

# BRS2AFQ~BRS2MFQ

Rev.A Jun.-2024

## 描述 / Descriptions

表面贴装整流二极管，反向电压：50V~1000V，正向电流：2.0A，SMAF 封装。

Surface Mount General Purpose Silicon Rectifiers, Reverse Voltage: 50 to 1000V, Forward Current: 2.0A, SMAF package.

## 特征 / Features

玻璃钝化芯片，效率高，无铅符合欧盟 RoHS 指令 2011/65/EU，适用于表面贴装，符合 AEC-Q101 标准高可靠性要求，无卤产品。

Glass Passivated Chip Junction, High efficiency, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

## 用途 / Applications

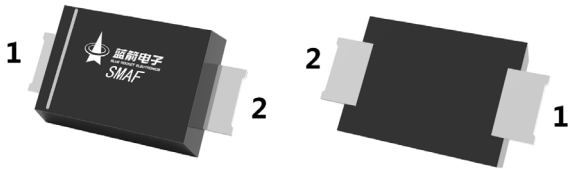
一般用途，满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

## 内部等效电路 / Equivalent Circuit

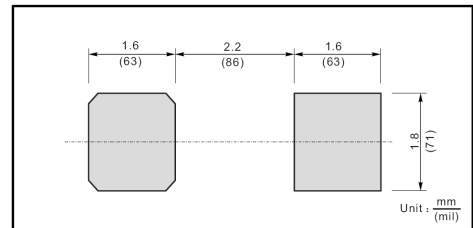


## 引脚排列 / Pinning



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	参数符号 Symbol	数值 Rating							单位 Unit
		BRS2AFQ	BRS2BFQ	BRS2DFQ	BRS2GFQ	BRS2JFQ	BRS2KFQ	BRS2MFQ	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_c = 125^\circ C$	$I_{F(AV)}$	2.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	50							A
Typical Junction Capacitance <sup>1)</sup>	$C_j$	22							pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	65							°C/W
	$R_{\theta JC}$	20							
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55~+150							°C

Note:

- 1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
- 2) P.C.B. mounted with 2.0 X 2.0" (5 X 5 cm) copper pad areas.

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

参数 Parameter	参数符号 Symbol	测试条件 Test condition	数值 Rating	单位 Unit
Maximum Instantaneous Forward Voltage	$V_F$	$I_F=2.0A$	1.1	V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	$I_R$	$T_a=25^\circ C$	5.0	uA
		$T_a=125^\circ C$	100	

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Forward Current Derating Curve

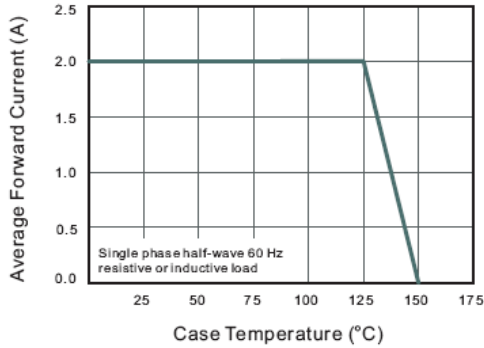


Fig.2 Typical Instaneous Reverse Characteristics

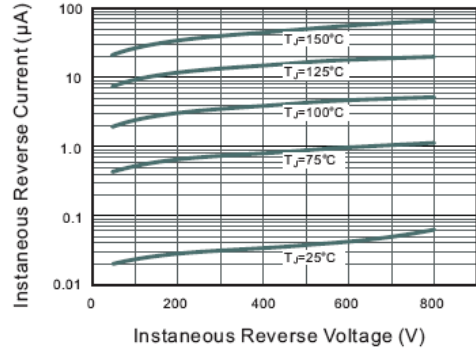


Fig.3 Typical Forward Characteristic

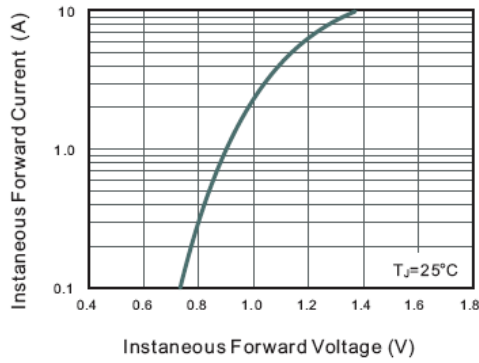


Fig.4 Typical Junction Capacitance

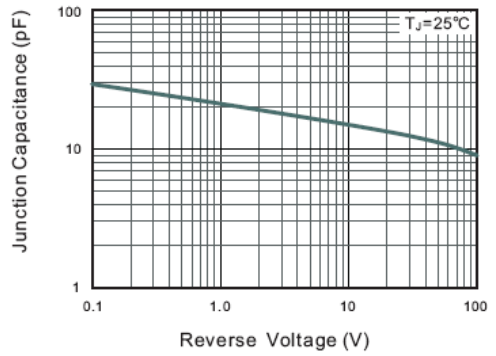
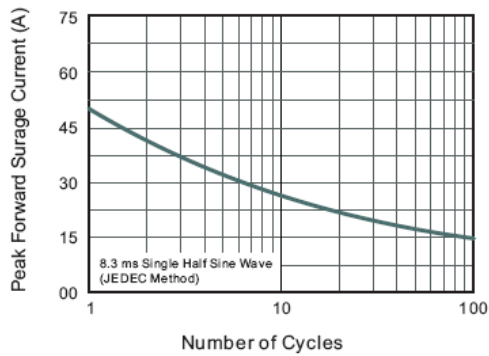


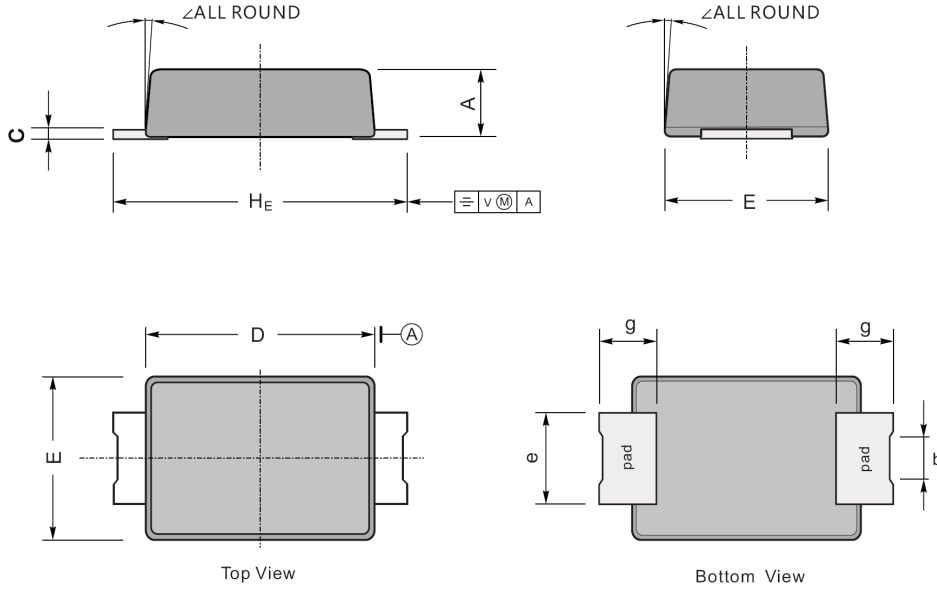
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



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## 外形尺寸图 / Package Dimensions



UNIT		A	C	D	E	e	g	H <sub>E</sub>	b	∠
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	1.05	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	0.65	
mil	max	47	7.9	146	106	63	47	193	41	
	min	35	4.7	130	94	51	31	173	26	

印章说明 / Marking Instructions



说明：

S2A： 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:

S2A： Product Type Code

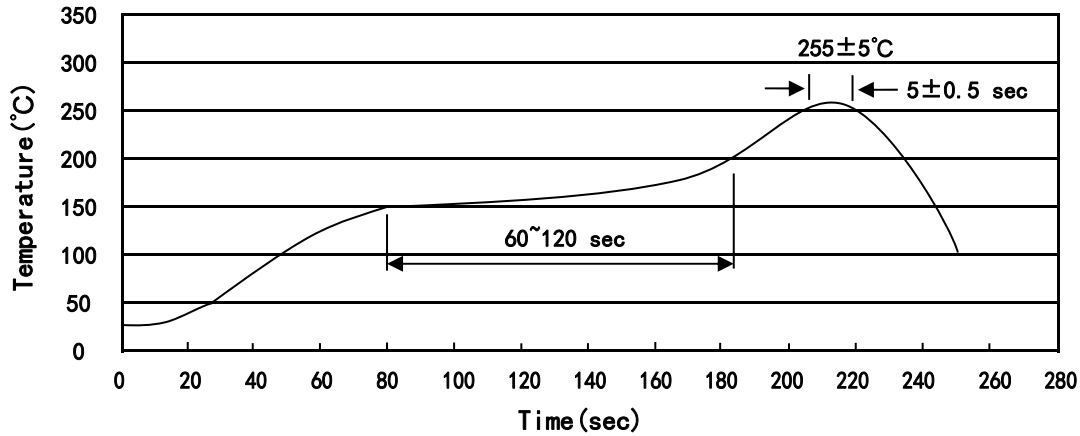
Q: Automobile halogen-free product Code

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

Marking

Type number	Marking code
BRS2AFQ	S2AQ
BRS2BFQ	S2BQ
BRS2DFQ	S2DQ
BRS2GFQ	S2GQ
BRS2JFQ	S2JQ
BRS2KFQ	S2KQ
BRS2MFQ	S2MQ

**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
SMAF	3,000	5	15,000	6	90,000	7" ×12	185×180×105	390×385×205

**使用说明 / Notices**