

BR1N4007WQ

Rev.A Apr.-2023

描述 / Descriptions

表面贴装整流二极管，反向电压：1000V，正向电流：1.0A，薄型 SOD-123FL 封装。

Surface Mount General Purpose Silicon Rectifiers, Reverse Voltage: 1000V, Forward Current: 1.0A, SOD-123FL thin package.

特征 / Features

玻璃钝化芯片,适用于自动放置,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, Ideal for automated placement, Lead free in comply with EU RoHS 2011/65/EU directives, For surface mounted applications. Qualified to AEC-Q101 Standards for High Reliability, HF product.

用途 / Applications

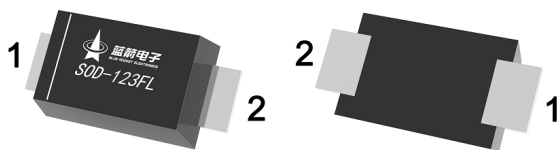
一般用途,满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit

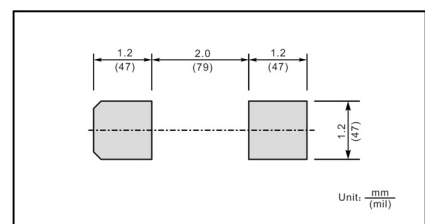


引脚排列 / Pinning



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	符号 Symbol	数值 Rating	单位 Unit
		BR1N4007WQ	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	1000	V
Maximum RMS Voltage	V _{RMS}	700	V
Maximum DC Blocking Voltage	V _{DC}	1000	V
Maximum Average Forward Rectified Current at Ta= 65°C	I _{F(AV)}	1.0	A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	40	A
Typical Junction Capacitance ¹⁾	C _j	6	pF
Typical Thermal Resistance ²⁾	R _{θJA}	125	°C/W
	R _{θJC}	60	
	R _{θJL}	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 with 5×5mm copper pads, 2 OZ, FR4 PCB

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
			BR1N4007WQ	
Maximum Instantaneous Forward Voltage	V _F	I _F =1.0A	1.0	V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	I _R	T _a =25°C	5.0	μA
		T _a =125°C	50	μA
Typical reverse recovery time	t _{rr}	I _F =0.5A I _R =1.0A I _{rr} =0.25A	1.8	μS

电参数曲线图 / Electrical Characteristic Curve

(TA = 25°C unless otherwise noted)

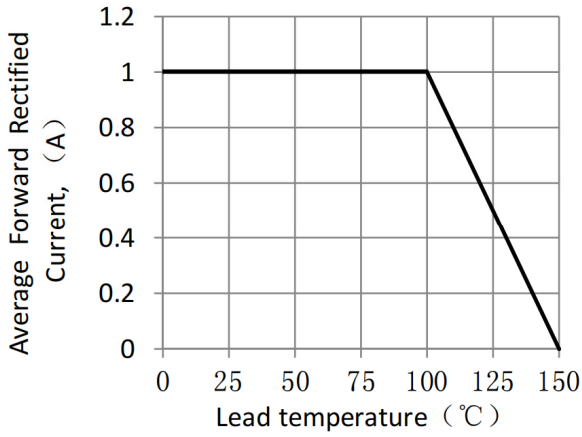


Figure 1. Forward Current Derating Curve

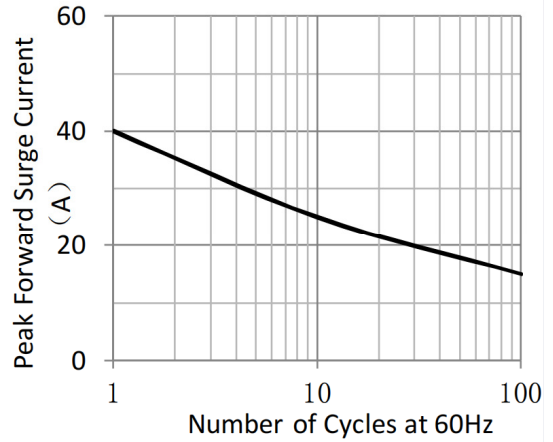


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

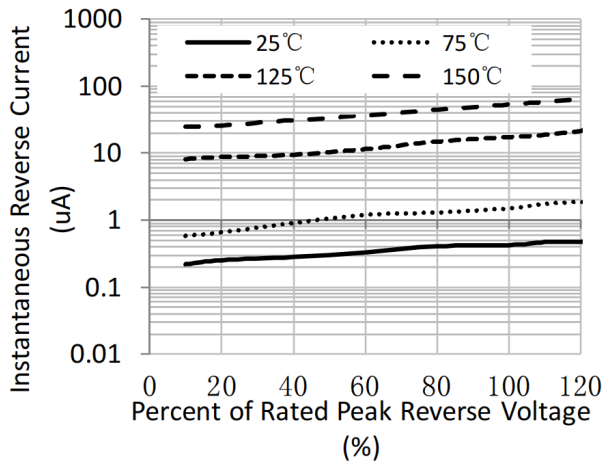


Figure 3. Typical Reverse Characteristics

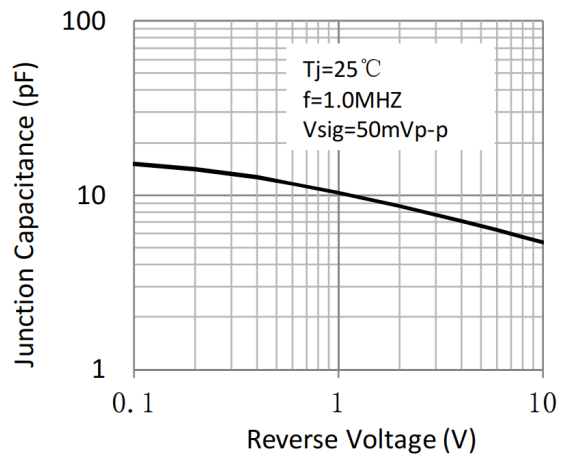


Figure 4. Typical Junction Capacitance

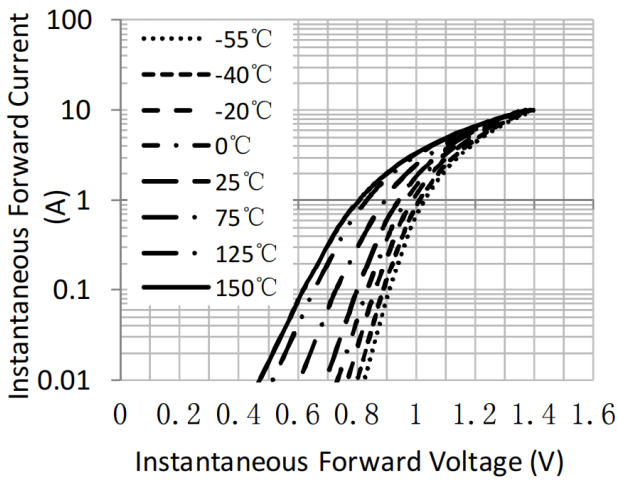


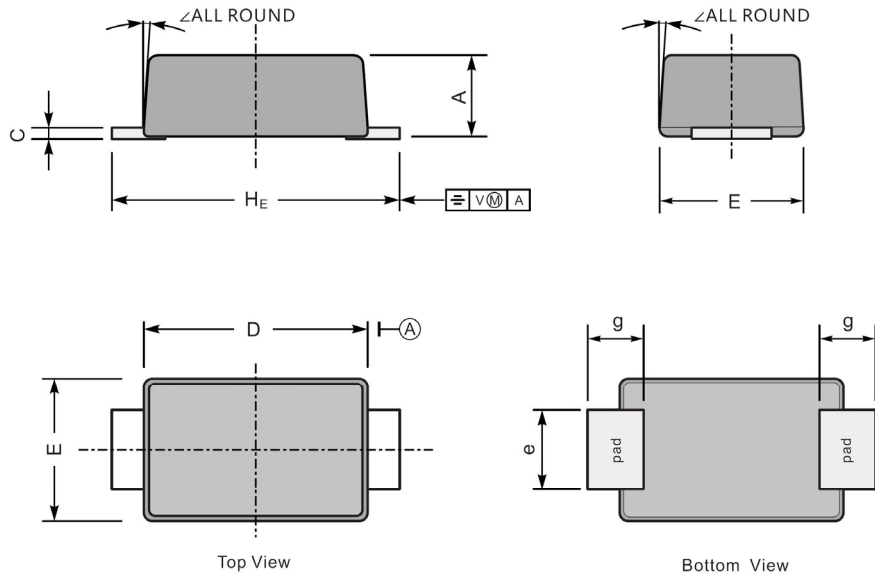
Figure 5. Typical Instantaneous Forward Characteristics

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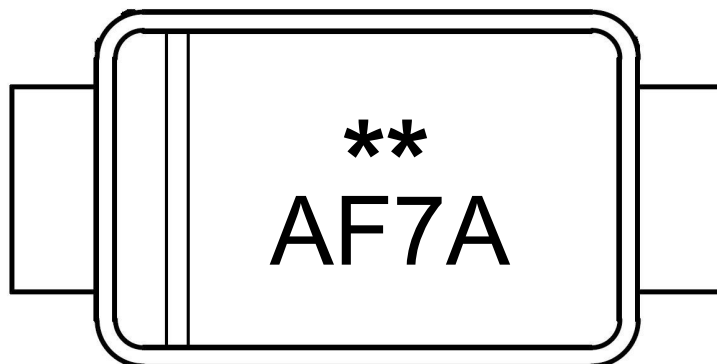
外形尺寸图 / Package Dimensions

SOD-123FL



UNIT		A	C	D	E	e	g	H_E	\angle
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

印章说明 / Marking Instructions



说明：

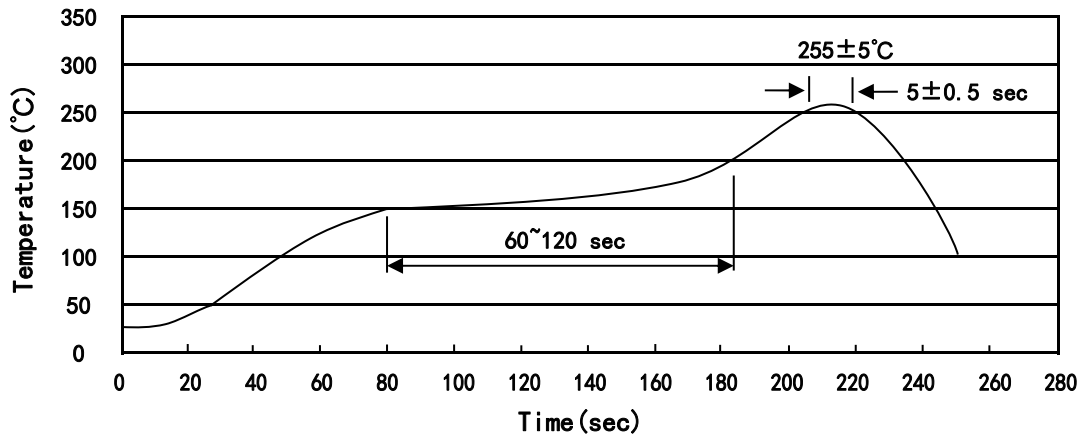
AF7A： 为型号代码

**： 为生产批号追溯码，第1个*为年代码，后面1个*为月代码

Note:

AF7A： Product Type Code

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

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
SOD-123FL	3000	8	24000	6	144000	7" ×8	185X180X105	390X385X205

使用说明 / Notices