

BRSMJ SeriesQ

Rev.A Aug.-2024

描述 / Descriptions

表面贴装瞬态电压抑制器功率：400W,反向浪涌电压：5.0V~440V，SMA 封装。

Surface mount transient voltage suppressor power 400 watts,Stand-Off Voltage：5.0V~440V ,SMA 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

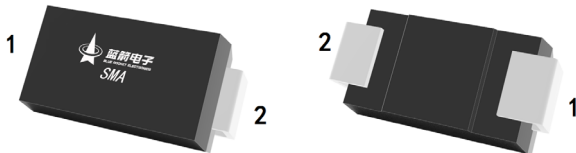


Unipolar



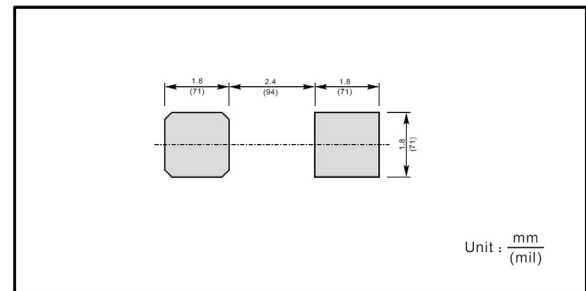
Bipolar

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 Pulse Power Dissipation on T _A =25°C (Note 1,2,4, Fig1)	P _{PPM}	400	W
Peak Forward Surge Current (Note 3, Fig 4)	I _{FSM} (UNI)	60	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)	I _{PPM}	see Table 1	A
ESD Voltage per IEC6100-4-2	Contact	V _{ESD1}	±30
	Air	V _{ESD2}	±30
Typical Thermal Resistance Junction to Ambient(Note 2)	R _{θJA}	100	°C/W
Operating Junction Temperature and Storage Temperature Range	T _j , T _{stg}	-65 ~ +150	°C

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. Peak Forward Surge Current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000μS.

BR SMAJ SeriesQ

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DATA SHEET

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

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMA	
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking Ccode	
UNI	BI	V	V	V	mA	uA	V	A	UNI	BI
BR SMAJ5.0AQ	BR SMAJ5.0CAQ	5	6.4	7	10	800	9.2	43.5	AEQ	WEQ
BR SMAJ6.0AQ	BR SMAJ6.0CAQ	6	6.67	7.37	10	800	10.3	38.8	AGQ	WGQ
BR SMAJ6.5AQ	BR SMAJ6.5CAQ	6.5	7.22	7.98	10	500	11.2	35.7	AKQ	WKQ
BR SMAJ7.0AQ	BR SMAJ7.0CAQ	7	7.78	8.6	10	200	12.0	33.3	AMQ	WMQ
BR SMAJ7.5AQ	BR SMAJ7.5CAQ	7.5	8.33	9.21	1	100	12.9	31.0	APQ	WPQ
BR SMAJ8.0AQ	BR SMAJ8.0CAQ	8	8.89	9.83	1	50	13.6	29.4	ARQ	WRQ
BR SMAJ8.5AQ	BR SMAJ8.5CAQ	8.5	9.44	10.4	1	20	14.4	27.8	ATQ	WTQ
BR SMAJ9.0AQ	BR SMAJ9.0CAQ	9	10	11.1	1	10	15.4	26.0	AVQ	WVQ
BR SMAJ10AQ	BR SMAJ10CAQ	10	11.1	12.3	1	5	17.0	23.5	AXQ	WXQ
BR SMAJ11AQ	BR SMAJ11CAQ	11	12.2	13.5	1	1	18.2	22.0	AZQ	WZQ
BR SMAJ12AQ	BR SMAJ12CAQ	12	13.3	14.7	1	1	19.9	20.1	BEQ	XEQ
BR SMAJ13AQ	BR SMAJ13CAQ	13	14.4	15.9	1	1	21.5	18.6	BGQ	XGQ
BR SMAJ14AQ	BR SMAJ14CAQ	14	15.6	17.2	1	1	23.2	17.2	BKQ	XKQ
BR SMAJ15AQ	BR SMAJ15CAQ	15	16.7	18.5	1	1	24.4	16.4	BMQ	XMQ
BR SMAJ16AQ	BR SMAJ16CAQ	16	17.8	19.7	1	1	26.0	15.4	BPQ	XPQ
BR SMAJ17AQ	BR SMAJ17CAQ	17	18.9	20.9	1	1	27.6	14.5	BRQ	XRQ
BR SMAJ18AQ	BR SMAJ18CAQ	18	20	22.1	1	1	29.2	13.7	BTQ	XTQ
BR SMAJ20AQ	BR SMAJ20CAQ	20	22.2	24.5	1	1	32.4	12.3	BVQ	XVQ
BR SMAJ22AQ	BR SMAJ22CAQ	22	24.4	26.9	1	1	35.5	11.3	BXQ	XXQ
BR SMAJ24AQ	BR SMAJ24CAQ	24	26.7	29.5	1	1	38.9	10.3	BZQ	XZQ
BR SMAJ26AQ	BR SMAJ26CAQ	26	28.9	31.9	1	1	42.1	9.5	CEQ	YEQ
BR SMAJ28AQ	BR SMAJ28CAQ	28	31.1	34.4	1	1	45.4	8.8	CGQ	YGQ
BR SMAJ30AQ	BR SMAJ30CAQ	30	33.3	36.8	1	1	48.4	8.3	CKQ	YKQ
BR SMAJ33AQ	BR SMAJ33CAQ	33	36.7	40.6	1	1	53.3	7.5	CMQ	YMQ
BR SMAJ36AQ	BR SMAJ36CAQ	36	40	44.2	1	1	58.1	6.9	CPQ	YPQ
BR SMAJ40AQ	BR SMAJ40CAQ	40	44.4	49.1	1	1	64.5	6.2	CRQ	YRQ
BR SMAJ43AQ	BR SMAJ43CAQ	43	47.8	52.8	1	1	69.4	5.8	CTQ	YTQ

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Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMA	
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking	Ccode
UNI	BI	V	V	V	mA	uA	V	A	UNI	BI
BRSMJ45AQ	BRSMJ45CAQ	45	50	55.3	1	1	72.7	5.5	CVQ	YVQ
BRSMJ48AQ	BRSMJ48CAQ	48	53.3	58.9	1	1	77.4	5.2	CXQ	YXQ
BRSMJ51AQ	BRSMJ51CAQ	51	56.7	62.7	1	1	82.4	4.9	CZQ	YZQ
BRSMJ54AQ	BRSMJ54CAQ	54	60	66.3	1	1	87.1	4.6	REQ	ZEQ
BRSMJ58AQ	BRSMJ58CAQ	58	64.4	71.2	1	1	93.6	4.3	RGQ	ZGQ
BRSMJ60AQ	BRSMJ60CAQ	60	66.7	73.7	1	1	96.8	4.1	RKQ	ZKQ
BRSMJ64AQ	BRSMJ64CAQ	64	71.1	78.6	1	1	103.0	3.9	RMQ	ZMQ
BRSMJ70AQ	BRSMJ70CAQ	70	77.8	86	1	1	113.0	3.5	RPQ	ZPQ
BRSMJ75AQ	BRSMJ75CAQ	75	83.3	92.1	1	1	121.0	3.3	RRQ	ZRQ
BRSMJ78AQ	BRSMJ78CAQ	78	86.7	95.8	1	1	126.0	3.2	RTQ	ZTQ
BRSMJ85AQ	BRSMJ85CAQ	85	94.4	104	1	1	137.0	2.9	RVQ	ZVQ
BRSMJ90AQ	BRSMJ90CAQ	90	100	111	1	1	146.0	2.7	RXQ	ZXQ
BRSMJ100AQ	BRSMJ100CAQ	100	111	123	1	1	162.0	2.5	RZQ	ZZQ
BRSMJ110AQ	BRSMJ110CAQ	110	122	135	1	1	177.0	2.3	SEQ	VEQ
BRSMJ120AQ	BRSMJ120CAQ	120	133	147	1	1	193.0	2.1	SGQ	VGQ
BRSMJ130AQ	BRSMJ130CAQ	130	144	159	1	1	209.0	1.9	SKQ	VKQ
BRSMJ150AQ	BRSMJ150CAQ	150	167	185	1	1	243.0	1.6	SMQ	VMQ
BRSMJ160AQ	BRSMJ160CAQ	160	178	197	1	1	259.0	1.5	SPQ	VPQ
BRSMJ170AQ	BRSMJ170CAQ	170	189	209	1	1	275.0	1.5	SRQ	VRQ
BRSMJ180AQ	BRSMJ180CAQ	180	201	222	1	1	292.0	1.4	STQ	VTQ
BRSMJ200AQ	BRSMJ200CAQ	200	224	247	1	1	324.0	1.2	SVQ	VVQ
BRSMJ220AQ	BRSMJ220CAQ	220	246	272	1	1	356.0	1.1	SXQ	VXQ
BRSMJ250AQ	BRSMJ250CAQ	250	279	309	1	1	405.0	1.0	SZQ	VZQ
BRSMJ300AQ	BRSMJ300CAQ	300	335	371	1	1	486.0	0.8	TEQ	UEQ
BRSMJ350AQ	BRSMJ300CAQ	350	391	432	1	1	567.0	0.7	TGQ	UGQ
BRSMJ400AQ	BRSMJ350CAQ	400	447	494	1	1	648.0	0.6	TKQ	UKQ
BRSMJ440AQ	BRSMJ400CAQ	440	492	543	1	1	713.0	0.6	TMQ	UMQ

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Peak Pulse Power Rating Curve

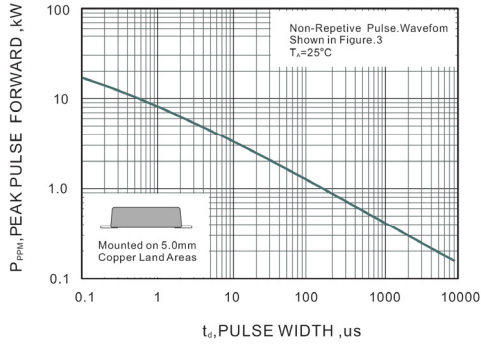


Fig.2 Forward Current Derating Curve

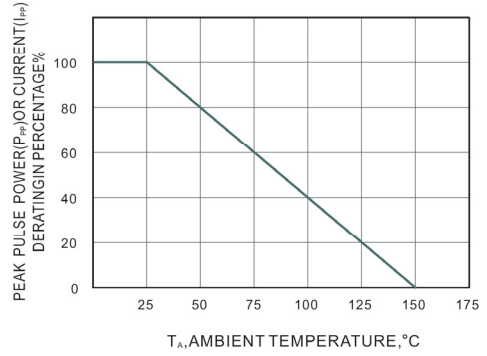


Fig.3 Pulse Waveform

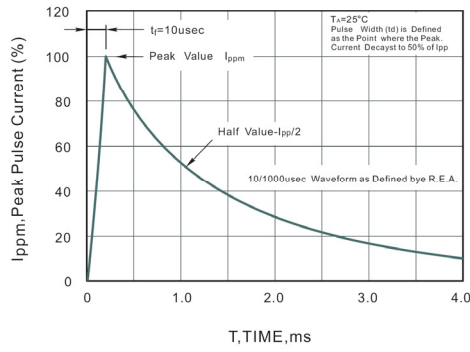
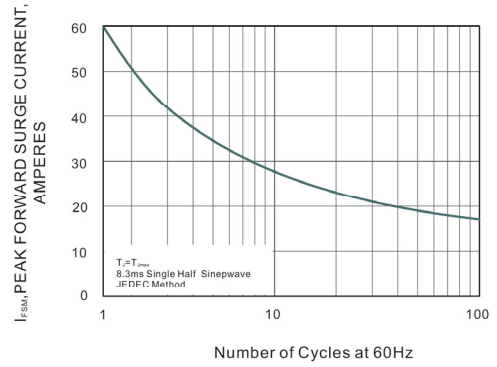
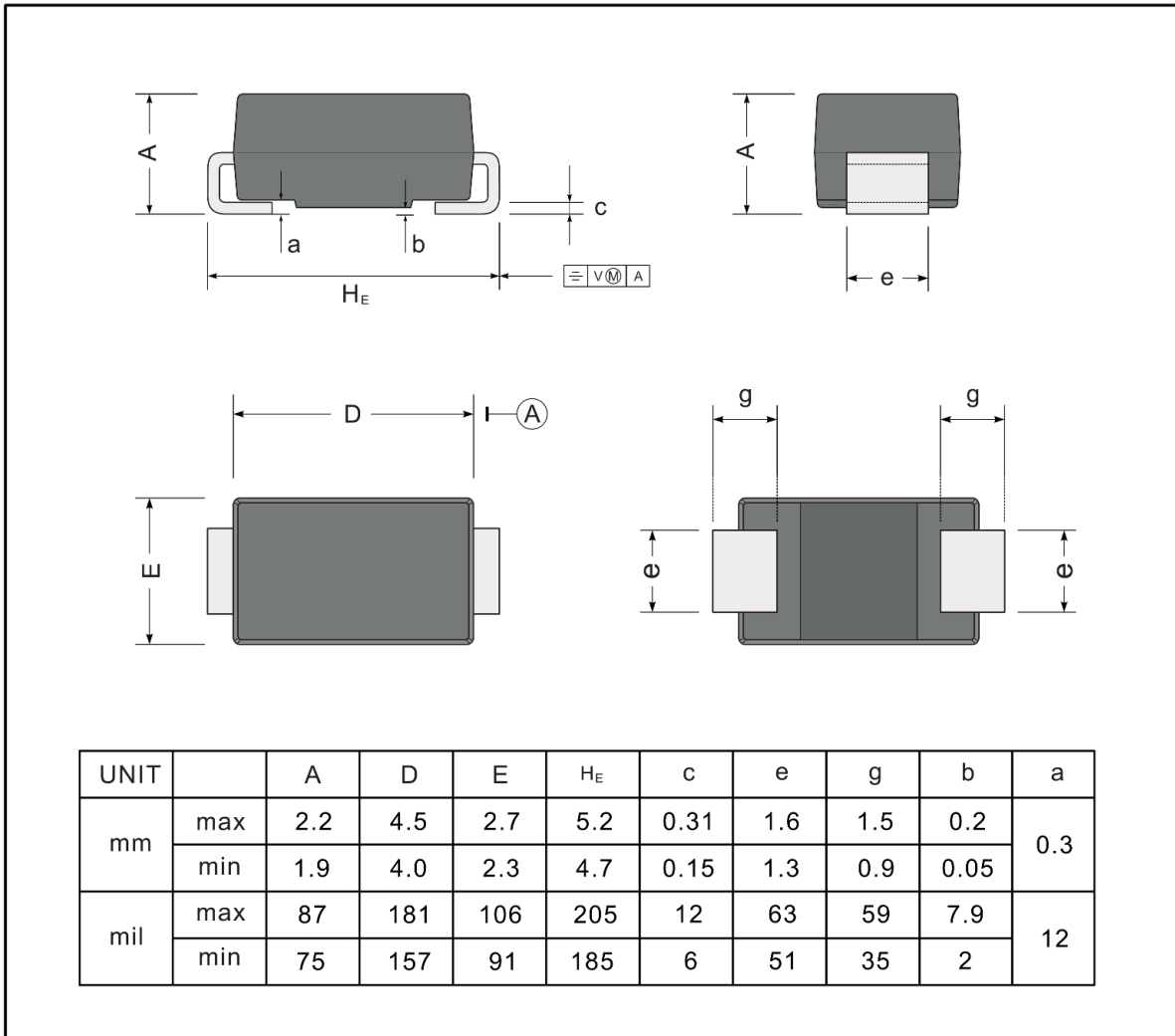


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMA



印章说明 / Marking Instructions



说明：

AE : 为型号代码

Q : 为汽车无卤产品标识

**** : 为生产批号代码，随生产批号变化

Note:

AE : Product Type Code

Q: Automobile halogen-free product Code

**** : Lot No. Code, code change with Lot No

印章说明 / Marking Instructions



说明：

WE ： 为型号代码

Q： 为汽车无卤产品标识

**** ： 为生产批号代码，随生产批号变化

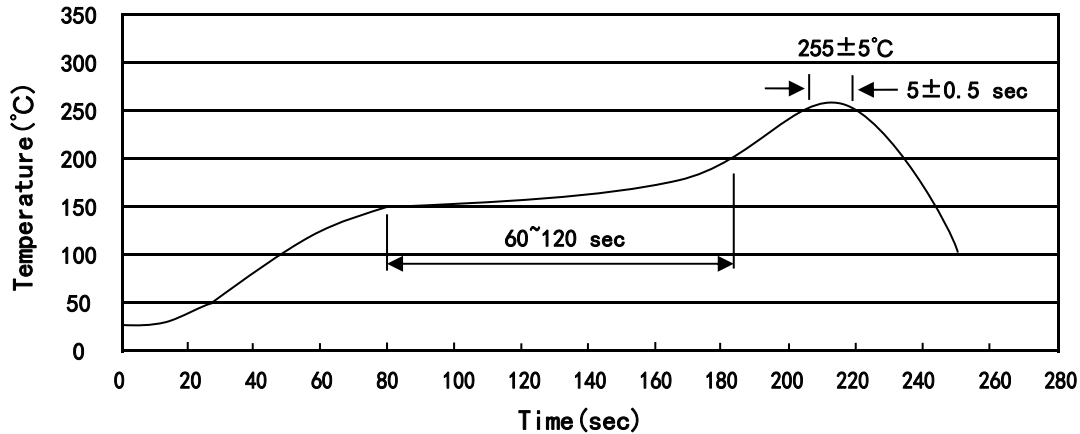
Note:

WE ： Product Type Code

Q: Automobile halogen-free product Code

**** ： Lot No. Code, code change with Lot No

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 ³)		
	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
SMA	5,000	2	10,000	7	70,000	13" ×12	336×336×40	380×335×366

使用说明 / Notices