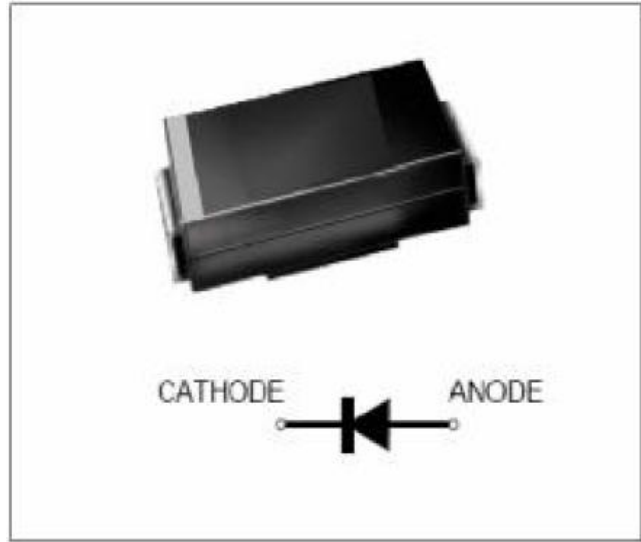


SMCJ*** Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE 5.0 TO 250 Volts 1500 Watt Peak Pulse Power

Feature

- * 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-214AB/SMC molded plastic

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

Polarity: Color band denoted cathode except Bipolar

Mounting Position: Any

Weight: 0.21 gram

We declare that the material of product compliance with ROHS requirements

1. DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types SMCJ5.0CA thru types SMCJ250CA Electrical characteristics apply in both directions. marking is all type; 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}	Minimum1500	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ (Note 2)	P _{M(AV)}	6.5	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC Method) (Note 3)	I _{FSM}	200	Amps
Operating Temperature Range	T _J ,	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +175	°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 1.57in²(40mm²).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

SMCJ*** Series

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)	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
SMCJ5.0	SMCJ5.0	5	6.4	7.55	10	9.6	156.3	1000
SMCJ5.0A	SMCJ5.0A	5	6.4	7.25	10	9.2	163.0	1000
SMCJ6.0	SMCJ6.0	6	6.67	8.45	10	11.4	131.6	1000
SMCJ6.0A	SMCJ6.0A	6	6.67	7.67	10	10.3	145.6	1000
SMCJ6.5	SMCJ6.5	6.5	7.22	9.14	10	12.3	122.0	500
SMCJ6.5A	SMCJ6.5A	6.5	7.22	8.3	10	11.2	133.9	500
SMCJ7.0	SMCJ7.0	7	7.78	9.86	10	13.3	112.8	200
SMCJ7.0A	SMCJ7.0A	7	7.78	8.95	10	12	125.0	200
SMCJ7.5	SMCJ7.5	7.5	8.33	10.67	1	14.3	104.9	100
SMCJ7.5A	SMCJ7.5A	7.5	8.33	9.6	1	12.9	116.3	100
SMCJ8.0	SMCJ8.0	8	8.89	11.3	1	15.00	100.0	50
SMCJ8.0A	SMCJ8.0A	8	8.89	10.23	1	13.6	110.3	50
SMCJ8.5	SMCJ8.5	8.5	9.44	11.92	1	15.9	94.3	25
SMCJ8.5A	SMCJ8.5A	8.5	9.44	10.82	1	14.4	104.2	25
SMCJ9.0	SMCJ9.0	9	10	12.6	1	16.9	88.8	10
SMCJ9.0A	SMCJ9.0A	9	10	11.5	1	15.4	97.4	10
SMCJ10	SMCJ10	10	11.1	14.1	1	18.8	79.8	5
SMCJ10A	SMCJ10A	10	11.1	12.8	1	17	88.2	5
SMCJ11	SMCJ11	11	12.2	15.4	1	20.1	74.6	5
SMCJ11A	SMCJ11A	11	12.2	14	1	18.2	82.4	5
SMCJ12	SMCJ12	12	13.3	16.9	1	22	68.2	5
SMCJ12A	SMCJ12A	12	13.3	15.3	1	19.9	75.4	5
SMCJ13	SMCJ13	13	14.4	18.2	1	23.8	63.0	5
SMCJ13A	SMCJ13A	13	14.4	16.5	1	21.5	69.8	5
SMCJ14	SMCJ14	14	15.6	19.8	1	25.8	58.1	5
SMCJ14A	SMCJ14A	14	15.6	17.9	1	23.2	64.7	5
SMCJ15	SMCJ15	15	16.7	21.1	1	26.9	55.8	5
SMCJ15A	SMCJ15A	15	16.7	19.2	1	24.4	61.5	5
SMCJ16	SMCJ16	16	17.8	22.6	1	28.8	52.1	5
SMCJ16A	SMCJ16A	16	17.8	20.5	1	26	57.7	5
SMCJ17	SMCJ17	17	18.9	23.9	1	30.5	49.2	5
SMCJ17A	SMCJ17A	17	18.9	21.7	1	27.6	54.3	5
SMCJ18	SMCJ18	18	20	25.3	1	32.2	46.6	5
SMCJ18A	SMCJ18A	18	20	23.3	1	29.2	51.4	5
SMCJ20	SMCJ20	20	22.2	28.1	1	35.8	41.9	5
SMCJ20A	SMCJ20A	20	22.2	25.5	1	32.4	46.3	5
SMCJ22	SMCJ22	22	24.4	30.9	1	39.4	38.1	5
SMCJ22A	SMCJ22A	22	24.4	28	1	35.5	42.3	5
SMCJ24	SMCJ24	24	26.7	33.8	1	43	34.9	5
SMCJ24A	SMCJ24A	24	26.7	30.7	1	38.9	38.6	5
SMCJ26	SMCJ26	26	28.9	36.6	1	46.6	32.2	5
SMCJ26A	SMCJ26A	26	28.9	33.2	1	42.1	35.6	5
SMCJ28	SMCJ28	28	31.1	39.4	1	50	30.0	5
SMCJ28A	SMCJ28A	28	31.1	35.8	1	45.4	33.0	5

SMCJ*** Series

SMCJ30	SMCJ30	30	33.3	42.2	1	53.5	28.0	5
SMCJ30A	SMCJ30A	30	33.3	38.3	1	48.4	31.0	5
SMCJ33	SMCJ33	33	36.7	46.5	1	59	25.4	5
SMCJ33A	SMCJ33A	33	36.7	42.2	1	53.3	28.1	5
SMCJ36	SMCJ36	36	40	50.7	1	64.3	23.3	5
SMCJ36A	SMCJ36A	36	40	46	1	58.1	25.8	5
SMCJ40	SMCJ40	40	44.4	56.3	1	71.4	21.0	5
SMCJ40A	SMCJ40A	40	44.4	51.1	1	64.5	23.3	5
SMCJ43	SMCJ43	43	47.8	60.5	1	76.7	19.6	5
SMCJ43A	SMCJ43A	43	47.8	54.9	1	69.4	21.6	5
SMCJ45	SMCJ45	45	50	63.3	1	80.3	18.7	5
SMCJ45A	SMCJ45A	45	50	57.5	1	72.7	20.6	5
SMCJ48	SMCJ48	48	53.3	67.5	1	85.5	17.5	5
SMCJ48A	SMCJ48A	48	53.3	61.3	1	77.4	19.4	5
SMCJ51	SMCJ51	51	56.7	71.8	1	91.1	16.5	5
SMCJ51A	SMCJ51A	51	56.7	65.2	1	82.4	18.2	5
SMCJ54	SMCJ54	54	60	76	1	96.3	15.6	5
SMCJ54A	SMCJ54A	54	60	69	1	87.1	17.2	5
SMCJ58	SMCJ58	58	64.4	81.6	1	103	14.6	5
SMCJ58A	SMCJ58A	58	64.4	74.1	1	93.6	16.0	5
SMCJ60	SMCJ60	60	66.7	84.5	1	107	14.0	5
SMCJ60A	SMCJ60A	60	66.7	76.7	1	96.8	15.5	5
SMCJ64	SMCJ64	64	71.1	90.1	1	114	13.2	5
SMCJ64A	SMCJ64A	64	71.1	81.8	1	103	14.6	5
SMCJ70	SMCJ70	70	77.8	98.6	1	125	12.0	5
SMCJ70A	SMCJ70A	70	77.8	89.5	1	113	13.3	5
SMCJ75	SMCJ75	75	83.3	105.7	1	134	11.2	5
SMCJ75A	SMCJ75A	75	83.3	95.8	1	121	12.4	5
SMCJ78	SMCJ78	78	86.7	109.8	1	139	10.8	5
SMCJ78A	SMCJ78A	78	86.7	99.7	1	126	11.9	5
SMCJ85	SMCJ85	85	94.4	119.2	1	151	9.9	5
SMCJ85A	SMCJ85A	85	94.4	108.2	1	137	10.9	5
SMCJ90	SMCJ90	90	100	126.5	1	160	9.4	5
SMCJ90A	SMCJ90A	90	100	115.5	1	146	10.3	5
SMCJ100	SMCJ100	100	111	141	1	179	8.4	5
SMCJ100A	SMCJ100A	100	111	128	1	162	9.3	5
SMCJ110	SMCJ110	110	122	154.5	1	196	7.7	5
SMCJ110A	SMCJ110A	110	122	140.5	1	177	8.5	5
SMCJ120	SMCJ120	120	133	169	1	214	7.0	5
SMCJ120A	SMCJ120A	120	133	153	1	193	7.8	5
SMCJ130	SMCJ130	130	144	182.5	1	231	6.5	5
SMCJ130A	SMCJ130A	130	144	165.5	1	209	7.2	5
SMCJ150	SMCJ150	150	167	211.5	1	268	5.6	5
SMCJ150A	SMCJ150A	150	167	192.5	1	243	6.2	5
SMCJ160	SMCJ160	160	178	226	1	287	5.2	5
SMCJ160A	SMCJ160A	160	178	205	1	259	5.8	5
SMCJ170	SMCJ170	170	189	239.5	1	304	4.9	5
SMCJ170A	SMCJ170A	170	189	217.5	1	275	5.5	5
SMCJ180	SMCJ180	180	198	253.8	1	322	4.7	5
SMCJ180A	SMCJ180A	180	198	230.4	1	292	5.1	5
SMCJ190	SMCJ190	190	209	267.9	1	340	4.4	5
SMCJ190A	SMCJ190A	190	209	243.2	1	308	4.9	5

**LRC**乐山无线电股份有限公司
Leshan Radio Company, Ltd

SMCJ*** Series

SMCJ200	SMCJ200	200	220	282	1	358	4.2	5
SMCJ200A	SMCJ200A	200	220	256	1	324	4.6	5
SMCJ210	SMCJ210	210	231	296.1	1	376	4.0	5
SMCJ210A	SMCJ210A	210	231	268.8	1	340	4.4	5
SMCJ220	SMCJ220	220	242	310.2	1	394	3.8	5
SMCJ220A	SMCJ220A	220	242	281.6	1	356	4.2	5
SMCJ250	SMCJ250	250	275	350	1	445	3.4	5
SMCJ250A	SMCJ250A	250	275	320	1	405	3.7	5

SMCJ*** Series

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

Fig. 1 - Peak Pulse Power Rating

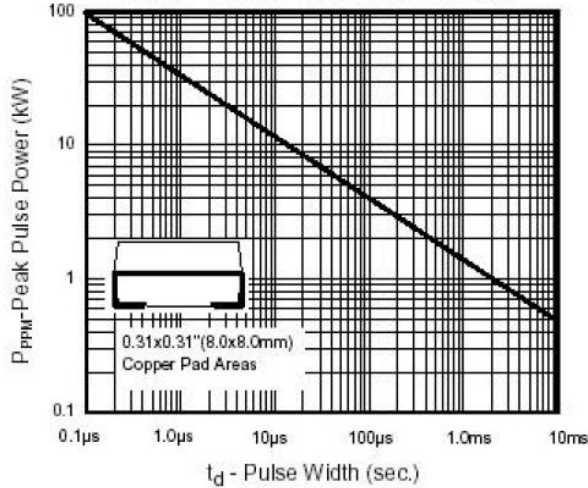


Fig.2 - Pulse Derating Curve

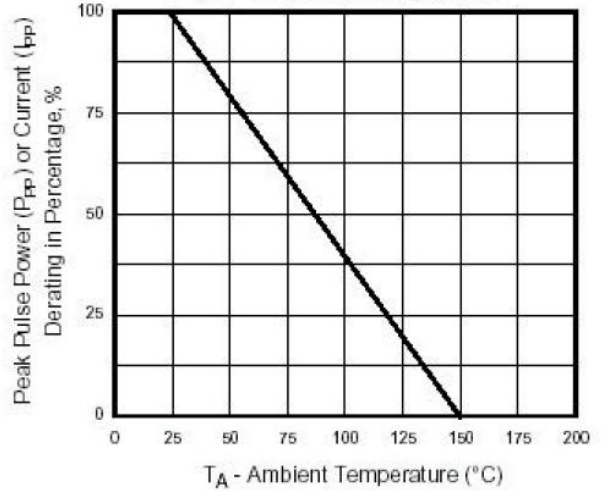


Fig.3 - Pulse Waveform

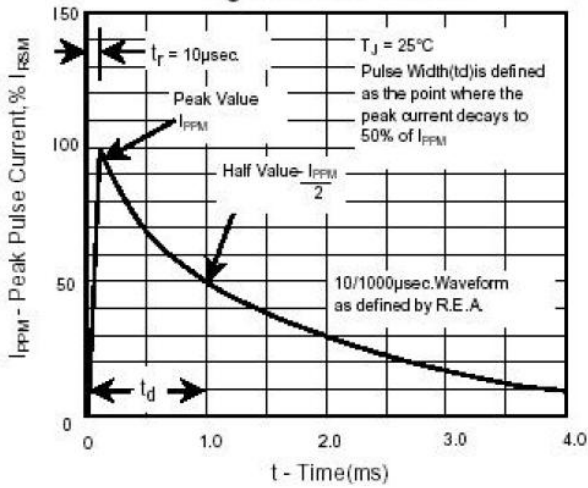


Fig.4 - Typical Junction Capacitance Uni-Directional

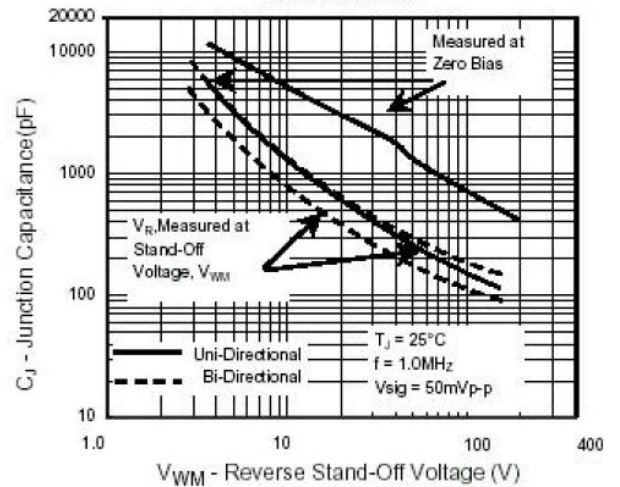


Fig. 5 - Typ. Transient Thermal Impedance

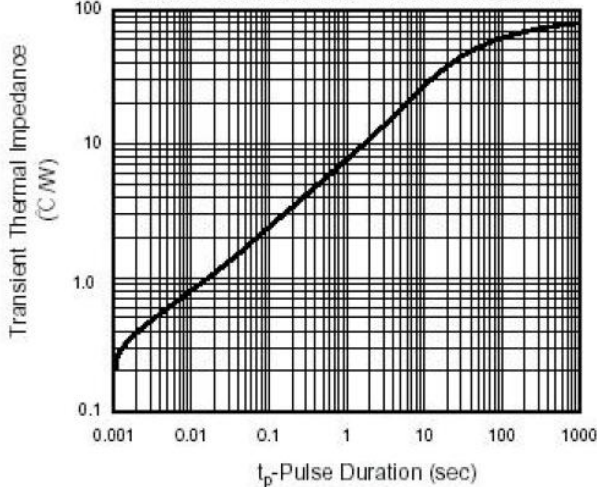
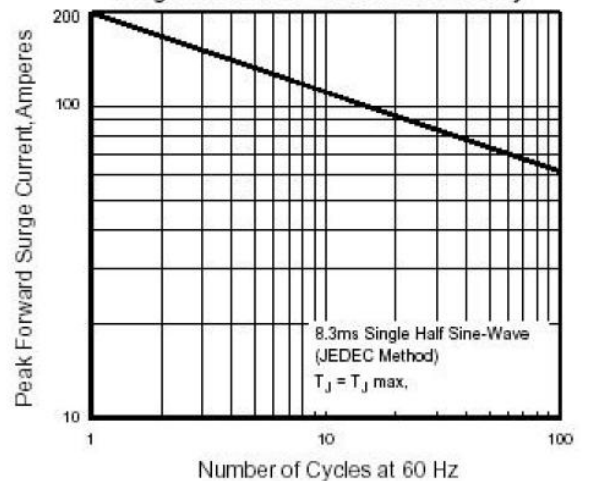
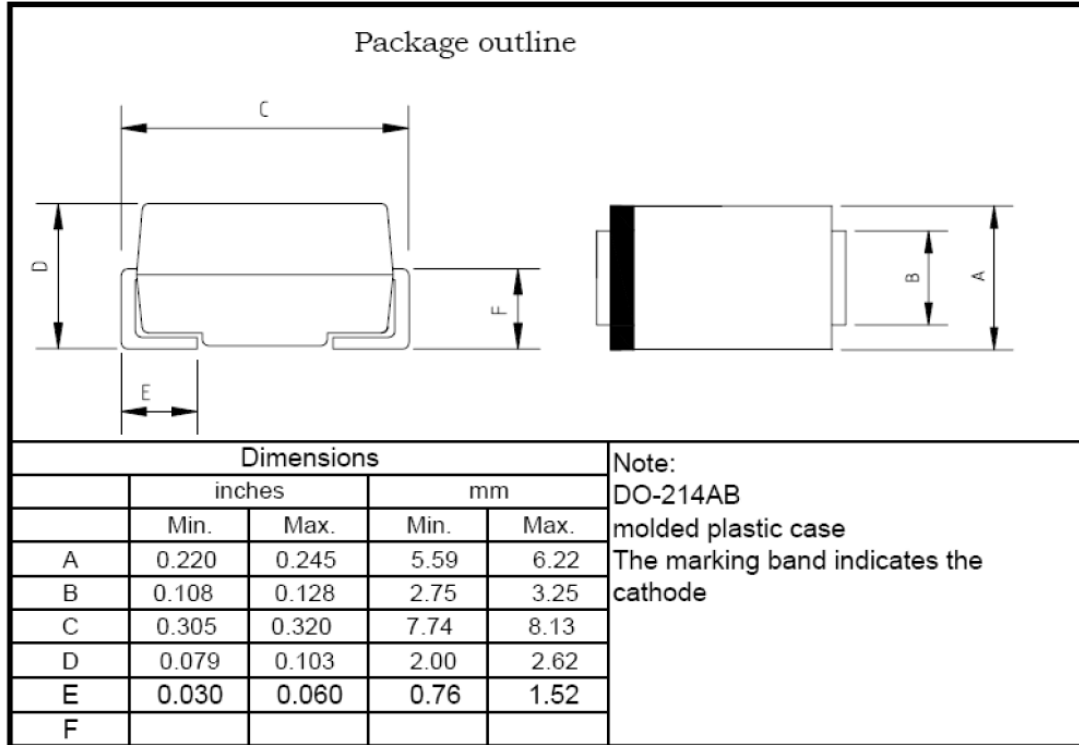


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Use Only

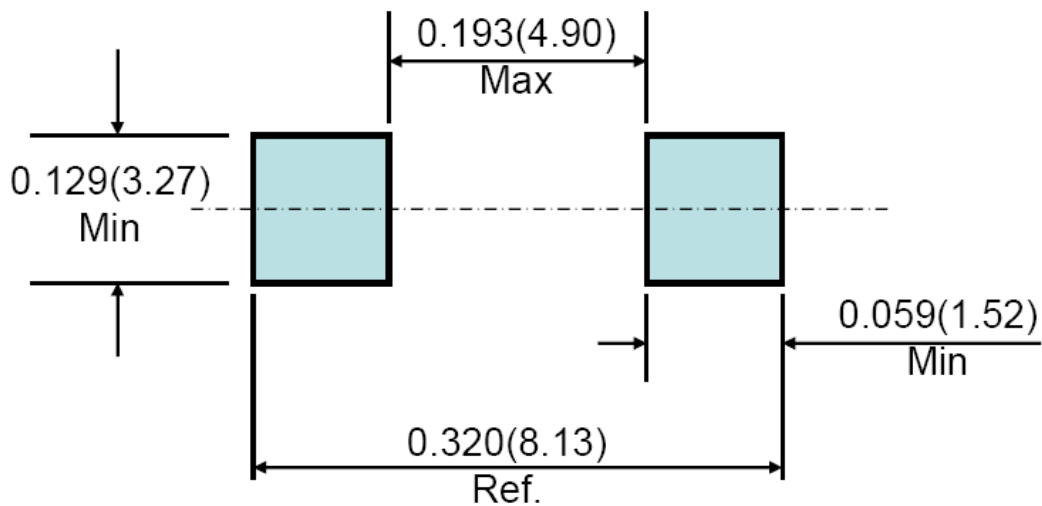


SMCJ*** Series

3. dimension:



Mounting Pad Layout ---SMC

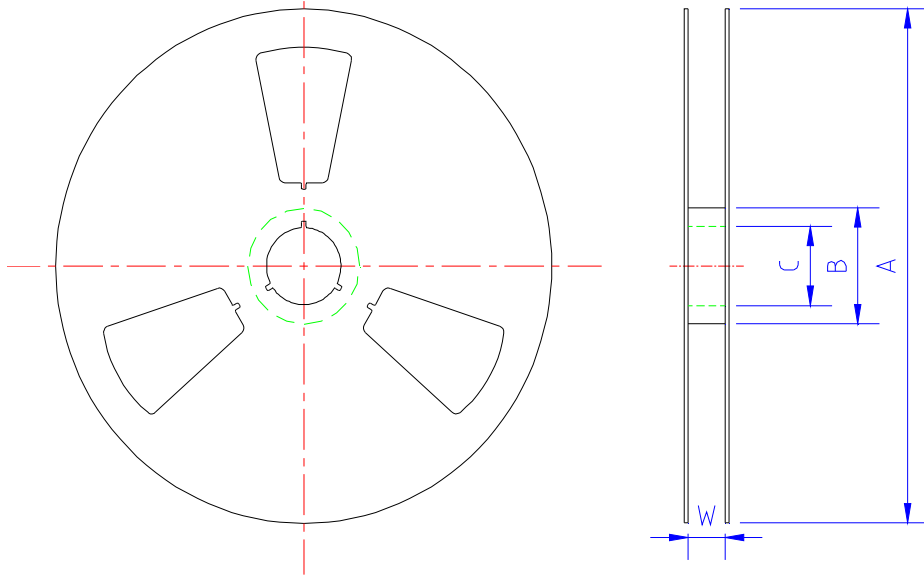


标题Title: 塑封生产线SMD产品包装规范 Packaging specification of SMD	文件编号: WI-258
	第 3 版 第 0 次修改
	第 2 页

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

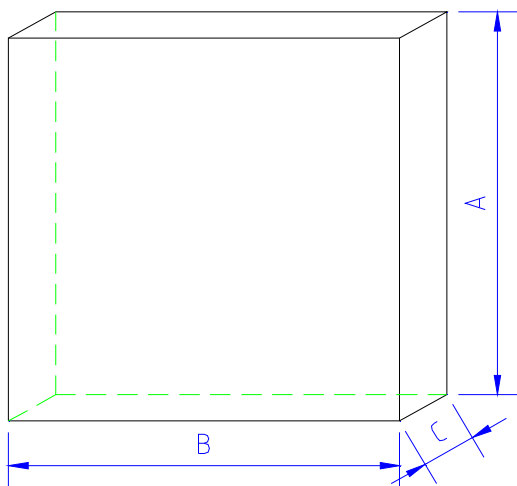
A. 卷盘规格 reel spec



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

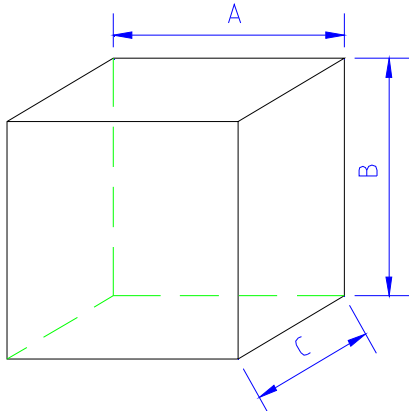
	A	B	C
尺寸	335±5.0	335±2.0	40±1.0

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



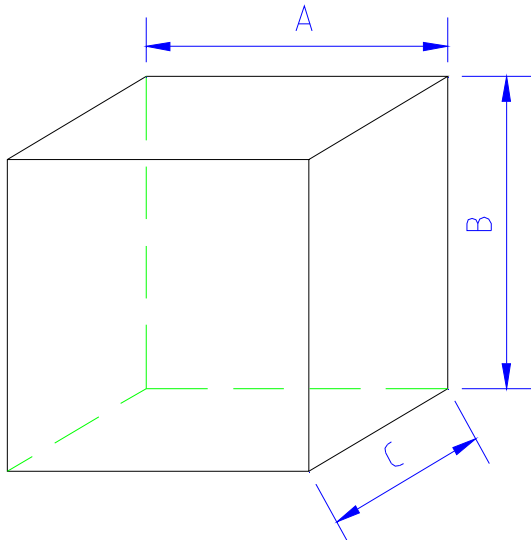
单位: mm

	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

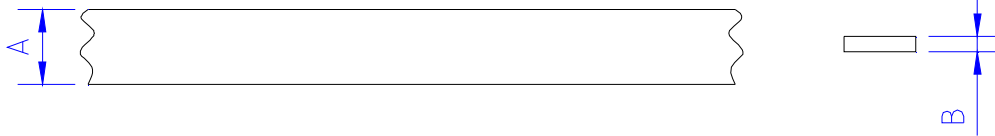
	A	B	C
尺寸	350±2.0	340±2.0	350±2.0

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

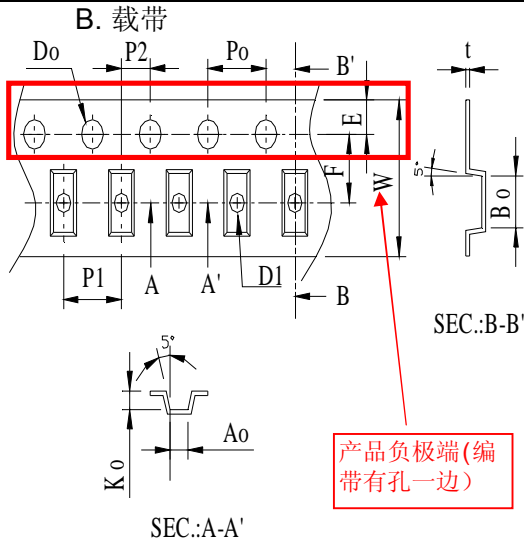
A. 盖带 Cover tape



单位: mm

	A	B
SMA	9.30±0.10	0.068±0.005
SMB		
SMC		

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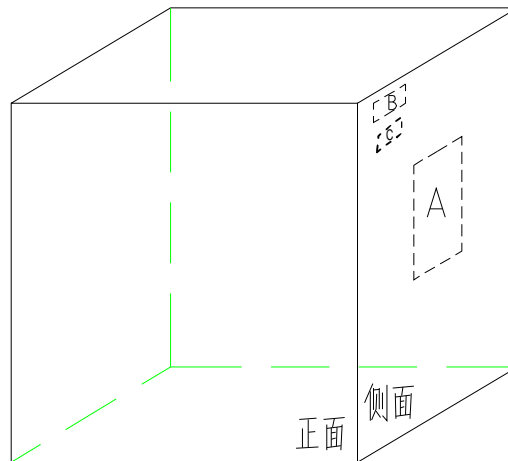
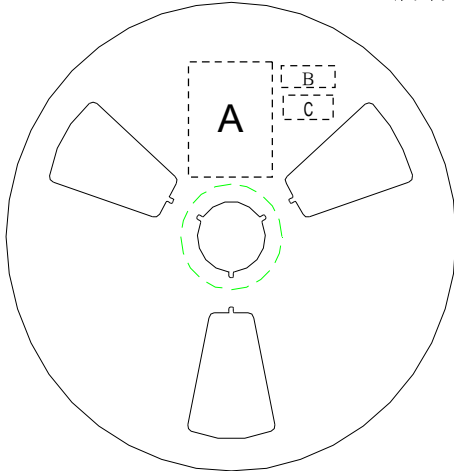
类型	SMA	SMB	SMC
W	12±0.3	12±0.3	16±0.3
P1	4±0.1	8±0.1	8±0.1
E	1.75±0.1	1.75±0.1	1.75±0.1
F	5.5±0.05	5.5±0.05	7.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.5±0.1	1.55±0.05	1.55±0.05
P0	4±0.1	4±0.1	4±0.1
P2	2±0.05	2±0.05	2±0.05
10P0	40±0.2	40±0.2	40±0.2
A0	2.79±0.1	3.8±0.1	6.05±0.1
B0	5.33±0.1	5.4±0.1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

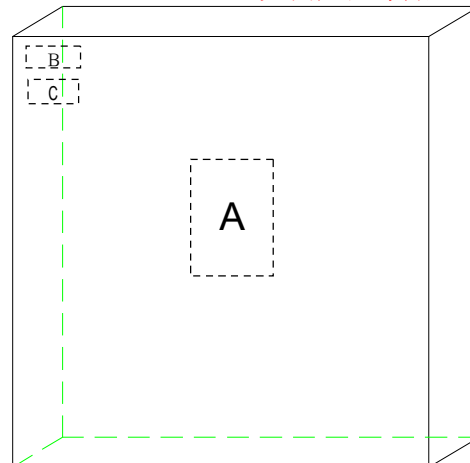
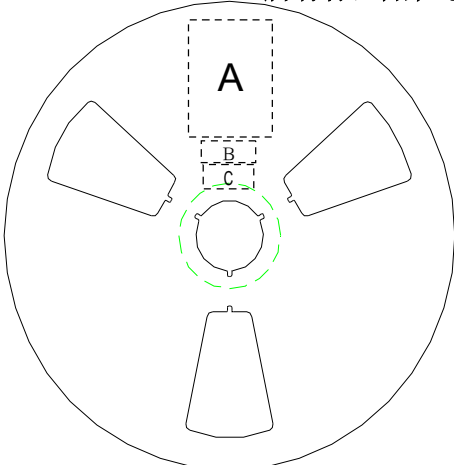
A. 7"卷盘reel

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
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C. 标签要求label spec:

LRC标签label

型号 TYPE	*****	← LRC产品型号 type
数量(只) QTY(PCS)	*****	← 产品数量 quantity
批号 LOT	*****	← 产品批号 LOT
日期 DATE	*****	← 产品生产日期 date
检验员: CHECKER		

ROHS标签

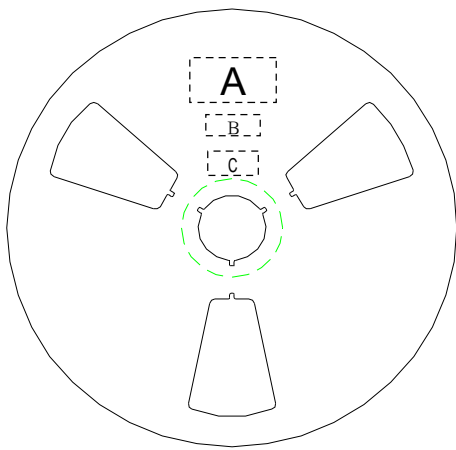


无卤标签 HF label

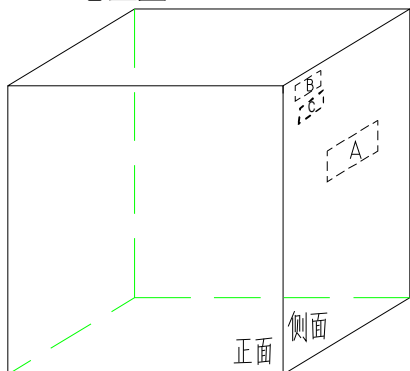


2.2 国外客户
overseas

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



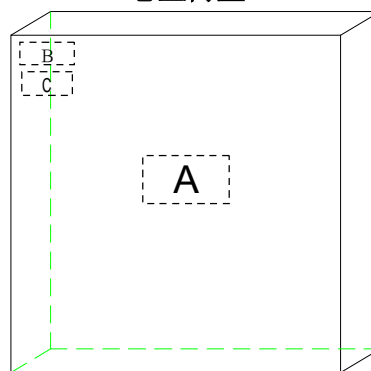
7"卷盘盒 inner box



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
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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.

**LRC**乐山无线电股份有限公司
Leshan Radio Company, Ltd

SMCJ*** Series

4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	余波	2011-11-9
2	明确双向印字规范	周杰	2012-5-10