.079±0.008）	1.2±0.20（0.047±0.008）	0.9±0.20（0.035±0.008）	0.5±0.3(0.020±0.012)
321611	3.2±0.20（0.126±0.008）	1.6±0.20（0.063±0.008）	1.1±0.20（0.043±0.008）	0.5±0.3(0.020±0.012)
322513	3.2±0.20（0.126±0.008）	2.5±0.20（0.098±0.008）	1.3±0.20（0.051±0.008）	0.5±0.3(0.020±0.012)
453215	4.5±0.20（0.180±0.008）	3.2±0.20（0.126±0.008）	1.5±0.20（0.060±0.008）	0.5±0.3(0.020±0.012)
5750	5.7±0.3（0.22±0.012）	5.0±0.3（0.20±0.012）	1.0~2.5(0.050±0.100)	0.7±0.3(0.028±0.012)
8063	8.0±0.3（0.320±0.012）	6.3±0.3（0.250±0.012）	1.0~2.5(0.050±0.100)	0.7±0.3(0.028±0.012)
1080	10.2±0.3（0.400±0.012）	8.0±0.3（0.320±0.012）	1.0~2.5(0.050±0.100)	0.7±0.3(0.028±0.012)

3. 产品品名构成 Product Spec. Model







4. 电性能参数表 Electrical Characteristics List

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
通用系列 general series									
FPV100505G3R3PMT		3.3	2.5	5	±20%	14@1A	0.05	20	60~399
FPV100505G5R6PLT		5.6	4	8	±15%	19@1A	0.05	20	50~299
FPV100505G8R0PLT		8	5.7	12	±15%	27@1A	0.05	20	46~299
FPV100505G9R0PLT		9	6.4	13	±15%	30@1A	0.05	20	40~360
FPV100505G110PLT		11	7.8	16	±15%	33@1A	0.05	20	36~234
FPV100505G120PLT		12	8.5	18	±15%	34@1A	0.05	20	30~195
FPV100505G140PKT		14	10	20	±10%	35@1A	0.05	20	24~156
FPV100505G160PKT		16	11.3	22	±10%	39@1A	0.05	20	20~130
FPV100505G180PKT		18	12.7	25	±10%	44@1A	0.05	20	18~108
FPV100505G260PKT		26	18.4	36	±10%	63@1A	0.05	20	10~80

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
通用系列 general series									
FPV201209G3R3PMT		3.3	2.5	5	±20%	14@1A	0.1	40	70~455
FPV201209G5R6PLT		5.6	4	8	±15%	19@1A	0.1	40	60~390
FPV201209G8R0PLT		8	5.7	12	±15%	27@1A	0.1	40	54~351
FPV201209G9R0PLT		9	6.4	13	±15%	30@1A	0.1	40	52~338
FPV201209G110PLT		11	7.8	16	±15%	33@1A	0.1	35	48~312
FPV201209G120PLT		12	8.5	18	±15%	34@1A	0.1	35	44~286
FPV201209G140PKT		14	10	20	±10%	35@1A	0.1	35	40~260
FPV201209G160PKT		16	11.3	22	±10%	39@1A	0.1	35	38~247
FPV201209G180PKT		18	12.7	25	±10%	44@1A	0.1	35	36~234
FPV201209G220PKT		22	15.6	30	±10%	53@1A	0.1	35	32~208
FPV201209G240PKT		24	17	33	±10%	58@1A	0.1	35	30~195
FPV201209G260PKT		26	18.4	36	±10%	63@1A	0.1	35	28~182
FPV201209G300PKT		30	21.2	42	±10%	74@1A	0.1	35	22~143
FPV201209G330PKT		33	23.3	45	±10%	79@1A	0.1	35	18~117
FPV201209G380PKT		38	27	51	±10%	90@1A	0.1	35	12~88
FPV201209G420PKT		42	30	56	±10%	99@1A	0.1	35	14~96
FPV201209G480PKT		48	34	62	±10%	110@1A	0.1	35	16~104

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
通用系列 general series									
FPV321611G3R3PMT		3.3	2.5	5	±20%	14@1A	0.1	40	120~780
FPV321611G5R6PLT		5.6	4	8	±15%	19@1A	0.1	40	112~728
FPV321611G8R0PLT		8	5.7	12	±15%	27@1A	0.1	40	100~650
FPV321611G9R0PLT		9	6.4	13	±15%	30@1A	0.1	40	90~585
FPV321611G110PLT		11	7.8	16	±15%	33@1A	0.1	35	80~420
FPV321611G120PLT		12	8.5	18	±15%	34@1A	0.1	35	60~390
FPV321611G140PKT		14	10	20	±10%	35@1A	0.1	35	54~351
FPV321611G160PKT		16	11.3	22	±10%	39@1A	0.1	35	50~325
FPV321611G180PKT		18	12.7	25	±10%	44@1A	0.1	35	48~312
FPV321611G220PKT		22	15.6	30	±10%	53@1A	0.1	35	44~286
FPV321611G240PKT		24	17	33	±10%	58@1A	0.1	35	42~273
FPV321611G260PKT		26	18.4	36	±10%	63@1A	0.1	35	40~260
FPV321611G300PKT		30	21.2	42	±10%	74@1A	0.1	35	36~234
FPV321611G330PKT		33	23.3	45	±10%	79@1A	0.1	35	30~195
FPV321611G380PKT		38	27	51	±10%	90@1A	0.1	35	26~169
FPV321611G420PKT		42	30	56	±10%	99@1A	0.1	35	22~143
FPV321611G480PKT		48	34	62	±10%	110@1A	0.1	35	18~108
FPV321611G560PKT		56	40	72	±10%	127@1A	0.1	35	16~104
FPV321611G600PKT		60	45	76	±10%	134@1A	0.1	35	14~91
FPV321611G650PKT		65	46	82	±10%	144@1A	0.1	35	13~84
FPV321611G680PKT		68	48	86	±10%	151@1A	0.1	35	12~78
FPV321611G850PKT		85	60	100	±10%	190@1A	0.1	35	12~78

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV201209E3R3PMT		3.3	2.5	5	±20%	14@1A	0.3	120	350~650
FPV201209E5R6PLT		5.6	4	8	±15%	19@1A	0.3	120	350~650
FPV201209E8R0PLT		8	5.7	12	±15%	27@1A	0.3	120	350~650
FPV201209E9R0PLT		9	6.4	13	±15%	30@1A	0.3	120	315~585
FPV201209E110PLT		11	7.8	16	±15%	33@1A	0.3	120	308~572
FPV201209E120PLT		12	8.5	18	±15%	34@1A	0.3	120	294~546
FPV201209E140PKT		14	10	20	±10%	35@1A	0.3	120	280~420
FPV201209E160PKT		16	11.3	22	±10%	39@1A	0.3	120	266~494
FPV201209E180PKT		18	12.7	25	±10%	44@1A	0.3	100	252~468
FPV201209E220PKT		22	15.6	30	±10%	53@1A	0.3	100	224~416
FPV201209E240PKT		24	17	33	±10%	58@1A	0.3	100	210~390
FPV201209E260PKT		26	18.4	36	±10%	63@1A	0.3	100	196~364
FPV201209E300PKT		30	21.2	42	±10%	74@1A	0.3	100	154~286
FPV201209E330PKT		33	23.3	45	±10%	79@1A	0.3	35	168~312

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV321611E3R3PMT		3.3	2.5	5	±20%	14@1A	0.4	150	840~1560
FPV321611E5R6PLT		5.6	4	8	±15%	19@1A	0.4	150	770~1430
FPV321611E8R0PLT		8	5.7	12	±15%	27@1A	0.4	150	700~1300
FPV321611E9R0PLT		9	6.4	13	±15%	30@1A	0.4	150	665~1235
FPV321611E110PLT		11	7.8	16	±15%	33@1A	0.4	150	560~1040
FPV321611E120PLT		12	8.5	18	±15%	34@1A	0.4	150	420~780
FPV321611E140PKT		14	10	20	±10%	35@1A	0.4	150	378~702
FPV321611E160PKT		16	11.3	22	±10%	39@1A	0.4	150	364~676
FPV321611E180PKT		18	12.7	25	±10%	44@1A	0.4	150	350~650
FPV321611E220PKT		22	15.6	30	±10%	53@1A	0.4	150	322~598
FPV321611E240PKT		24	17	33	±10%	58@1A	0.4	150	294~546
FPV321611E260PKT		26	18.4	36	±10%	63@1A	0.4	120	280~420
FPV321611E300PKT		30	21.2	42	±10%	74@1A	0.4	120	252~468
FPV321611E330PKT		33	23.3	45	±10%	79@1A	0.4	120	210~390
FPV321611E380PKT		38	27	51	±10%	90@1A	0.4	120	175~325
FPV321611E420PKT		42	30	56	±10%	99@1A	0.4	120	154~286
FPV321611E480PKT		48	34	62	±10%	110@1A	0.4	120	126~234
FPV321611E560PKT		56	40	72	±10%	120@1A	0.4	120	115.5~214.5
FPV321611E600PKT		60	45	76	±10%	134@1A	0.4	120	105~195
FPV321611E680PKT		68	48	86	±10%	151@1A	0.4	120	94.5~175.5
FPV321611E850PKT		85	60	100	±10%	176@1A	0.4	120	84~156

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	峰值电流 Peak Current	标准电容量 Typical Capacitance @ 1MHz
		直流 DC	交流 AC	V_B			10/1000μs	8/20μs	
		伏特 Volts	伏特 Volts	伏特 Volts	ΔV_B	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV322513E5R6PLT		5.6	4	8.6	±15%	14@2.5A	1.5	300	1040~1690
FPV322513E110PKT		11	7.8	16	±10%	33@2.5A	1.5	300	700~1300
FPV322513E180PKT		18	12.7	25	±10%	44@2.5A	1.5	300	700~1300
FPV322513E220PKT		22	15.6	30	±10%	53@2.5A	1.5	300	630~1170
FPV322513E240PKT		24	17	33	±10%	58@2.5A	1.5	300	595~1150
FPV322513E260PKT		26	18.4	36	±10%	63@2.5A	1.5	280	560~1040
FPV322513E300PKT		30	21.2	42	±10%	74@2.5A	1.5	280	562~988
FPV322513E330PKT		33	23.3	45	±10%	79@2.5A	1.5	280	490~910
FPV322513E380PKT		38	27	51	±10%	90@2.5A	1.5	280	455~845
FPV322513E420PKT		42	30	56	±10%	99@2.5A	1.5	280	406~754
FPV322513E450PKT		45	32	60	±10%	105@2.5A	1.5	280	385~715
FPV322513E480PKT		48	34	62	±10%	110@2.5A	1.5	280	357~663
FPV322513E560PKT		56	40	72	±10%	127@2.5A	1.5	250	315~585
FPV322513E600PKT		60	45	76	±10%	134@2.5A	1.5	250	294~546
FPV322513E650PKT		65	46	82	±10%	144@2.5A	1.5	250	273~507
FPV322513E680PKT		68	48	86	±10%	151@2.5A	1.5	250	252~468
FPV322513E850PKT		85	60	100	±10%	176@2.5A	1.5	250	210~390

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV453215E5R6PLT		5.6	4	8.6	±10%	14@5A	2.5	500	2000~3600
FPV453215E160PKT		16	11.3	22	±10%	39@5A	2.5	500	1120~2080
FPV453215E180PKT		18	12.7	25	±10%	44@5A	2.5	500	1050~1950
FPV453215E220PKT		22	15.6	30	±10%	53@5A	2.5	500	840~1560
FPV453215E240PKT		24	17	33	±10%	58@5A	2.5	500	630~1170
FPV453215E260PKT		26	18.4	36	±10%	63@5A	2.5	500	560~1040
FPV453215E300PKT		30	21.2	42	±10%	74@5A	2.5	500	525~975
FPV453215E330PKT		33	23.3	45	±10%	79@5A	2.5	500	490~910
FPV453215E380PKT		38	27	51	±10%	90@5A	2.5	500	455~845
FPV453215E420PKT		42	30	56	±10%	99@5A	2.5	500	420~780
FPV453215E480PKT		48	34	62	±10%	110@5A	2.5	500	385~715
FPV453215E560PKT		56	40	72	±10%	127@5A	2.5	500	350~650
FPV453215E600PKT		60	45	76	±10%	134@5A	2.5	500	315~585
FPV453215E680PKT		68	48	86	±10%	151@5A	2.5	500	280~520
FPV453215E850PKT		85	60	100	±10%	190@5A	2.5	500	245~455

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV5750E140SKT		14	10	20	±10%	35@5A	2.5	600	2000-4000
FPV5750E180SKT		18	12.7	25	±10%	44@5A	2.5	600	2800-5200
FPV5750E220SKT		22	15.6	30	±10%	53@5A	2.5	600	2450-4550
FPV5750E240SKT		24	17	33	±10%	58@5A	2.5	600	2100-3900
FPV5750E260SKT		26	18.4	36	±10%	63@5A	2.5	600	1750-3250
FPV5750E300SKT		30	21.2	42	±10%	74@5A	2.5	600	1540-2860
FPV5750E330SKT		33	23.3	45	±10%	79@5A	2.5	600	1400-2600
FPV5750E380SKT		38	27	51	±10%	90@5A	2.5	600	1260-2340
FPV5750E420SKT		42	30	56	±10%	99@5A	2.5	600	1120-2080
FPV5750E480SKT		48	34	62	±10%	110@5A	2.5	600	980-1820
FPV5750E560SKT		56	40	72	±10%	127@5A	2.5	600	700-1300
FPV5750E600SKT		60	45	76	±10%	134@5A	2.5	600	560-1040
FPV5750E680SKT		68	48	86	±10%	151@5A	2.5	600	490-910

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV8063E14SKT		14	11	18	±10%	35@1A	0.3	100	1225~2275
FPV8063E18SKT		18	14	22	±10%	44@1A	0.4	100	1015~1885
FPV8063E22SKT		22	17	27	±10%	53@1A	0.5	100	840~1560
FPV8063E26SKT		26	20	33	±10%	63@1A	0.6	100	686~1274
FPV8063E31SKT		31	25	39	±10%	69@1A	0.7	100	595~1105
FPV8063E38SKT		38	30	47	±10%	90@1A	0.9	100	504~936
FPV8063E45SKT		45	35	56	±10%	99@1A	1.1	100	434~806
FPV8063E56SKT		56	40	68	±10%	127@1A	1.3	100	364~676
FPV8063E65SKT		65	50	82	±10%	144@5A	1.8	400	210~390
FPV8063E85SKT		85	60	100	±10%	176@5A	2.2	400	175~325
FPV8063E100SKT		100	75	120	±10%	211@5A	2.5	400	147~273
FPV8063E125SKT		125	95	150	±10%	264@5A	3.4	400	94.5~175.5
FPV8063E150SKT		150	115	180	±10%	317@5A	3.6	400	77~143
FPV8063E170SKT		170	130	205	±10%	361@5A	4.2	400	70~130
FPV8063E200SKT		200	150	240	±10%	427@5A	4.9	400	63~117
FPV8063E225SKT		225	175	270	±10%	475@5A	5.6	400	52.5~97.5
FPV8063E240SKT		240	190	310	±10%	600@5A	6.0	400	49~91
FPV8063E300SKT		300	230	360	±10%	634@5A	7.2	400	42~78
FPV8063E320SKT		320	250	390	±10%	686@5A	8.2	400	38.5~71.5
FPV8063E350SKT		350	275	430	±10%	757@5A	8.6	400	35~65
FPV8063E385SKT		385	300	470	±10%	827@5A	9.6	400	31.5~58.5

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高耐能系列 High energy absorb series									
FPV1080E14SKT		14	11	18	±10%	35@2.5A	0.8	250	3500~6500
FPV1080E18SKT		18	14	22	±10%	44@2.5A	0.9	250	3150~5850
FPV1080E22SKT		22	17	27	±10%	53@2.5A	1.1	250	2800~5200
FPV1080E26SKT		26	20	33	±10%	63@2.5A	1.3	250	2450~4550
FPV1080E31SKT		31	25	39	±10%	69@2.5A	1.6	250	2100~3900
FPV1080E38SKT		38	30	47	±10%	90@2.5A	2.0	250	1960~3640
FPV1080E45SKT		45	35	56	±10%	99@2.5A	2.5	250	1750~3250
FPV1080E56SKT		56	40	68	±10%	127@2.5A	3.0	250	1400~2600
FPV1080E65SKT		65	50	82	±10%	144@10A	4.2	1200	1330~2470
FPV1080E85SKT		85	60	100	±10%	176@10A	4.8	1200	1190~3310
FPV1080E100SKT		100	75	120	±10%	211@10A	5.9	1200	1050~1950
FPV1080E125SKT		125	95	150	±10%	264@10A	7.6	1200	945~1755
FPV1080E150SKT		150	115	180	±10%	317@10A	8.4	1200	630~1170
FPV1080E170SKT		170	130	205	±10%	361@10A	9.5	1200	490~910
FPV1080E180SKT		180	140	220	±10%	387@10A	10.0	1200	350~650
FPV1080E200SKT		200	150	240	±10%	422@10A	11.0	1200	280~520
FPV1080E225SKT		225	175	270	±10%	475@10A	13.0	1200	210~390
FPV1080E300SKT		300	230	360	±10%	634@10A	17.0	1200	140~260
FPV1080E320SKT		320	250	390	±10%	686@10A	19.0	1200	126~234
FPV1080E350SKT		350	275	430	±10%	757@10A	21.0	1200	73.5~136.5
FPV1080E385SKT		385	300	470	±10%	827@10A	23.0	1200	63~117

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	能量耐量 Energy Absorption	峰值电流 Peak Current	标准电容量 Typical Capacitance
		直流 DC	交流 AC	VB		8/20 μs	10/1000μs	8/20μs	@ 1MHz
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高速系列 High speed series									
FPV100505S3R3PLT		3.3	2.5	7	±15%	15@1A	0.05	10	56~126
FPV100505S5R6PLT		5.6	4	11	±15%	24@1A	0.05	10	36~81
FPV100505S8R0PLT		8	5.7	14	±15%	31@1A	0.05	10	24~54
FPV100505S9R0PLT		9	6.4	15	±15%	33@1A	0.05	10	20.8~46.8
FPV100505S110PLT		11	7.8	18	±15%	40@1A	0.05	10	19.2~43.2
FPV100505S120PLT		12	8.5	20	±15%	44@1A	0.05	10	16~36
FPV100505S140PKT		14	10	22	±10%	49@1A	0.05	10	14.4~32.4
FPV100505S160PKT		16	11.3	24	±10%	53@1A	0.05	10	12~27
FPV100505S180PKT		18	12.7	27	±10%	60@1A	0.05	10	12~27

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高速系列 High speed series									
FPV160808S3R3PLT		3.3	2.5	7	±15%	15@1A	0.05	10	144~324
FPV160808S5R6PLT		5.6	4	11	±15%	24@1A	0.05	10	88~198
FPV160808S8R0PLT		8	5.7	14	±15%	31@1A	0.05	10	64~144
FPV160808S9R0PLT		9	6.4	15	±15%	33@1A	0.05	10	56~126
FPV160808S110PLT		11	7.8	18	±15%	40@1A	0.05	10	48~108
FPV160808S120PLT		12	8.5	20	±15%	44@1A	0.05	10	44~99
FPV160808S140PKT		14	10	22	±10%	49@1A	0.05	10	40~90
FPV160808S160PKT		16	11.3	24	±10%	53@1A	0.05	10	36~81
FPV160808S180PKT		18	12.7	27	±10%	60@1A	0.05	10	32~72
FPV160808S220PKT		22	15.6	32	±10%	71@1A	0.05	10	24~54
FPV160808S240PKT		24	17	35	±10%	77@1A	0.05	10	20~45
FPV160808S260PKT		26	18.4	38	±10%	84@1A	0.05	10	20~45
FPV160808S300PKT		30	21.2	44	±10%	97@1A	0.05	10	16~36
FPV160808S680PKT		68	48	88	±10%	194@1A	0.05	10	13.6~30.6

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
高速系列 High speed series									
FPV201209S3R3PLT		3.3	2.5	7	±15%	15@1A	0.05	10	176~396
FPV201209S5R6PLT		5.6	4	11	±15%	24@1A	0.05	10	112~252
FPV201209S8R0PLT		8	5.7	14	±15%	31@1A	0.05	10	80~180
FPV201209S9R0PLT		9	6.4	15	±15%	33@1A	0.05	10	72~162
FPV201209S110PLT		11	7.8	18	±15%	40@1A	0.05	10	56~126
FPV201209S120PLT		12	8.5	20	±15%	44@1A	0.05	10	48~108
FPV201209S140PLT		14	10	22	±10%	49@1A	0.05	10	44~99
FPV201209S160PLT		16	11.3	24	±10%	53@1A	0.05	10	40~90
FPV201209S180PKT		18	12.7	27	±10%	60@1A	0.05	10	36~81
FPV201209S220PKT		22	15.6	32	±10%	71@1A	0.05	10	32~72
FPV201209S240PKT		24	17	35	±10%	77@1A	0.05	10	28~63
FPV201209S260PKT		26	18.4	38	±10%	84@1A	0.05	10	24~54
FPV201209S300PKT		30	21.2	44	±10%	97@1A	0.05	10	20~45

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	VB					
		伏特 Volts	伏特 Volts	伏特 Volts	ΔVB	伏特 Volts	焦耳 Joules	安培 Amps	pF
超低电容量 Ultra-low capacitance									
1005 Series									
FPV100505S3R3PMT150		3.3	2.5	7	±20%	20@1A	0.01	6	10.5~19.5
FPV100505S5R6PMT150		5.6	4	11	±20%	24@1A	0.01	6	10.5~19.5
FPV100505S180PMT030		18	12.7	120	±20%	250@1A	0.01	6	2.3~4.3
FPV100505S180PMT070		18	12.7	27	±20%	60@1A	0.01	6	4.8~8.8
1608 Series									
FPV160808S3R3PMT150		3.3	2.5	7	±20%	20@1A	0.01	6	10.5~19.5
FPV160808S5R6PMT150		5.6	4	11	±20%	24@1A	0.01	6	10.5~19.5
FPV160808S180PMT030		18	12.7	120	±20%	250@1A	0.01	6	2.3~4.3
FPV160808S180PMT070		18	12.7	27	±20%	60@1A	0.01	6	4.8~8.8

5. 可靠性试验项目 Reliability Testing Items

序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
1	工作温度范围 Operating Temperature Range	-55℃～+125℃	
2	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	预热温度:120～150℃ Preheating temperature:120 to 150℃ 预热时间:60s Preheating time: 60s 焊料：95.5%锡，3.0%银，0.5%铜的焊料 Solder ：95.5%Sn、3.0%Ag、0.5%:Cu， of the solder. 焊锡温度:245±5℃ Solder temperature: 450±5℃ 浸锡时间:5±1s Duration : 5±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
3	耐焊接热 Resistance to Soldering	瓷体没有破裂之类的损伤 No damage such as crucks 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%	预热温度:120～150℃ Preheating temperature: 120 to 150℃ 预热时间:60s Preheating time: 60s 焊料：95.5%锡、3.0%银、0.5%铜的焊料 Solder ：95.5%Sn、3.0%Ag、0.5%:Cu of the solder. 浸锡温度:260±5℃ Solder temperature: 260±5℃ 浸锡时间:10±1s Duration : 10±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

<table>
<tr><th>序号
No.</th><th>项目
Items</th><th>要求
Requirements</th><th>试验方法及备注
Test Methods and Remarks</th></tr>
<tr><td>4</td><td>端电极强度
Adhesion of electrode</td><td>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.</td><td>
<table>
<tr><th>规格型号
Part Number</th><th>施加力
Applied force</th><th>保持时间
Keep time</th></tr>
<tr><td>1005</td><td>4N</td><td>10±1S</td></tr>
<tr><td>1608</td><td>5N</td><td>10±1S</td></tr>
<tr><td>2012</td><td>6N</td><td>10±1S</td></tr>
<tr><td>3216</td><td>10N</td><td>10±1S</td></tr>
<tr><td>3225 、 4532 、 5750、8063、1080</td><td>15N</td><td>10±1S</td></tr>
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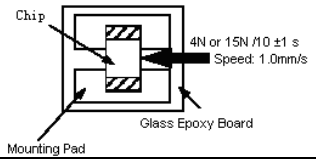
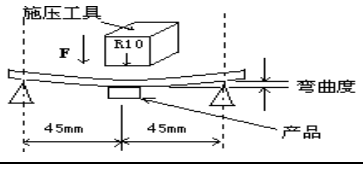
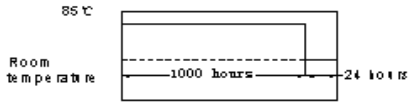
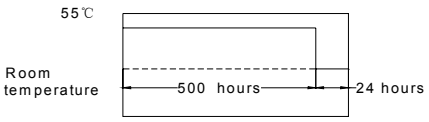
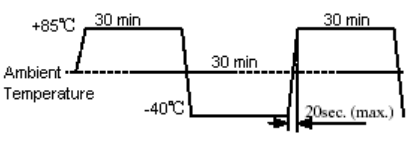


</td></tr>
<tr><td>5</td><td>耐低温
Low temperature resistance</td><td>无可见机械损伤，
No mechanical damage.
压敏电压变化在±5%之内
Varistor voltage change within±5%</td><td>测试温度:-55±2℃
Temperature: -55±2℃
测试时间:500 $^{+24}_{-0}$ h
Testing time: 500 $^{+24}_{-0}$ h</td></tr>
<tr><td>6</td><td>抗弯强度
Bending strength</td><td>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%</td><td>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
 
</td></tr>
<tr><td>7</td><td>跌落
Drop</td><td>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%</td><td>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.</td></tr>
<tr><td>8</td><td>振动
Vibration</td><td>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%</td><td>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.</td></tr>
</table>

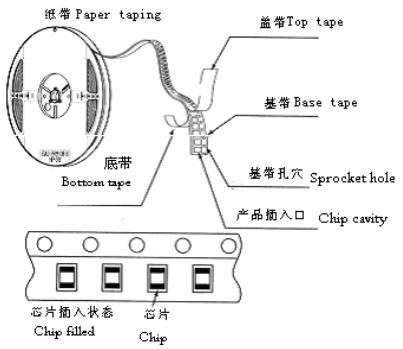
序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
9	耐高温 High temperature resistance	无可见机械损伤， No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage change within±5%	施加电压：工作电压 Applied voltage: Working voltage 测试时间:1000 $^{+24}_{-0}$ h Testing time: 1000 $^{+24}_{-0}$ h 测试温度:85±2℃ Temperature: 85±2℃ 
10	恒定湿热 Static Humidity	无可见机械损伤， No mechanical damage. 压敏电压变化在±5%之内 Varistor voltage cha nge within±5%	湿度:90～95% RH，温度:55±2℃ 测试时间:500 $^{+24}_{-0}$ h Humidity: 90 to 95% RH Temperature: 55±2℃ Testing time: 500 $^{+24}_{-0}$ 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℃，30±3 分钟 +85℃，30±3 分钟 Temperature: -40℃ for 30±3min +85℃ for 30±3min 转换时间：5±3 分钟 Transforming interval : 5 ±3min 20 sec 循环次数：32 Number of cycles: 32 

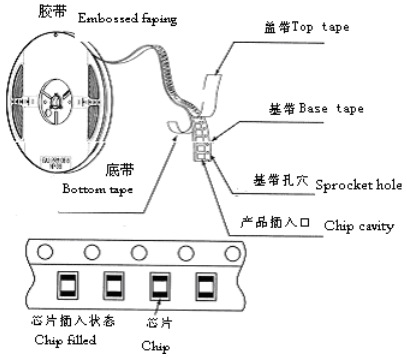
注：以上要求测试电性能的项目，应试验后在标准条件下放置 24 小时后测试。

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

6. 产品包装 Packaging

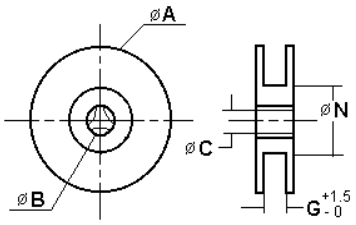
1）编带图 Taping drawings



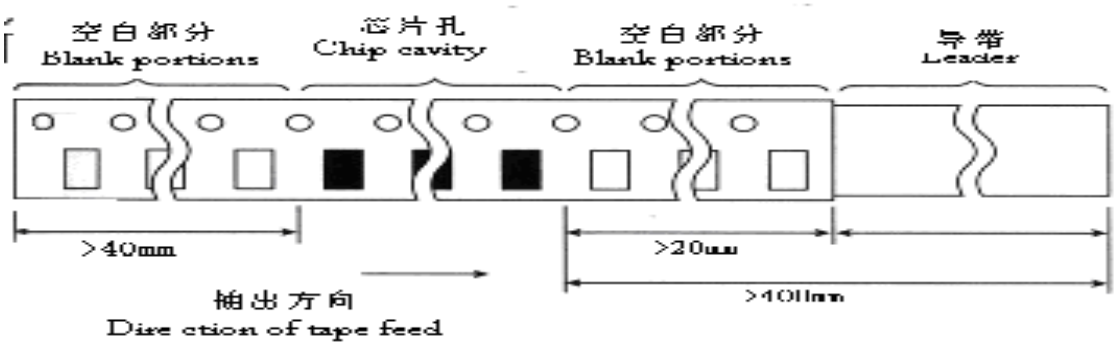


2）卷盘尺寸 Reel dimensions (Unit:mm)

	A	B	C	N	G
CF-8	178 ±2.0	22.0 ±2.0	12.5 ±1.5	57 ±2.0	8
CF-12	330 ±2.0	22.0 ±2.0	12.5 ±1.5	98 ±2.0	12
CF-16	330 ±2.0	22.0 ±2.0	12.5 ±1.5	110 ±2.0	16

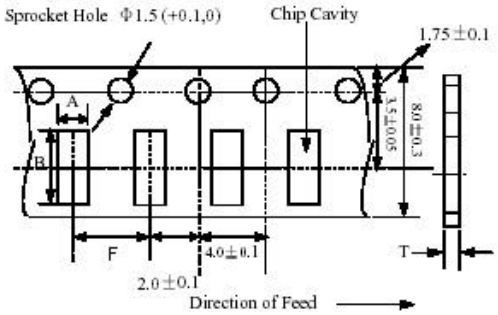


3） 导带及空格部分 Leader and blank portion



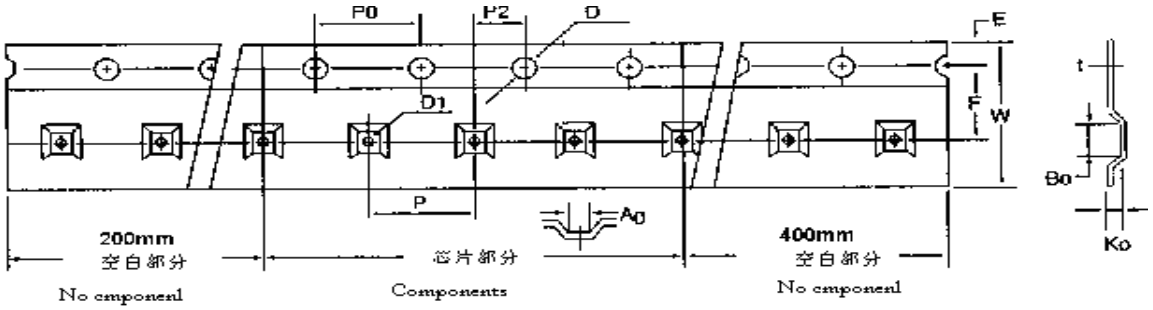
4）编带尺寸 Taping dimensions (Unit: mm)

纸带 Paper tape



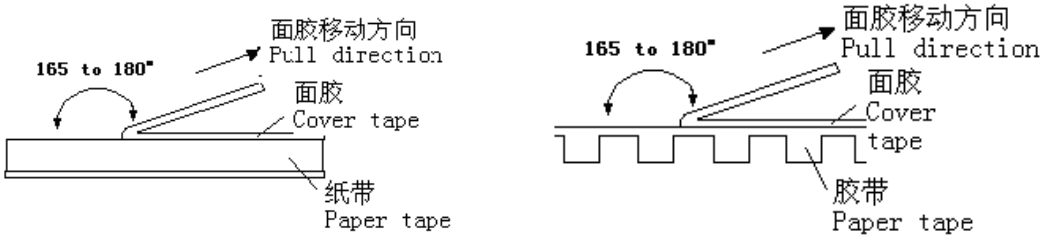
Part NO.	A	B	F	T
100505	0.65±0.1	1.15±0.1	2.0±0.05	0.8max
160808	1.1±0.2	1.9±0.2	4.0±0.2	1.1max
201209	1.5±0.2	2.3±0.2	4.0±0.2	1.1max

5） 塑料胶带 Embossed tape



	1080	8063	5750	4532	3225	3216
W	16.0+/-0.3	16.0+/-0.3	12.0+/-0.2	12.0+/-0.2	8.1+/-0.2	8.1+/-0.2
P	12.0+/-0.10	12.0+/-0.10	8.0+/-0.10	8.0+/-0.10	4.0+/-0.10	4.0+/-0.10
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	7.50+/-0.10	7.50+/-0.10	5.50+/-0.10	5.50+/-0.10	3.50+/-0.10	3.50+/-0.10
D	1.50+/-0.05	1.50+/-0.1	1.5+/-0.1	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05
D1	1.50+/-0.10	1.50+/-0.10	1.50+/-0.10	1.50+/-0.10	1.00+/-0.10	1.00+/-0.10
P_0	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
$P_0$10	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20
P2	2.0+/-0.05	2.0+/-0.1	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05
A_0	8.4+/-0.10	7.0+/-0.20	5.1+/-0.20	3.66+/-0.10	2.80+/-0.10	1.90+/-0.10
B_0	10.5+/-0.10	8.7+/-0.20	6.0+/-0.20	4.95+/-0.10	3.50+/-0.10	3.51+/-0.10
t	0.3+/-0.10	0.3+/-0.10	0.3+/-0.05	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10
K_0	1.9+/-0.10	2.0+/-0.10	2.0+/-0.10	1.74+/-0.10	1.55+/-0.10	1.27+/-0.10

6）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.

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

类型 SIZE	1080	8063	5750	453215	322513	321611	201209	160808	100505
每卷数量 REEL	2500	2500	3000	3000	3000	3000	4000	4000	10000
每盒数量 BOX	10000	10000	12000	12000	30000	30000	40000	40000	100000
每箱数量 CASE	30000	30000	36000	36000	180000	180000	240000	240000	600000

8) 标签粘贴位置 Label stick station

卷盘标签	纸盒标签	纸盒标签	外箱标签
			

7. 环保情况说明 Environmental Protection Statement

RoHS 指令：本公司产品符合 RoHS 指令。

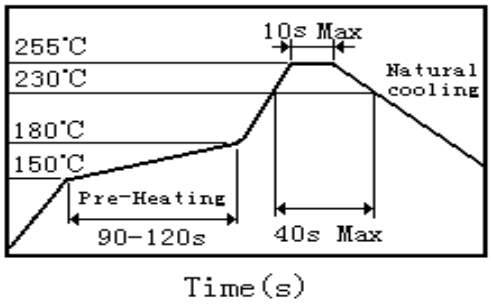
Response to RoHS directive：Our products are RoHS compliance.

8. 推荐焊接条件 Recommend Soldering Conditions

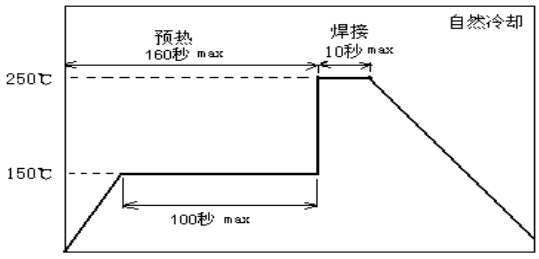
② 焊接要求 Soldering conditions

- 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℃ max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100℃ 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内进行焊接。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.

1） 回流焊曲线 Reflow soldering profile



2）波峰焊曲线 Flow soldering profile



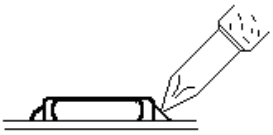
3）手工焊接 Iron soldering

使用烙铁进行返修时要求在 150℃下预热至少 1 分钟，不能直接用焊头接触磁体，返修焊接条件如下：

①烙铁头温度：350℃；②烙铁输出功率：≤30W；③烙铁头直径：≤1.0mm；④焊接时间：<3 秒

Reworking with Sodering Iron must preheating at 150℃ for 1 minute is required, and do not directly touch the core with the tip of the soldering iron. The reworking soldering conditions are as fo¨

① Temperature of soldering iron tip: 350℃;
② Soldering iron power output: 30W max.
③ Diameter of soldering iron end: 1.0mm max.
④ Soldering time: within 3 sec.



4）清洗条件 Cleaning Conditions

对本产品进行清洗操作前，需确认以下条件：

⑴清洗温度：≤60℃（酒精清洗剂≤40℃）

⑵超声波清洗

输出：≤20 W/L　　持续时间：≤5 分钟　　频率：28～40kHz

▲清洗时要避免 PCB 板和安装产品的共振。

The following conditions should be observed when cleaning the products:

⑴Cleaning Temperature: 60℃ max. (40℃ max. for alcohol cleaning agents)

⑵Ultrasonic

Output: 20 W/L max.

Duration: 5 min max.

Frequency: 28 to 40kHz

▲ Care should be taken not to cause resonance of the PCB and mounted products.

9. 存储要求 Storage Requirements

1）存储期限 Storage period

距电感公司出厂检验时间 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 INDUCTOR COMPANY 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

⑴ 存放货物的库房应满足以下条件：温度：-10 ～ +40℃，相对湿度：30 ～ 70% RH。

Products should be storage in the warehouse on the following conditions:

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

⑵ 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。

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.

⑶ 为了避免受潮气、灰尘等物质的影响，产品应保管于货架上。

Products should be storaged on the palette for the prevention of the influence from humidity, dust and so on.

⑷ 产品保管在库房中，应避免热冲击、振动以及直接光照等等。

Products should be storaged in the warehouse without heat shock, vibration, direct sunlight and so on.

⑸ 产品应密封包装。

Products should be storaged under the airtight packaged condition.

10. 注意事项 Notes

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。

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

（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。

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）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。

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.