

**描述 / Descriptions**

表面贴装瞬态电压抑制器，10/1000 $\mu$ s 波形下峰值脉冲功率为：3000W，反向电压：11V~48V，SMC 封装。

Surface mount transient voltage suppressor,3000W peak pulse power capability at 10/1000 $\mu$ s waveform,Reverse Stand-Off Voltage:11V~48V, SMC package.

**特征 / Features**

玻璃钝化，低电感，适用表面贴装，符合 AEC-Q101 标准高可靠性要求，无卤产品。

Glass passivated junction, Low inductance, For surface mounted applications, Qualified to AEC-Q101 Standards for High Reliability, HF product.

**用途 / Applications**

一般用途，满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

**内部等效电路 / Equivalent Circuit**

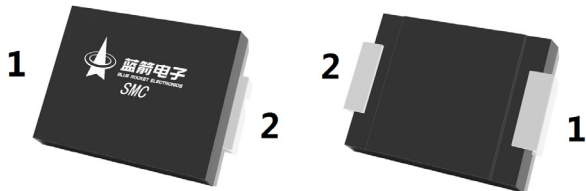


Unipolar



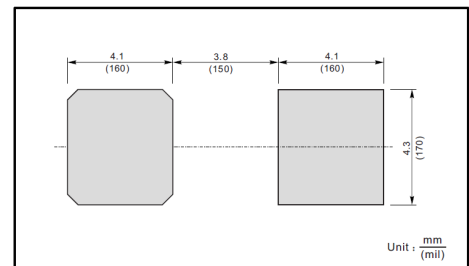
Bipolar

**引脚排列 / Pinning**



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



**印章代码 / Marking**

见印章说明。See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak power dissipation with a 10/1000us waveform (Note 1)	P <sub>PPM</sub>	3000	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave	I <sub>FSM</sub>	250	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V <sub>F</sub>	3.5	V
Operating Junction and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ 150	°C
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	20.8	°C/W
Typical Thermal Resistance Junction to Ambient (Note 2)	R <sub>θJA</sub>	100	°C/W

## Notes:

1. Non-repetitive current, per fig.3 and derated above TA=25°C per fig.2.
2. Mounted on recommended pad layout.

**电性能参数 / Electrical Characteristics(Ta=25°C)**

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Clamp Voltage	Max. Peak Pulse Current	Max.Rev erse Leakage	Package	
			V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>	I <sub>R</sub> @ V <sub>R</sub>	SMC	
		V <sub>RMW</sub>	Min	Max					Device Marking Ccode	
UNI	BI	V	V	V	mA	V	A	uA	UNI	BI
BRSMDJ11AQ	BRSMDJ11CAQ	11.0	12.2	13.5	1	18.2	165.0	5	AHDZ	AIDZ
BRSMDJ12AQ	BRSMDJ12CAQ	12.0	13.3	14.8	1	20.0	150.6	5	AHEE	AIEE
BRSMDJ13AQ	BRSMDJ13CAQ	13.0	14.4	16.0	1	21.6	139.4	5	AHEG	AIEG
BRSMDJ14AQ	BRSMDJ14CAQ	14.0	15.6	17.4	1	23.2	129.4	5	AHEK	AIEK
BRSMDJ15AQ	BRSMDJ15CAQ	15.0	16.7	18.5	1	24.4	123	5	AHEM	AIEM
BRSMDJ16AQ	BRSMDJ16CAQ	16.0	17.8	20.0	1	26	115.4	5	AHEP	AIEP
BRSMDJ17AQ	BRSMDJ17CAQ	17.0	18.9	20.9	1	28.2	106.6	5	AHER	AIER
BRSMDJ18AQ	BRSMDJ18CAQ	18.0	20.0	22.8	1	29.2	102.8	5	AHET	AIET
BRSMDJ20AQ	BRSMDJ20CAQ	20.0	22.2	25.0	1	32.4	92.6	5	AHEV	AIEV
BRSMDJ22AQ	BRSMDJ22CAQ	22.0	24.4	27.5	1	35.7	84.4	5	AHEX	AIEX
BRSMDJ24AQ	BRSMDJ24CAQ	24.0	26.7	30.2	1	38.9	77.2	5	AHEZ	AIEZ
BRSMDJ26AQ	BRSMDJ26CAQ	26.0	28.9	32.7	1	42.3	71.2	5	AHFE	AIFE
BRSMDJ28AQ	BRSMDJ28CAQ	28.0	31.1	35.3	1	45.6	66.0	5	AHFG	AIFG
BRSMDJ30AQ	BRSMDJ30CAQ	30.0	33.3	37.8	1	48.4	62.0	5	AHFK	AIFK
BRSMDJ33AQ	BRSMDJ33CAQ	33.0	36.7	41.7	1	53.7	56.2	5	AHFM	AIFM
BRSMDJ36AQ	BRSMDJ36CAQ	36.0	40.0	45.5	1	58.2	51.6	5	AHFP	AIFP
BRSMDJ40AQ	BRSMDJ40CAQ	40.0	44.4	50.6	1	64.7	46.4	5	AHFR	AIFR
BRSMDJ43AQ	BRSMDJ43CAQ	43.0	47.8	54.4	1	69.5	43.2	5	AHFT	AIFT
BRSMDJ45AQ	BRSMDJ45CAQ	45.0	50.0	57.0	1	72.9	41.2	5	AHJV	AIFV
BRSMDJ48AQ	BRSMDJ48CAQ	48.0	53.3	60.8	1	77.4	38.8	5	AHFX	AIFX

**电参数曲线图 / Electrical Characteristic Curve**

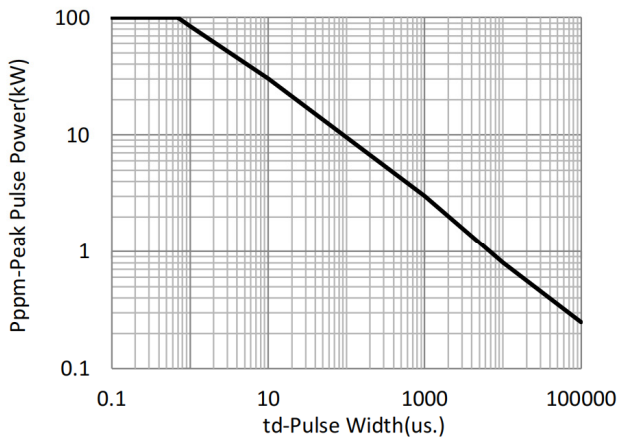


Figure 1. Peak Pulse Power Derating Curve

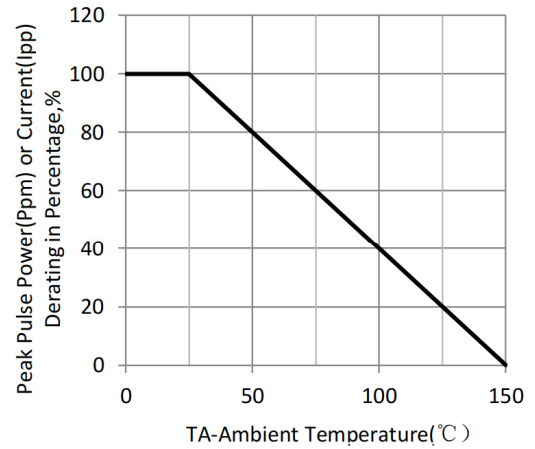


Figure 2. Peak Pulse Power Derating Curve

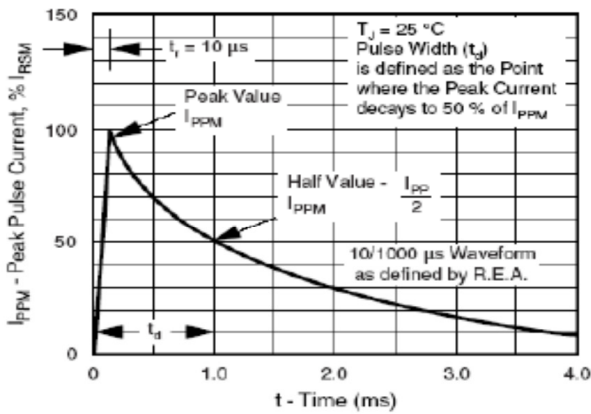


Figure 3. Non-repetitive Pulse Waveform

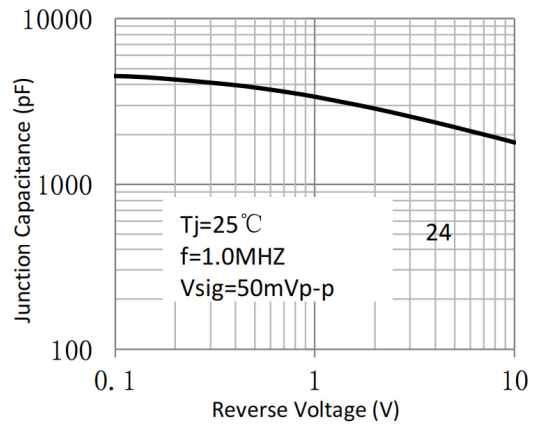


Figure 4. Typical Junction Capacitance

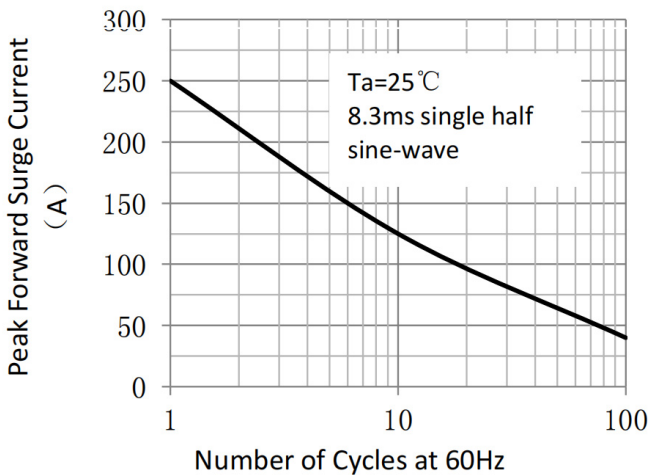
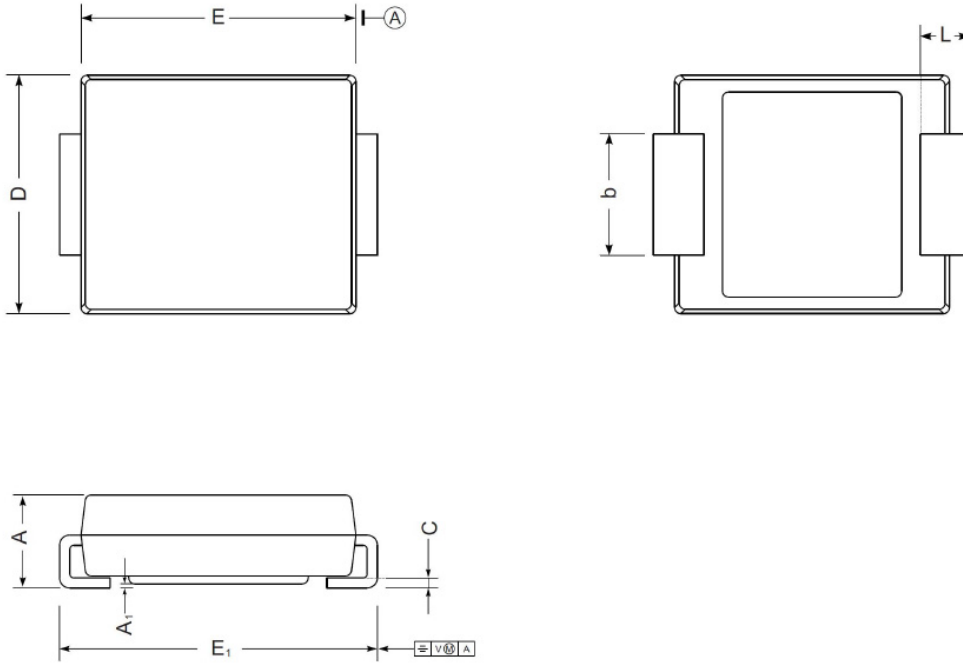


Figure 5 - Maximum Non-Repetitive Peak Forward Surge Current  
Uni-Directional Only

外形尺寸图 / Package Dimensions

SMC



SMC mechanical data

UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

印章说明 / Marking Instructions



说明：

AHFM : 为型号代码

\*\* : 为生产追溯码，第 1 个\*为年代码，后面 1 个\*为月代码

Note:

AHFM : Product Type Code

\*\* : Lot No. Code , The 1st \* means:Y Code , The last 1 \* means:M Code

印章说明 / Marking Instructions



说明：

AIFM : 为型号代码

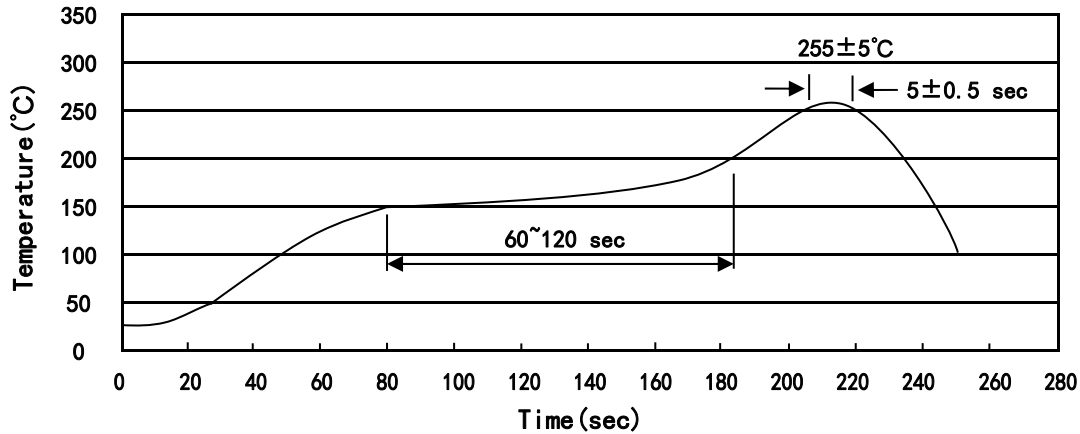
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**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 150 ~ 200°C，时间 60 ~ 120sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C      时间：10±1 sec.      Temp.:260±5°C      Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SMC	3000	2	6000	6	36000	13" ×16	337X337X49	380X335X366

**使用说明 / Notices**