

BRSS52CQ~BRSS56CQ

Rev.A May.-2023

描述 / Descriptions

表面贴装肖特基整流二极管，反向电压：20~60V，正向电流：5.0A，SMC封装。

Surface Mount Schottky Barrier Rectifier, Reverse Voltage: 20 to 60V, Forward Current:5.0A ,SMC package.

特征 / Features

低功耗 ,高效率 ,正向浪涌电流大 ,适用于低压高频逆变器和极性保护 ,适用于表面贴装 ,符合AEC-Q101标准高可靠性要求 ,无卤产品。

Low power loss, high efficiency, High forward surge current capability, For use in low voltage, high frequency inverters, and polarity protection applications,For surface mounted applications, Qualified to AEC-Q101 Standards for High Reliability, HF product.

用途 / Applications

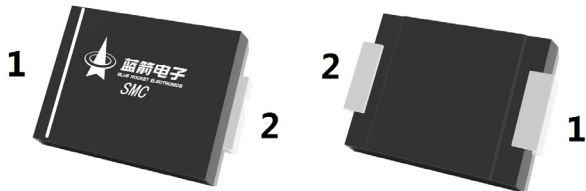
一般用途，满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit

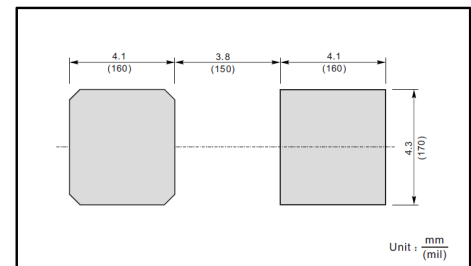


引脚排列 / Pinning



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
		BRSS52CQ	BRSS54CQ	BRSS56CQ	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	V
Maximum RMS voltage	V_{RMS}	14	28	42	V
Maximum DC Blocking Voltage	V_{DC}	20	40	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0			A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120			A
Typical Junction Capacitance ¹⁾	C_J	96			pF
Typical Thermal Resistance ²⁾	$R_{\theta ja}$	62			°C/W
	$R_{\theta jc}$	22			
	$R_{\theta jL}$	15			
Operating Junction and Storage Temperature Range	T_j, T_{stg}	-55~+125			°C

Note:

- 1) Measured at 1MHz and applied reverse voltage of 4 V D.C.
- 2) Thermal resistance from junction to lead, mounted on PCB with 8×8mm copper pads.

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

参数 Parameter	符号 Symbol	测试条件 Test Conditions	数值 Rating			单位 Unit
			BRSS52CQ	BRSS54CQ	BRSS56CQ	
Max Instantaneous Forward Voltage	V_F	$I_F=5.0A$ $T_a=25^\circ C$	0.58		0.67	V
Maximum DC Reverse Current at Rated DC Reverse Voltage	I_R	$T_a=25^\circ C$	0.2		0.15	mA
		$T_a=125^\circ C$	15			

电参数曲线图 / Electrical Characteristic Curve

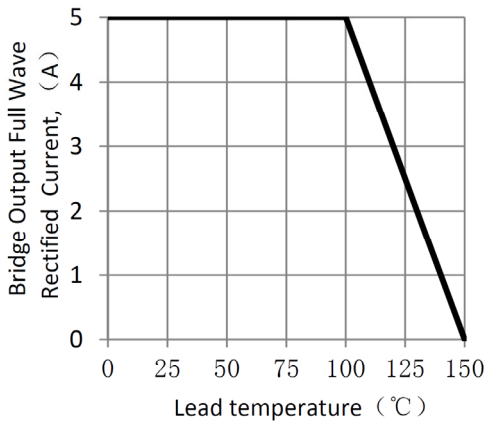


Figure 1. Forward Current Derating Curve

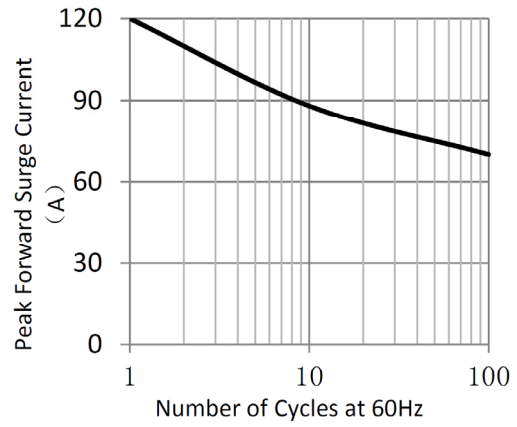


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

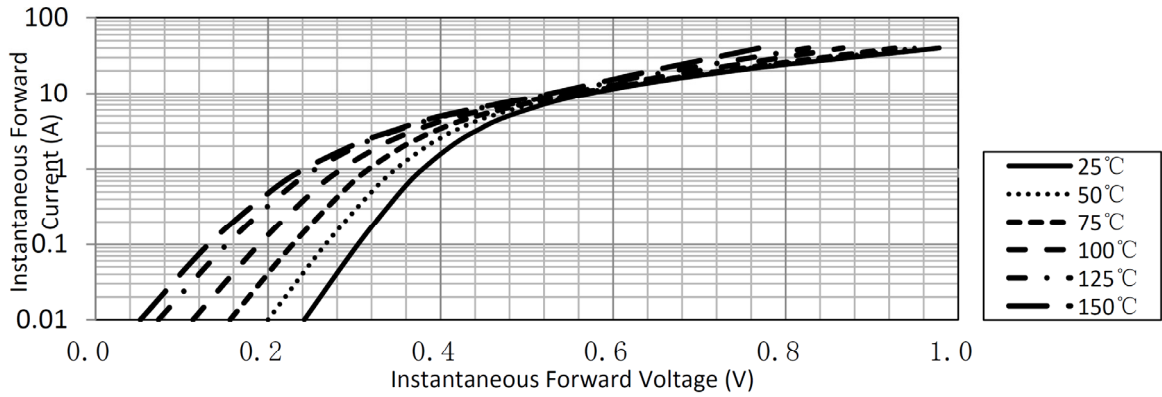


Figure 3. Typical Instantaneous Forward Characteristics
BRSS52CQ thru BRSS56CQ

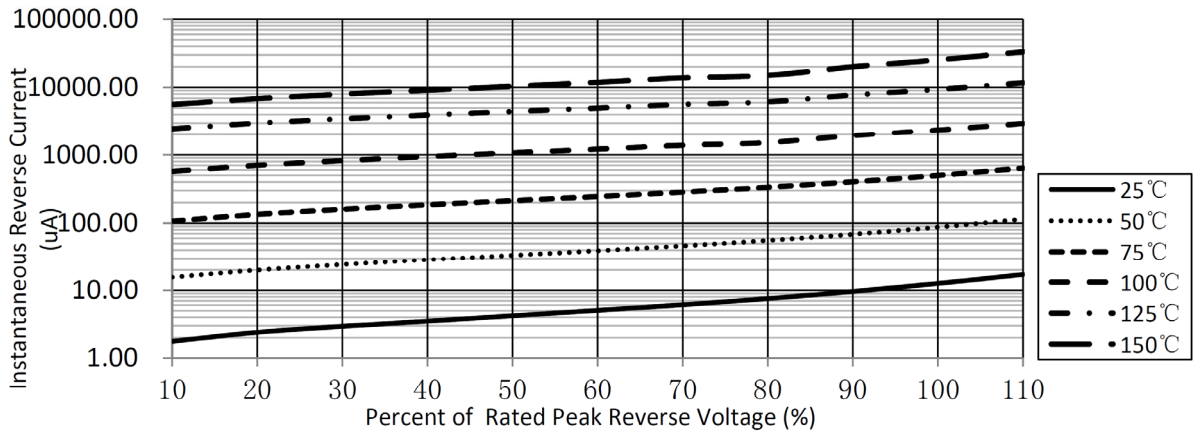


Figure 4. Typical Reverse Characteristics
(BRSS52CQ thru BRSS56CQ)

电参数曲线图 / Electrical Characteristic Curve

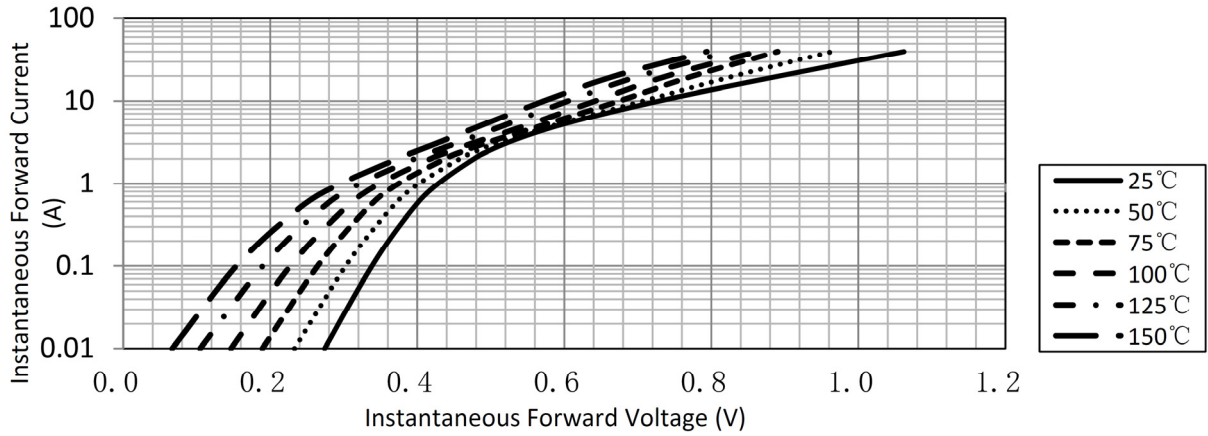


Figure 5. Typical Instantaneous Forward Characteristics (BRSS52CQ thru BRSS56CQ)

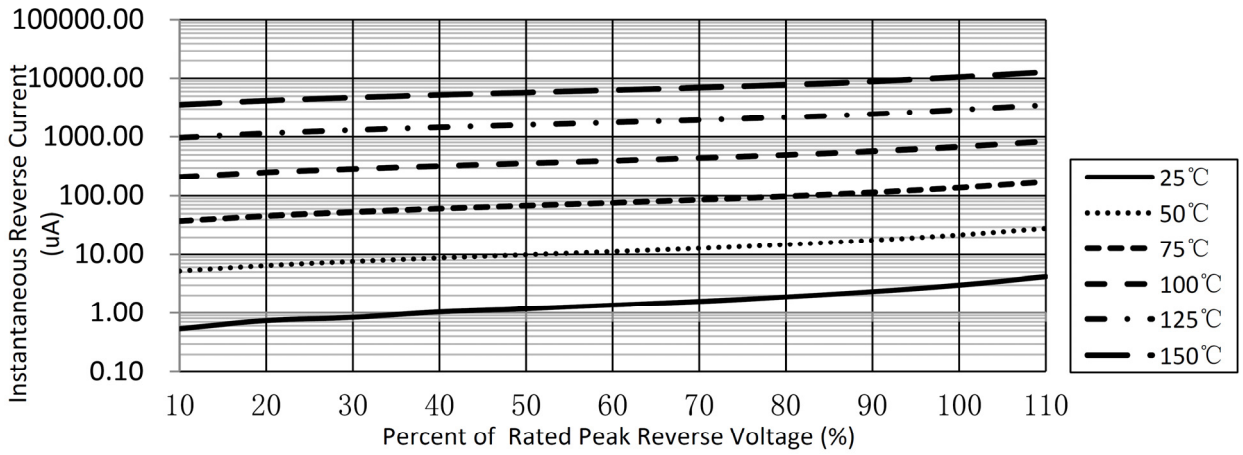
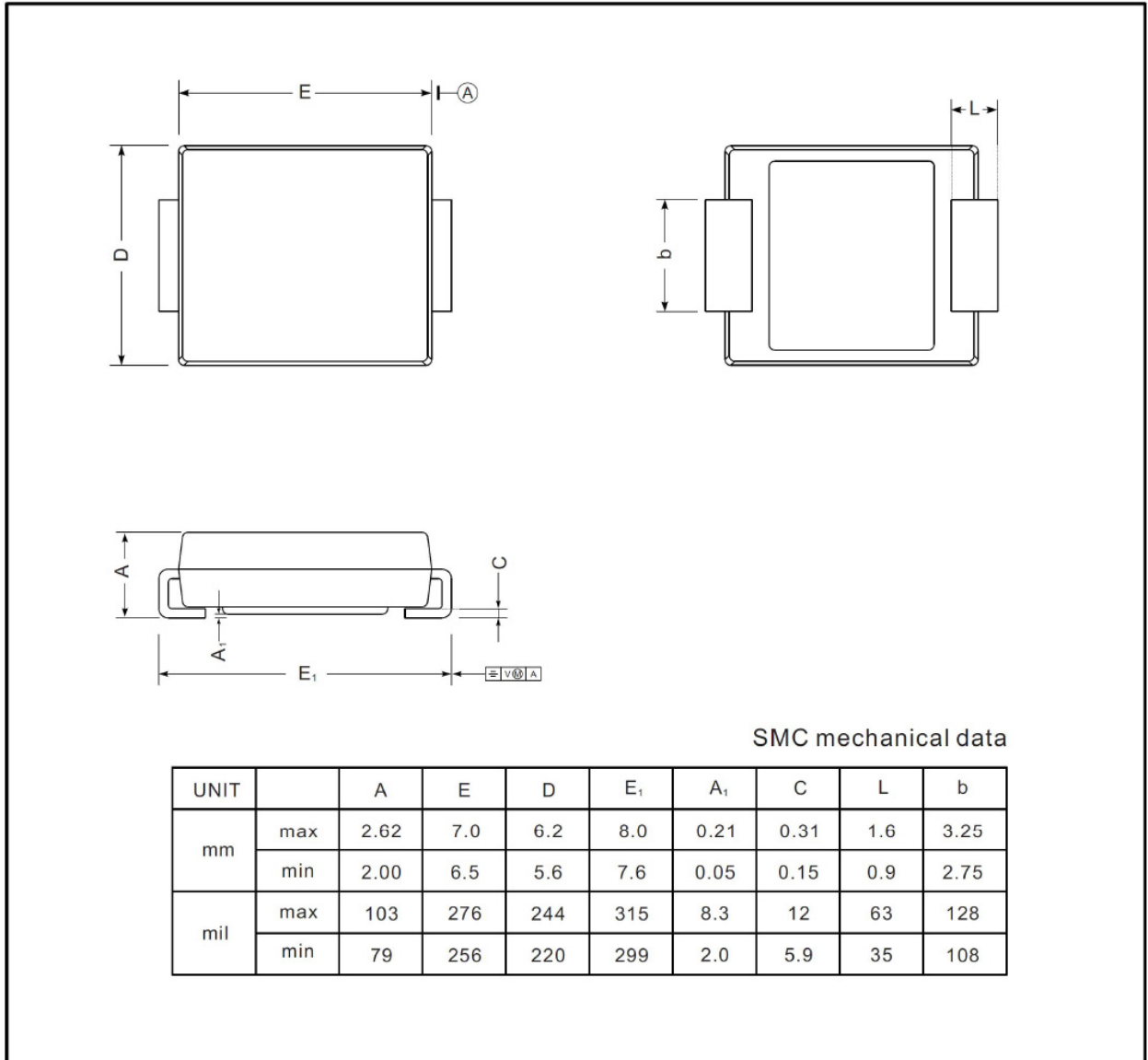


Figure 6. Typical Reverse Characteristics (BRSS52CQ thru BRSS56CQ)

外形尺寸图 / Package Dimensions

SMC



SMC mechanical data

UNIT		A	E	D	E ₁	A ₁	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：

** : 为生产追溯码，第 1 个*为年代码，后面 1 个*为月代码

ASK52 : 为型号代码

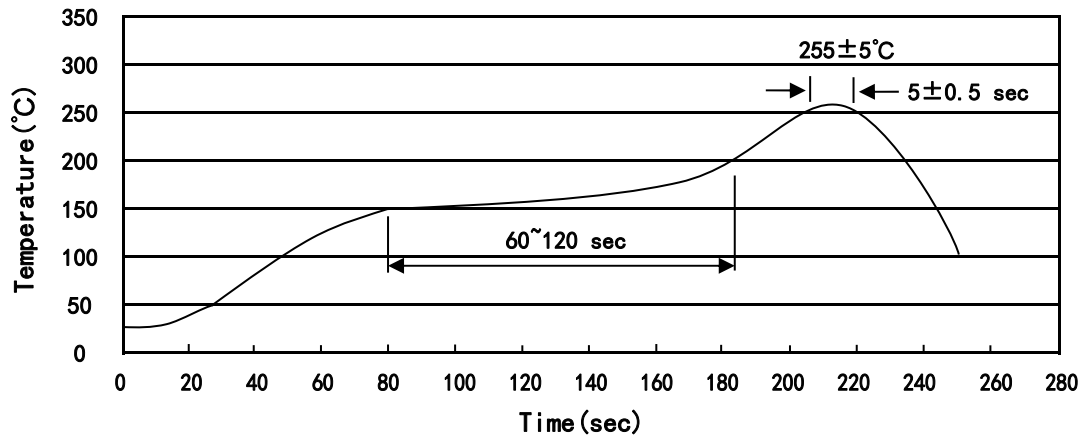
Note:

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

ASK52 : Product Type Code

Marking

Type number	Marking code
BRSS52CQ	ASK52
BRSS54CQ	ASK54
BRSS56CQ	ASK56

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	3000	2	6000	6	36000	13" ×16	337X337X49	380X335X366

使用说明 / Notices