

BRSMCJ SeriesQ

Rev.B Sep.-2024

描述 / Descriptions

表面贴装瞬态电压抑制器,10/1000 μ s 波形下峰值脉冲功率为 :1500W ,反向电压 :5.0V~440V ,SMC 封装。

Surface mount transient voltage suppressor,1500W peak pulse power capability at 10/1000 μ s waveform,Reverse Stand-Off Voltage:5.0V~440V,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。

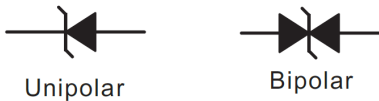
Glass passivated junction, Low inductance, For surface mounted applications, Qualified to AEC-Q101 Standards for High Reliability, HF product.

用途 / Applications

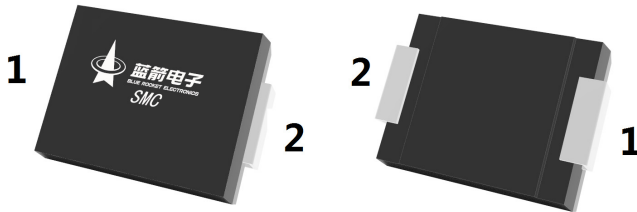
一般用途,满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit

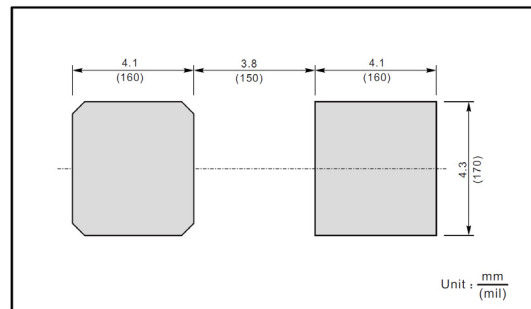


引脚排列 / Pinning



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 10/1000 us waveform	P _{PPM}	1500	W
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM} (UNI)	200	A
Power dissipation on Infinite heat sink at TA=50 °C	P _D	6.5	W
Maximum instantaneous forward voltage at 100 A for unidirectional only	V _F	3.5	V
Typical Thermal Resistance Junction to Ambient(Note 1)	R _{θJA} R _{θJL}	75 15	°C/W
Operating Junction and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150	°C

Note:

1. Mounted on 8 mm² (0.13mm thick) land areas.

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

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Maximum Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMC	
		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
BRSMCJ5.0AQ	BRSMCJ5.0CAQ	5	6.4	7	10	800	9.2	163	GDEQ	BDEQ
BRSMCJ6.0AQ	BRSMCJ6.0CAQ	6	6.67	7.37	10	800	10.3	145.7	GDGQ	BDGQ
BRSMCJ6.5AQ	BRSMCJ6.5CAQ	6.5	7.22	7.98	10	500	11.2	134	GDKQ	BDKQ
BRSMCJ7.0AQ	BRSMCJ7.0CAQ	7	7.78	8.6	10	200	12.0	125	GDMQ	BDMQ
BRSMCJ7.5AQ	BRSMCJ7.5CAQ	7.5	8.33	9.21	1	100	12.9	116.3	GDPQ	BDPQ
BRSMCJ8.0AQ	BRSMCJ8.0CAQ	8	8.89	9.83	1	50	13.6	110.3	GDRQ	BDRQ
BRSMCJ8.5AQ	BRSMCJ8.5CAQ	8.5	9.44	10.4	1	20	14.4	104.2	GDTQ	BDTQ
BRSMCJ9.0AQ	BRSMCJ9.0CAQ	9	10	11.1	1	10	15.4	97.4	GDVQ	BDVQ
BRSMCJ10AQ	BRSMCJ10CAQ	10	11.1	12.3	1	5	17.0	88.3	GDXQ	BDXQ
BRSMCJ11AQ	BRSMCJ11CAQ	11	12.2	13.5	1	1	18.2	82.5	GDZQ	BDZQ
BRSMCJ12AQ	BRSMCJ12CAQ	12	13.3	14.7	1	1	19.9	75.4	GEEQ	BEEQ
BRSMCJ13AQ	BRSMCJ13CAQ	13	14.4	15.9	1	1	21.5	69.8	GEGQ	BEGQ
BRSMCJ14AQ	BRSMCJ14CAQ	14	15.6	17.2	1	1	23.2	64.7	GEKQ	BEKQ
BRSMCJ15AQ	BRSMCJ15CAQ	15	16.7	18.5	1	1	24.4	61.5	GEMQ	BEMQ
BRSMCJ16AQ	BRSMCJ16CAQ	16	17.8	19.7	1	1	26.0	57.7	GEPQ	BEPQ
BRSMCJ17AQ	BRSMCJ17CAQ	17	18.9	20.9	1	1	27.6	54.4	GERQ	BERQ
BRSMCJ18AQ	BRSMCJ18CAQ	18	20	22.1	1	1	29.2	51.4	GETQ	BETQ
BRSMCJ20AQ	BRSMCJ20CAQ	20	22.2	24.5	1	1	32.4	46.3	GEVQ	BEVQ
BRSMCJ22AQ	BRSMCJ22CAQ	22	24.4	26.9	1	1	35.5	42.3	GEXQ	BEXQ
BRSMCJ24AQ	BRSMCJ24CAQ	24	26.7	29.5	1	1	38.9	38.6	GEZQ	BEZQ
BRSMCJ26AQ	BRSMCJ26CAQ	26	28.9	31.9	1	1	42.1	35.7	GFEQ	BFEQ
BRSMCJ28AQ	BRSMCJ28CAQ	28	31.1	34.4	1	1	45.4	33.1	GFGQ	BFGQ
BRSMCJ30AQ	BRSMCJ30CAQ	30	33.3	36.8	1	1	48.4	31	GFKQ	BFKQ
BRSMCJ33AQ	BRSMCJ33CAQ	33	36.7	40.6	1	1	53.3	28.2	GFMQ	BFMQ
BRSMCJ36AQ	BRSMCJ36CAQ	36	40	44.2	1	1	58.1	25.9	GFPQ	BFPQ
BRSMCJ40AQ	BRSMCJ40CAQ	40	44.4	49.1	1	1	64.5	23.3	GFRQ	BFRQ
BRSMCJ43AQ	BRSMCJ43CAQ	43	47.8	52.8	1	1	69.4	21.7	GFTQ	BFTQ

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			V _{BR} @ I _T						SMC	
		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
BRSMCJ45AQ	BRSMCJ45CAQ	45	50	55.3	1	1	72.7	20.6	GFVQ	BFVQ
BRSMCJ48AQ	BRSMCJ48CAQ	48	53.3	58.9	1	1	77.4	19.4	GFXQ	BFXQ
BRSMCJ51AQ	BRSMCJ51CAQ	51	56.7	62.7	1	1	82.4	18.2	GFZQ	BFZQ
BRSMCJ54AQ	BRSMCJ54CAQ	54	60	66.3	1	1	87.1	17.3	GGEQ	BGEQ
BRSMCJ58AQ	BRSMCJ58CAQ	58	64.4	71.2	1	1	93.6	16.1	GGGQ	BGGQ
BRSMCJ60AQ	BRSMCJ60CAQ	60	66.7	73.7	1	1	96.8	15.5	GGKQ	BGKQ
BRSMCJ64AQ	BRSMCJ64CAQ	64	71.1	78.6	1	1	103.0	14.6	GGMQ	BGMQ
BRSMCJ70AQ	BRSMCJ70CAQ	70	77.8	86	1	1	113.0	13.3	GGPQ	BGPQ
BRSMCJ75AQ	BRSMCJ75CAQ	75	83.3	92.1	1	1	121.0	12.4	GGRQ	BGRQ
BRSMCJ78AQ	BRSMCJ78CAQ	78	86.7	95.8	1	1	126.0	11.9	GGTQ	BGTQ
BRSMCJ85AQ	BRSMCJ85CAQ	85	94.4	104	1	1	137.0	11	GGVQ	BGVQ
BRSMCJ90AQ	BRSMCJ90CAQ	90	100	111	1	1	146.0	10.3	GGXQ	BGXQ
BRSMCJ100AQ	BRSMCJ100CAQ	100	111	123	1	1	162.0	9.3	GGZQ	BGZQ
BRSMCJ110AQ	BRSMCJ110CAQ	110	122	135	1	1	177.0	8.5	GHEQ	BHEQ
BRSMCJ120AQ	BRSMCJ120CAQ	120	133	147	1	1	193.0	7.8	GHGQ	BHGQ
BRSMCJ130AQ	BRSMCJ130CAQ	130	144	159	1	1	209.0	7.2	GHKQ	BHKQ
BRSMCJ150AQ	BRSMCJ150CAQ	150	167	185	1	1	243.0	6.2	GHEQ	BHEQ
BRSMCJ160AQ	BRSMCJ160CAQ	160	178	197	1	1	259.0	5.8	GHPQ	BHPQ
BRSMCJ170AQ	BRSMCJ170CAQ	170	189	209	1	1	275.0	5.5	GHRQ	BHRQ
BRSMCJ180AQ	BRSMCJ180CAQ	180	201	222	1	1	292.0	5.1	GHTQ	BHTQ
BRSMCJ200AQ	BRSMCJ200CAQ	200	224	247	1	1	324.0	4.6	GHVQ	BHVQ
BRSMCJ220AQ	BRSMCJ220CAQ	220	246	272	1	1	356.0	4.2	GHXQ	BHXQ
BRSMCJ250AQ	BRSMCJ250CAQ	250	279	309	1	1	405.0	3.7	GHZQ	BHZQ
BRSMCJ300AQ	BRSMCJ300CAQ	300	335	371	1	1	486.0	3.1	GJEQ	BJEQ
BRSMCJ350AQ	BRSMCJ300CAQ	350	391	432	1	1	567.0	2.6	GJGQ	BJGQ
BRSMCJ400AQ	BRSMCJ350CAQ	400	447	494	1	1	648.0	2.3	GJKQ	BJKQ
BRSMCJ440AQ	BRSMCJ400CAQ	440	492	543	1	1	713.0	2.1	GJMQ	BJMQ

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Peak Pulse Power Rating Curve

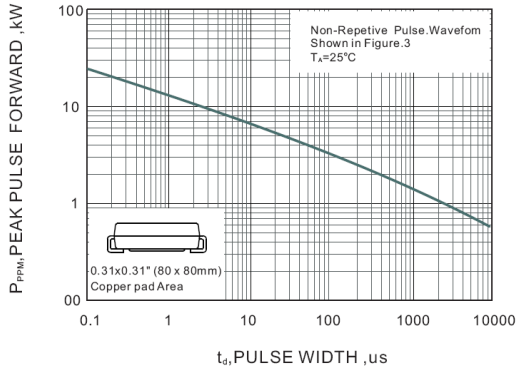


Fig.2 Pulse Waveform

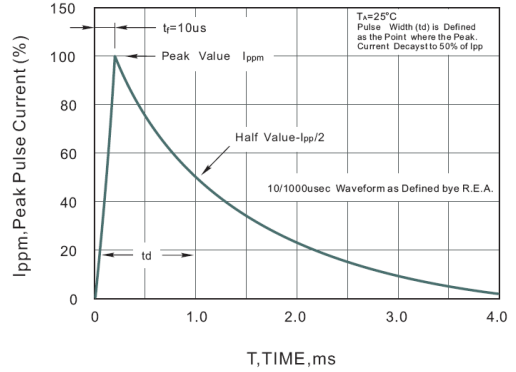


Fig.3 Forward Current Derating Curve

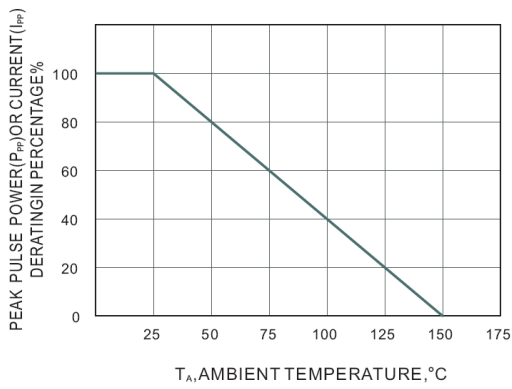


Fig.4 Typical Junction Capacitance

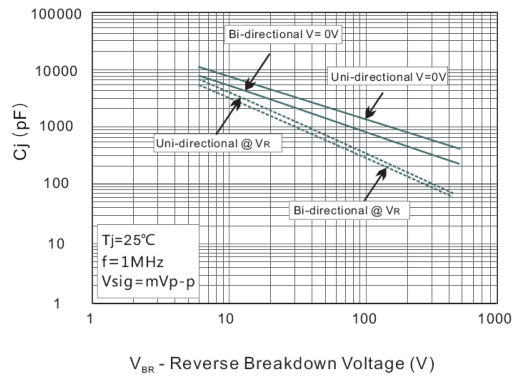
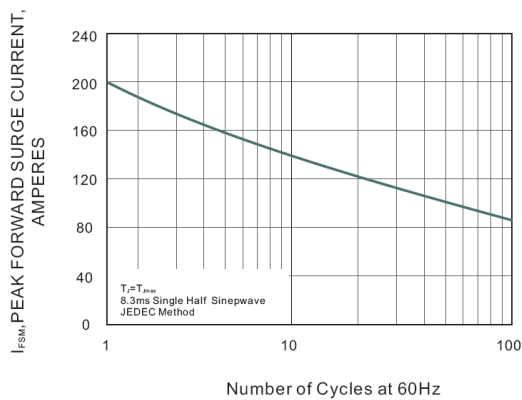
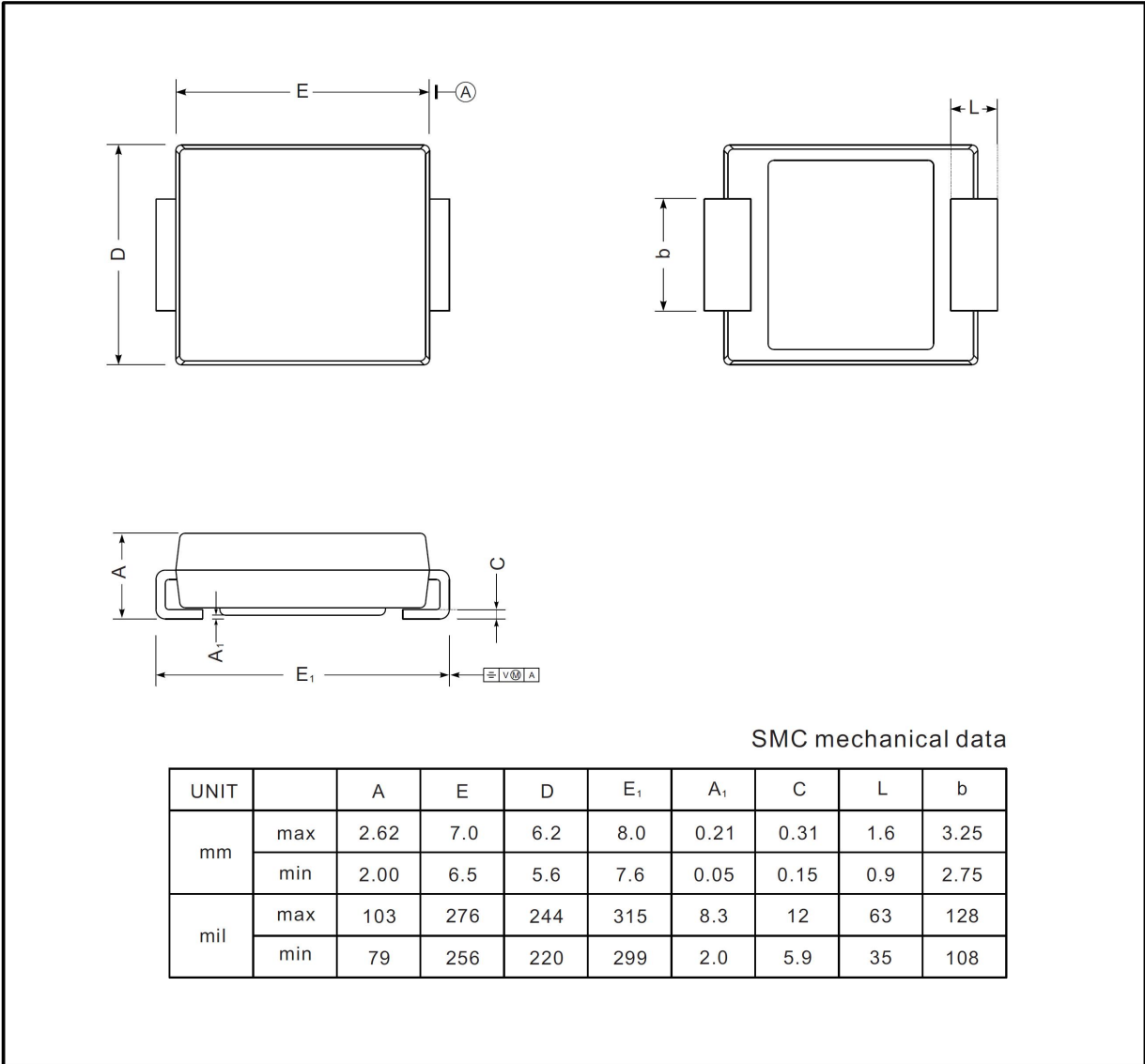


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMC



印章说明 / Marking Instructions



说明：

GDE： 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:

GDE： 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：

BDE： 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

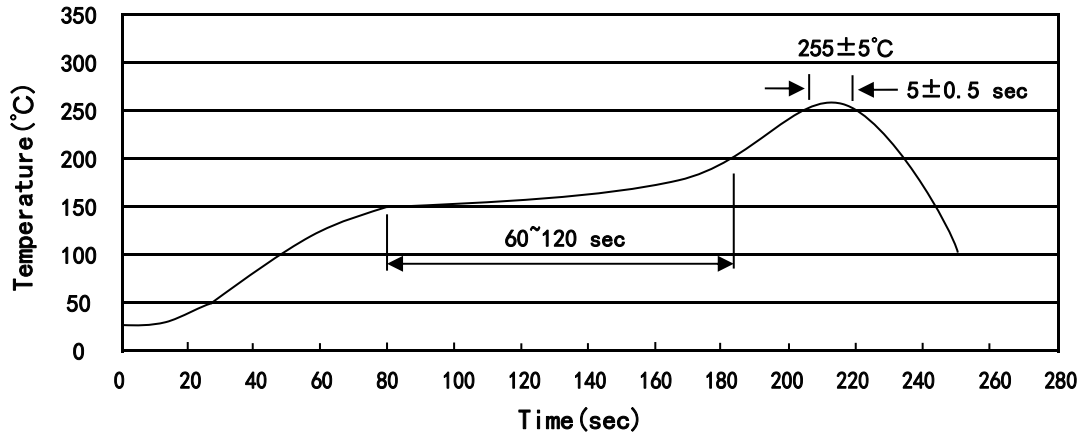
Note:

BDE： 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
SMC	3,000	2	6,000	6	36,000	13" ×16	337×337×49	380×335×366

使用说明 / Notices