

BRBAW56Q

Rev.A Apr.-2023

DATA SHEET

描述 / Descriptions

SOT-23 塑封封装 硅半导体二极管。
 Silicon Diode in a SOT-23 Plastic Package.

特征 / Features

封装小，双二极管，开关速度快，反向峰值电压高，正向电流高达 450mA，符合 AEC-Q101 标准高可靠性要求，无卤产品。

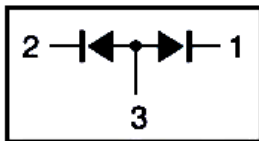
Small package, double diode, high switching speed, high repetitive peak reverse voltage, repetitive peak forward current up to 450mA, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

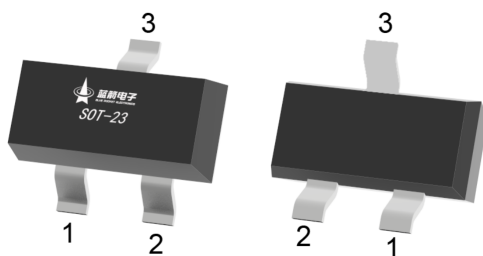
主要用于高速开关电路，满足汽车应用的严格要求。

High-speed switching in thick and thin-film circuits, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN: See Equivalent Circuit.

印章代码 / Marking

Marking	QA1
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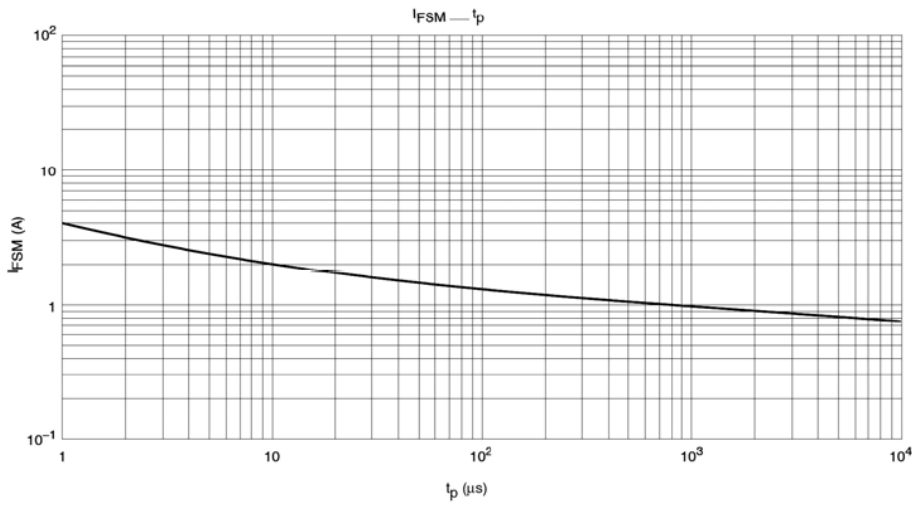
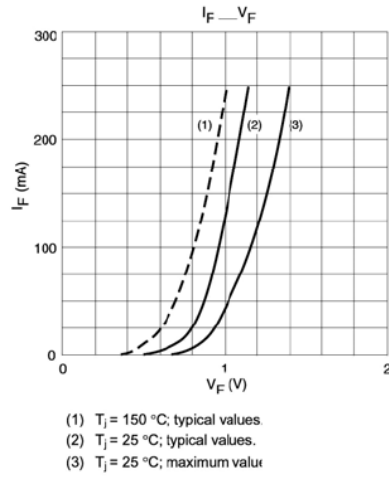
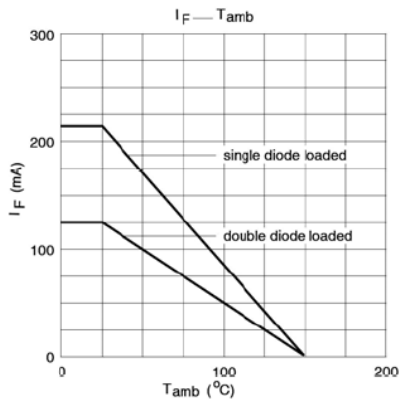
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Repetitive Reverse Voltage	V_{RRM}	85	V
Continuous Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(\text{single diode loaded})}$	215	mA
	$I_{F(\text{double diode loaded})}$	125	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-repetitive Peak Forward Surge Current	$I_{FSM(1)(t=1\mu S)}$	4.0	A
	$I_{FSM(2)(t=1mS)}$	1.0	A
	$I_{FSM(3)(t=1S)}$	0.5	A
Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

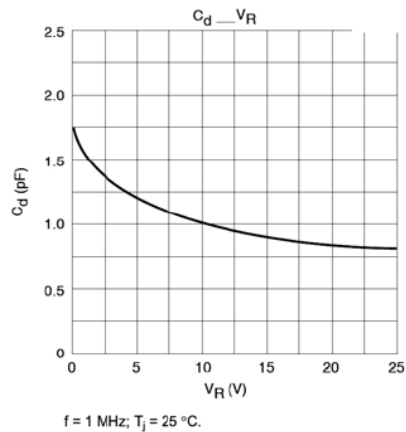
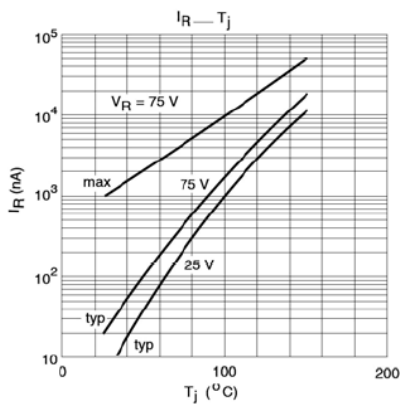
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Forward Voltage	V_F	$I_F=1.0mA$			715	mV
		$I_F=10mA$			855	mV
		$I_F=50mA$			1.0	V
		$I_F=150mA$			1.25	V
Instantaneous Reverse Current	I_R	$V_R=25V$			30	nA
		$V_R=75V$			1.0	μA
		$V_R=25V \quad T_A=150^\circ C$			30	μA
		$V_R=75V \quad T_A=150^\circ C$			50	μA
Total Capacitance	C_T	$V_R=0 \quad f=1.0MHz$			2.0	pF
Reverse Recovery Time	t_{rr}	$I_F=1R=10mA$ $I_{RR}=1.0mA \quad R_L=100\Omega$			4.0	ns
Forward recovery voltage	V_{ft}	$I_F=10mA \quad t_r=20ns$			1.75	V

电参数曲线图 / Electrical Characteristic Curve



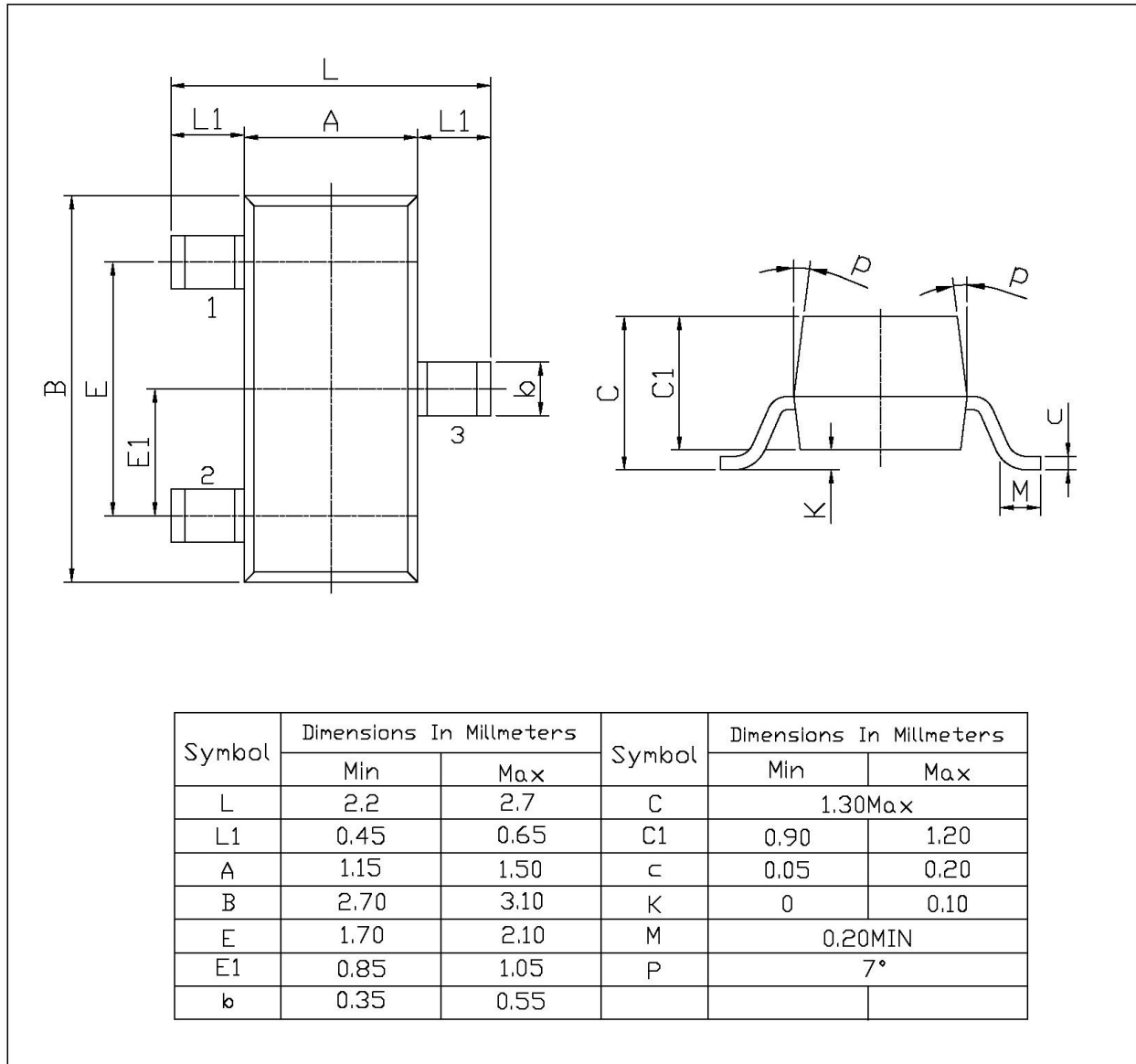
Based on square wave currents.
 $T_j = 25\text{ }^\circ\text{C}$ prior to surge.



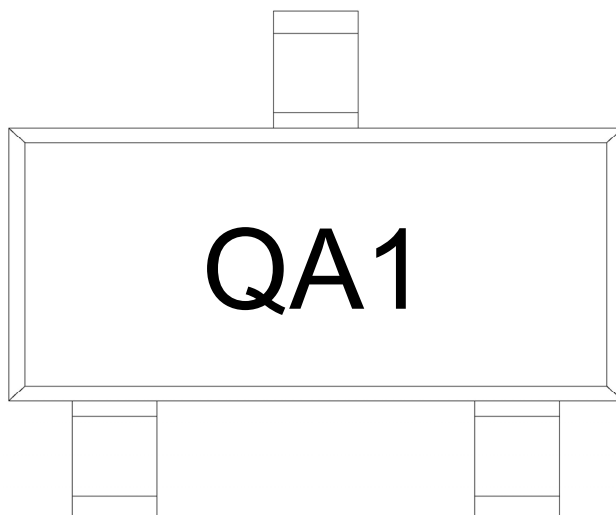
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

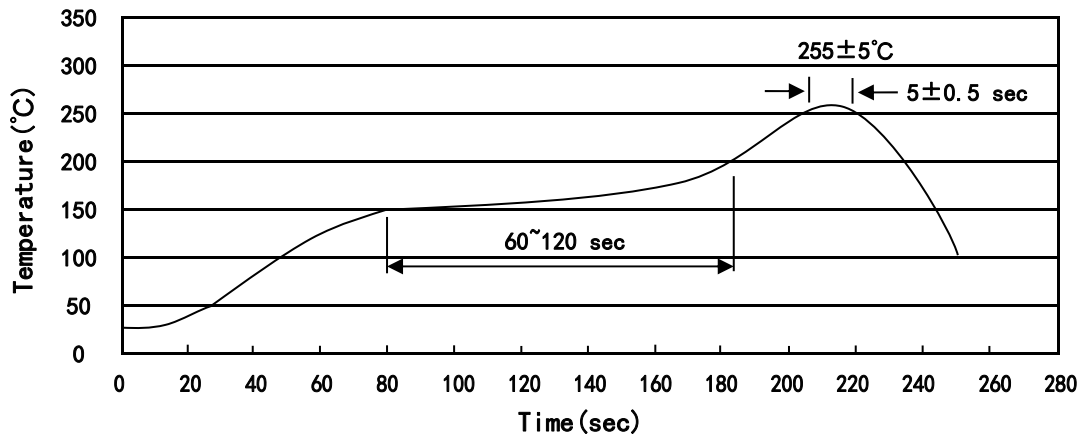
A1： 为型号代码

Note:

Q: Automobile halogen-free product Code

A1: Product Type

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
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices