

P6SMA***A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

600 Watt Peak Pulse Power

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- * For surface mounted applications in order to optimize board space
- * Low profile package
- * Built-in strain relief
- * Glass passivated junction
- * Low inductance
- * Excellent clamping capability
- * Repetition Rate (duty cycle):0.01%
- * Fast response time: typically less than 1.0ps from 0 Volts to V(BR) for unidirectional types
- * Typical IR less than 1mA above 10V
- * High temperature soldering guaranteed: 260°C/10 seconds,

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denoted cathode except Bipolar

Mounting Position: Any

Weight: 0.0026 ounce, 0.075 gram

1.DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P6SMA62CA

Electrical characteristics apply in both directions.marking like Uni; without color band.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^{\circ}\text{C}$, $T_P=1\text{ms}$ (Note 1)	P_{PPM}	Minimum 600	Watts
Steady State Power Dissipation at $T_L=75^{\circ}\text{C}$ (Note 2)	$P_{M(AV)}$	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3)	I_{FSM}	100	Amps
Operating Temperature Range	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^{\circ}\text{C}$

NOTES:

1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^{\circ}\text{C}$ per Fig. 2.
2. Mounted on Copper Leaf area of $1.57\text{in}^2(40\text{mm}^2)$.
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.



We declare that the material of product compliance with ROHS requirements

P6SMA***A

UNI-DIRECTIONAL PART NUMBER	Device marking code	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @IPP VC (V)	REVERSE LEAKAGE @VRWM IR (uA)	Maximun Temperature Coefficient of V _{BR} (%/°C)
P6SMA6.8	6.8	5.5	6.12	7.48	10	10.8	1000	0.057
P6SMA6.8A	6.8A	5.8	6.45	7.14	10	10.5	1000	0.057
P6SMA7.5	7.5	6.05	6.75	8.25	10	11.7	500	0.061
P6SMA7.5A	7.5A	6.4	7.13	7.88	10	11.3	500	0.061
P6SMA8.2	8.2	6.63	7.38	9.02	10	12.5	200	0.065
P6SMA8.2A	8.2A	7.02	7.79	8.61	10	12.1	200	0.065
P6SMA9.1	9.1	7.37	8.19	10	1	13.8	50	0.068
P6SMA9.1A	9.1A	7.78	8.65	9.5	1	13.4	50	0.068
P6SMA10	10	8.1	9	11	1	15	10	0.073
P6SMA10A	10A	8.55	9.5	10.5	1	14.5	10	0.073
P6SMA11	11	8.92	9.9	12.1	1	16.2	1	0.075
P6SMA11A	11A	9.4	10.5	11.6	1	15.6	1	0.075
P6SMA12	12	9.72	10.8	13.2	1	17.3	1	0.076
P6SMA12A	12A	10.2	11.4	12.6	1	16.7	1	0.078
P6SMA13	13	10.5	11.7	14.3	1	19	1	0.081
P6SMA13A	13A	11.1	12.4	13.7	1	18.2	1	0.081
P6SMA15	15	12.1	13.5	16.5	1	22	1	0.084
P6SMA15A	15A	12.8	14.3	15.8	1	21.2	1	0.084
P6SMA16	16	12.9	14.4	17.6	1	23.5	1	0.086
P6SMA16A	16A	13.6	15.2	16.8	1	22.5	1	0.086
P6SMA18	18	14.5	16.2	19.8	1	26.5	1	0.088
P6SMA18A	18A	15.3	17.1	18.9	1	25.2	1	0.088
P6SMA20	20	16.2	18	22	1	29.1	1	0.090
P6SMA20A	20A	17.1	19	21	1	27.7	1	0.090
P6SMA22	22	17.8	19.8	24.2	1	31.9	1	0.092
P6SMA22A	22A	18.8	20.9	23.1	1	30.6	1	0.092
P6SMA24	24	19.4	21.6	26.4	1	34.7	1	0.094
P6SMA24A	24A	20.5	22.8	25.2	1	33.2	1	0.094
P6SMA27	27	21.8	24.3	29.7	1	39.1	1	0.096
P6SMA27A	27A	23.1	25.7	28.4	1	37.5	1	0.096
P6SMA30	30	24.3	27	33	1	43.5	1	0.097
P6SMA30A	30A	25.6	28.5	31.5	1	41.4	1	0.097
P6SMA33	33	26.8	29.7	36.3	1	47.7	1	0.098
P6SMA33A	33A	28.2	31.4	34.7	1	45.7	1	0.098
P6SMA36	36	29.1	32.4	39.6	1	52	1	0.099
P6SMA36A	36A	30.8	34.2	37.8	1	49.9	1	0.099
P6SMA39	39	31.6	35.1	42.9	1	56.4	1	0.100
P6SMA39A	39A	33.3	37.1	41	1	53.9	1	0.100
P6SMA43	43	34.8	38.7	47.3	1	61.9	1	0.101
P6SMA43A	43A	36.8	40.9	45.2	1	59.3	1	0.101
P6SMA47	47	38.1	42.3	51.7	1	67.8	1	0.101
P6SMA47A	47A	40.2	44.7	49.4	1	64.8	1	0.101
P6SMA51	51	41.3	45.9	56.1	1	73.5	1	0.102
P6SMA51A	51A	43.6	48.5	53.6	1	70.1	1	0.102
P6SMA56	56	45.6	50.4	61.6	1	80.5	1	0.103
P6SMA56A	56A	47.8	53.2	58.8	1	77	1	0.103
P6SMA62	62	50.2	55.8	68.2	1	89	1	0.104
P6SMA62A	62A	53	58.9	65.1	1	85	1	0.104
P6SMA68	68	55.1	61.2	74.8	1	98	1	0.104

P6SMA***A

UNI-DIRECTIONAL	Device marking code	REVERSE	BREAKDOWN	BREAKDOWN	TEST	MAXIMUM	REVERSE	Maximun Temperature Coefficient of $V_{BR}(\%/^{\circ}\text{C})$
PART		STAND-OFF	VOLTAGE	VOLTAGE	CURRENT	CLAMPING	LEAKAGE	
NUMBER		VOLTAGE	VBR (V)	VBR (V)	IT	VOLTAGE	@VRWM	
		VRWM (V)	MIN. @IT	MAX. @IT	(mA)	@IPP VC (V)	IR (uA)	
P6SMA68A	68A	58.1	64.6	71.4	1	92	1	0.104
P6SMA75	75	60.7	67.5	82.5	1	108	1	0.105
P6SMA75A	75A	64.1	71.3	78.8	1	103	1	
P6SMA82	82	66.4	73.8	90.2	1	118	1	
P6SMA82A	82A	70.1	77.9	86.1	1	113	1	
P6SMA91	91	73.7	81.9	100	1	131	1	0.106
P6SMA91A	91A	77.8	86.5	95.5	1	125	1	
P6SMA100	100	81	90	110	1	144	1	
P6SMA100A	100A	85.5	95	105	1	137	1	
P6SMA110	110	89.2	99	121	1	158	1	0.107
P6SMA110A	110A	94	105	116	1	152	1	
P6SMA120	120	97.2	108	132	1	173	1	
P6SMA120A	120A	102	114	126	1	165	1	
P6SMA130	130	105	117	143	1	187	1	
P6SMA130A	130A	111	124	137	1	179	1	
P6SMA150	150	121	135	165	1	215	1	0.108
P6SMA150A	150A	128	143	158	1	207	1	
P6SMA160	160	130	144	176	1	230	1	
P6SMA160A	160A	136	152	168	1	219	1	
P6SMA170	170	138	153	187	1	244	1	
P6SMA170A	170A	145	162	179	1	234	1	
P6SMA180	180	146	162	198	1	258	1	
P6SMA180A	180A	154	171	189	1	246	1	
P6SMA200	200	162	180	220	1	287	1	
P6SMA200A	200A	171	190	210	1	274	1	
P6SMA220	220	175	198	242	1	344	1	
P6SMA220A	220A	185	209	231	1	328	1	
P6SMA250	250	202	225	275	1	360	1	0.110
P6SMA250A	250A	214	237	263	1	344	1	
P6SMA300	300	243	270	330	1	430	1	
P6SMA300A	300A	256	285	315	1	414	1	

P6SMA***A

2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1-Peak Pulse Power Rating Curve

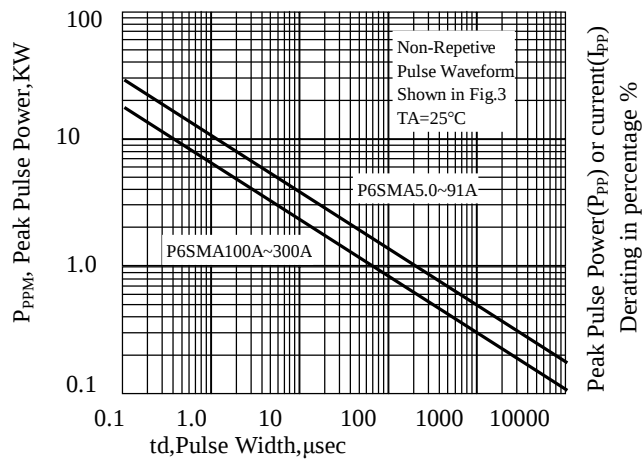


Fig. 2-Pulse Derating Curve

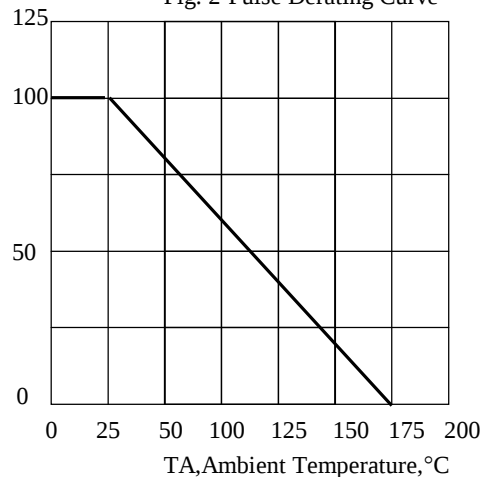


Fig. 3-Pulse Waveform

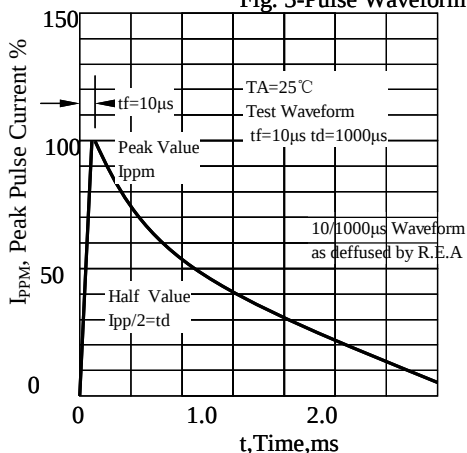


Fig. 4-Typical Junction Capacitance

Unidirectional

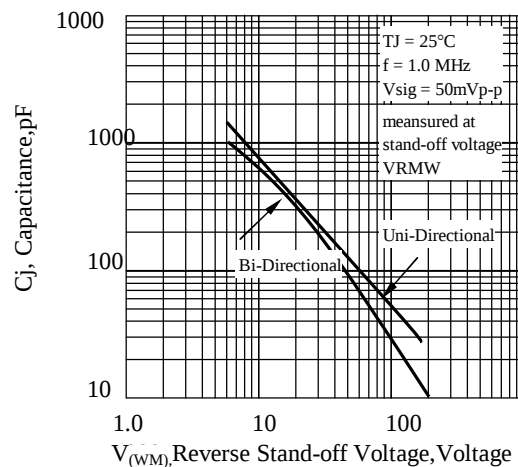


Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional

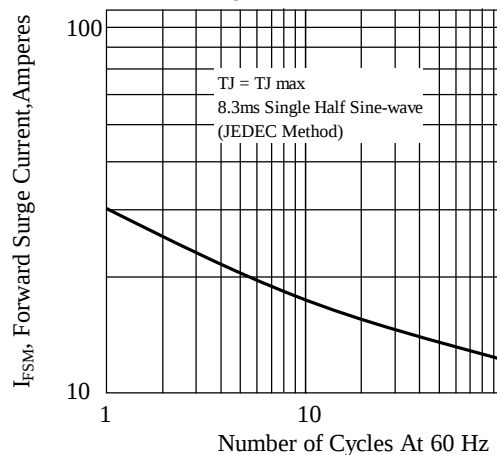
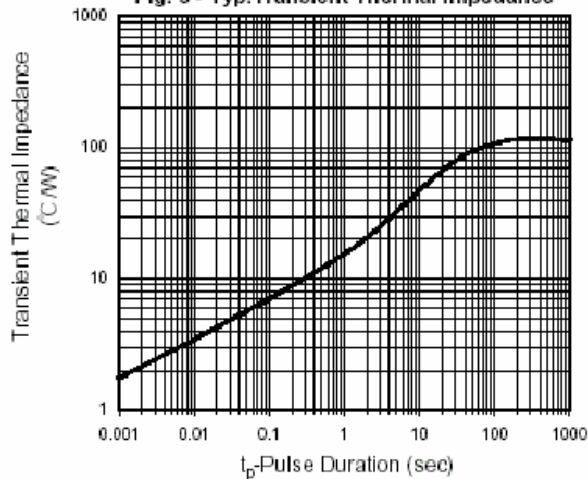
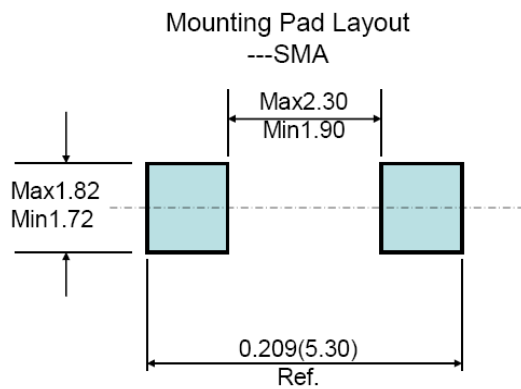
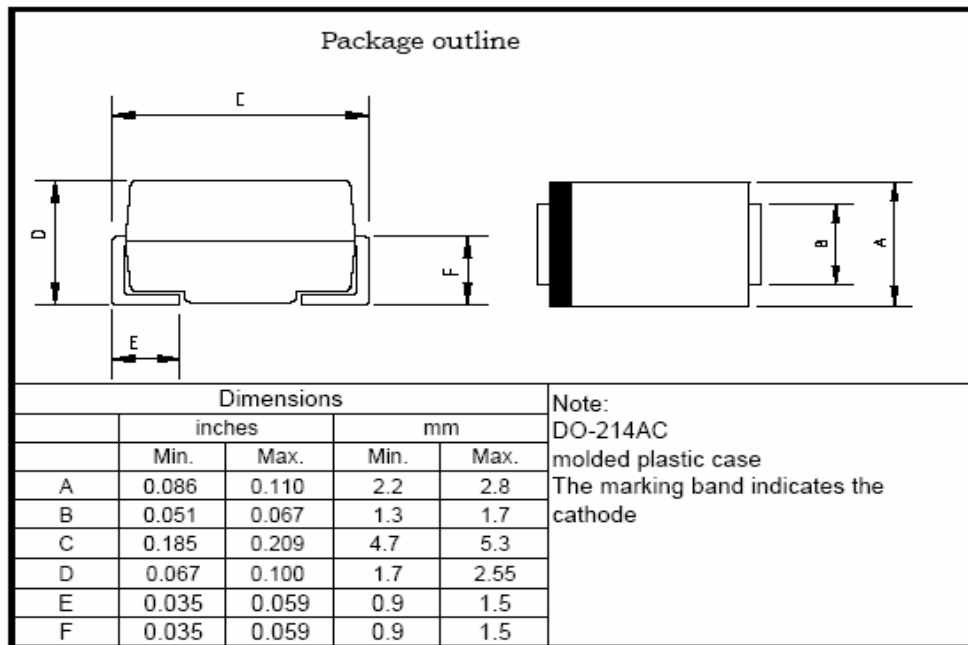


Fig. 5 - Typ. Transient Thermal Impedance



P6SMA***A

3. dimension:





LRC

乐山无线电股份有限公司
Leshan Radio Company, Ltd

标题Title:

塑封生产线SMD产品包装规范
Packaging specification of SMD

文件编号: WI-258

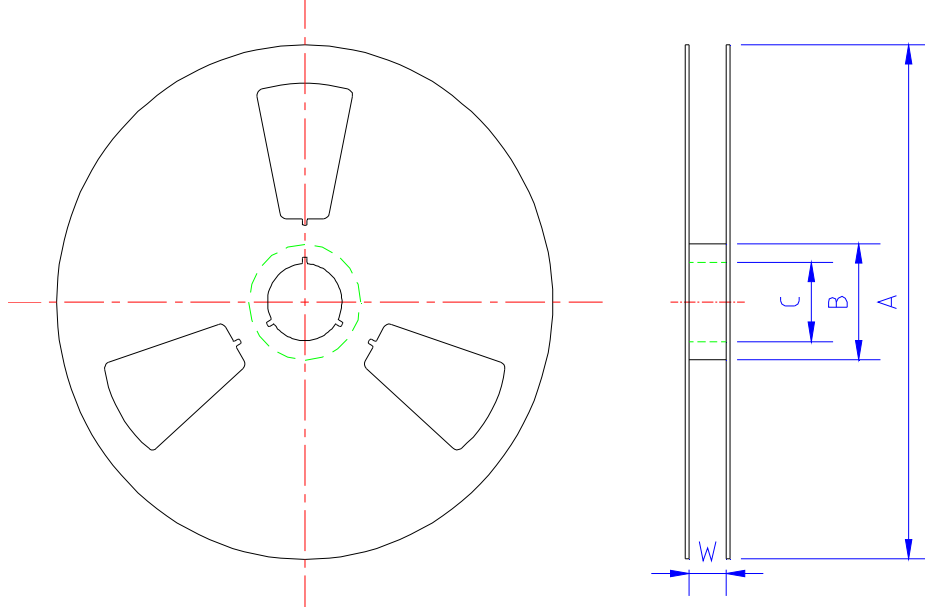
第 3 版 第 0 次修改

第 2 页

SMD产品通用包装材料规格以及包装产品数量
General packaging materials spec. and quantity

1.1 卷装 reel

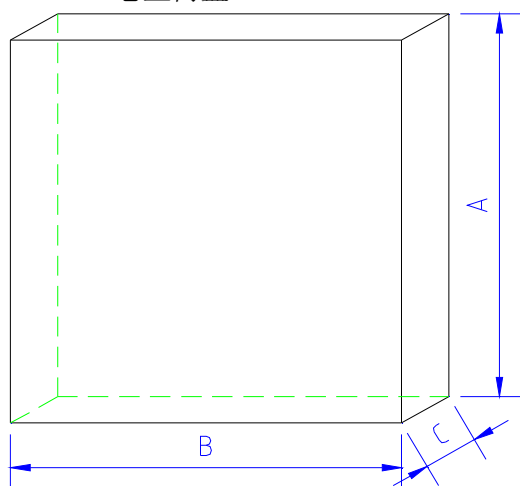
A. 卷盘规格 reel spec



单位: mm

规格	A	B	C	W	每卷数量
SMA 7"卷盘	177.0±2.0	54.0±0.5	13.0±0.5	13.2±0.2	2K
SMA13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	13.2±0.2	5K
SMB13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	13.5±0.5	3K
SMC13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	17.0±0.5	3K

B. 13"卷盘内盒 inner box



单位: mm

	A	B	C
尺寸	335±5.0	335±2.0	40±1.0

按以上包装方式, 产品包装数量: quantity

规格	每盒数量
SMA13"卷盘	10K
SMB13"卷盘	6K
SMC13"卷盘	6K

标题Title:

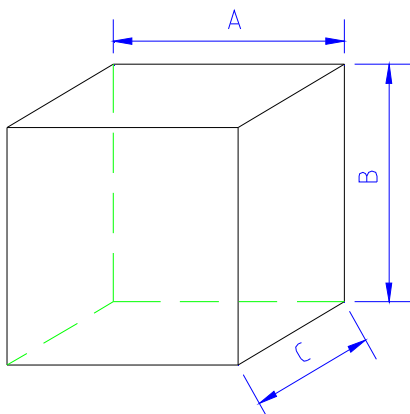
塑封生产线SMD产品包装规范
Packaging specification of SMD

文件编号: WI-258

文件编号: WI-258

第 3 页

C. 7"卷盘盒 box



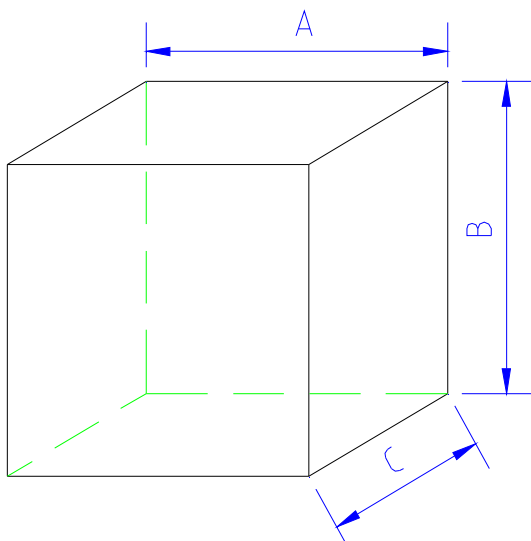
单位: mm

	A	B	C
尺寸	188±2.0	188±2.0	138±2.0

按以上包装方式, 产品包装数量: quantity

	每盒数量
7"卷盘	16K

D. 卷盘外箱 reel carton



单位: mm

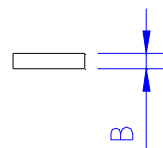
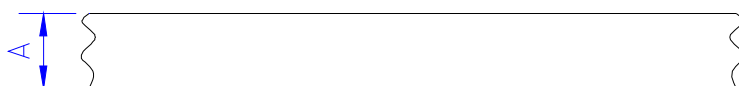
	A	B	C
尺寸	350±2.0	340±2.0	350±2.0

按以上包装方式, 产品包装数量:

规格	每箱数量
SMA 7"卷盘	80K
SMA13"卷盘	80K
SMB13"卷盘	48K
SMC13"卷盘	36K

1.2 编带规格 tape spec

A. 盖带 Cover tape



单位: mm

	A	B
SMA	9.30±0.10	0.068±0.005
SMB		
SMC		
	13.30±0.10	

标题Title:

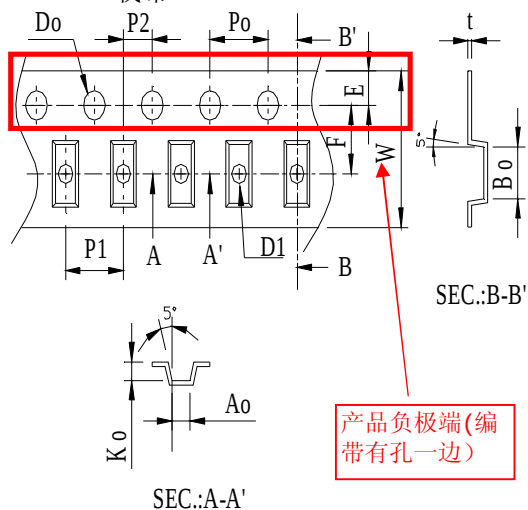
塑封生产线SMD产品包装规范
Packaging specification of SMD

文件编号: WI-258

第 3 版 第 0 次修改

第 4 页

B. 载带



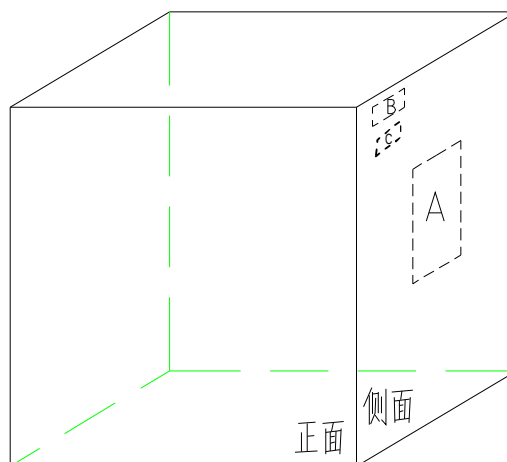
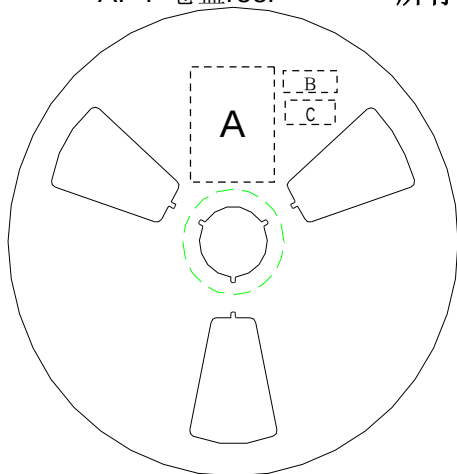
类型	SMA	SMB	SMC
W	12±0.3	12±0.3	16±0.3
P1	4±0.1	8±0.1	8±0.1
E	1.75±0.1	1.75±0.1	1.75±0.1
F	5.5±0.05	5.5±0.05	7.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.5±0.1	1.55±0.05	1.55±0.05
P0	4±0.1	4±0.1	4±0.1
P2	2±0.05	2±0.05	2±0.05
10P0	40±0.2	40±0.2	40±0.2
A0	2.79±0.1	3.8±0.1	6.05±0.1
B0	5.33±0.1	5.4±0.1	8.31±0.1
K0	2.36±0.1	2.45±0.1	2.54±0.1
T	0.25±0.05	0.25±0.05	0.25±0.05

2、SMD产品通用包装规范 General spec of SMD

5.2.1国内客户domestic

A. 7"卷盘reel

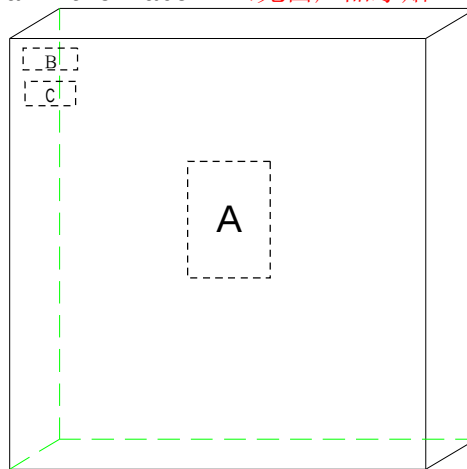
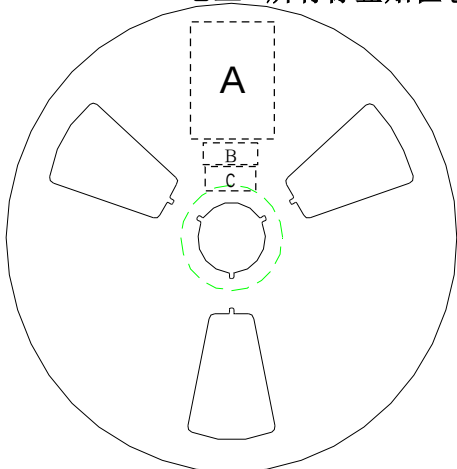
所有标签贴在卷盘负极 all the label on cathode side



A处:贴LRC标签; B处:贴ROHS标签 C处:贴无卤标签 HF label

B. 13"卷盘

所有标签贴在卷盘负极 all the label (无卤产品才贴HF only)



A处:贴LRC标签; B处:贴ROHS标签 C处:贴无卤标签 (无卤产品才贴HF only)

标题Title:

塑封生产线SMD产品包装规范
Packaging specification of SMD

文件编号: WI-258

第 3 版 第 0 次修改

第 5 页

C. 标签要求label spec:

LRC标签label

型号 TYPE	*****
数量(只) QTY(PCS)	*****
批号 LOT	*****
日期 DATE	*****
检验员: CHECKER	

LRC产品型号 type

产品数量 quantity

产品批号 LOT

产品生产日期 date

ROHS标签

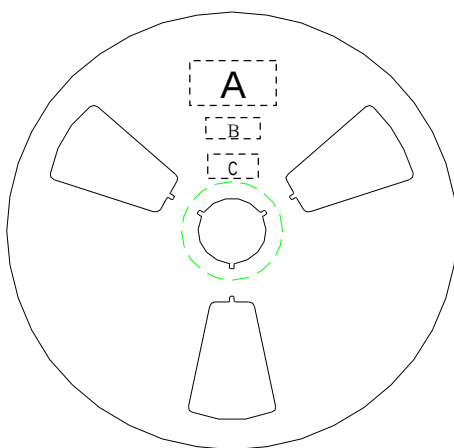


无卤标签 HF label

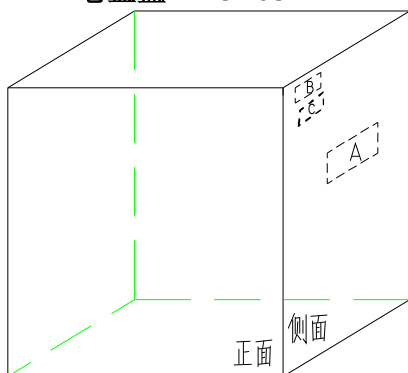
Green

2.2 国外客户
overseas

所有标签贴在卷盘负极 all the label on cathode side



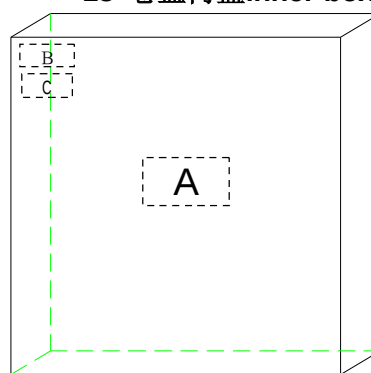
7"卷盘盒 inner box



A处:贴LRC标签;

B处:贴ROHS标签

13"卷盘内盒inner box



C处:贴无卤标签HF label
(无卤产品才贴HF only)

标题Title: 塑封生产线SMD产品包装规范 Packaging specification of SMD	文件编号: WI-258
	第 3 版 第 0 次修改
	第 6 页

LRC标签label

TYPE:*****	← LRC产品型号
MARK:*****	← 印字型号
Q'TY:*****	← 产品数量
DATE:*****	← 产品生产日期

ROHS标签



无卤标签 HF label



注意事项NOTE:

- 13"卷盘内盒装好产品,需用热缩膜包装;13"reel'inner box must be packed by shrink film
- 所有编带产品卷装完成后,用白色胶带将编带粘牢;
every tape after packing, must be fixed by white adhesive tape

3.1产品出厂检验报告 testing report of the OQC

每批出货时,需要附上出厂检验报告 every lot must with test report

3.2尾箱

同一编码每批次只允许出现一个尾数箱,对于尾数物料,须用缓冲材料对空余部分填充好,保证物料在受到一定的外作用力下不发生明显移动,且物料间无碰撞。

The same coding is only one ending for each batch box materials for the mantissa to be good filled with cushioning material.