

# BRDSL24WQ

Rev.A Mar.-2025

## 描述 / Descriptions

表面贴装肖特基整流二极管，反向电压：40V，正向电流：2.0A，薄型 SOD-123FL 封装。

Surface Mount Schottky Barrier Rectifier, Reverse Voltage: 40V, Forward Current: 2.0A, SOD-123FL thin package。

## 特征 / Features

低功耗，高效率，浪涌电流大，应用于低压、高频转换和极性保护，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

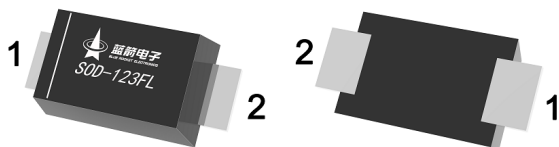
一般用途，满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

## 内部等效电路 / Equivalent Circuit

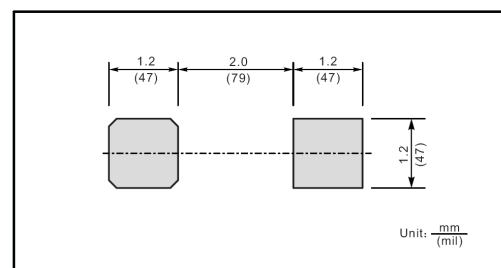


## 引脚排列 / Pinning



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	BRDSL24WQ	单位 Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	V
Maximum RMS Voltage	$V_{RMS}$	28	V
Maximum DC Blocking Voltage	$V_{DC}$	40	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	2	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>	$C_i$	290	pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	70	°C/W
Operating Junction Temperature Range	$T_j$	-55~+125	°C
Storage Temperature Range	$T_{stg}$	-55~+150	°C

Note:

- 1) Measured at 1MHz 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	符号 Symbol	测试条件 Test Conditions	BRDSL24WQ	单位 Unit
Maximum Instantaneous Forward Voltage	$V_F$	$I_F=2.0A$	0.45	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_a=25^\circ C$	0.5	mA
		$T_a=100^\circ C$	10	

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Forward Current Derating Curve

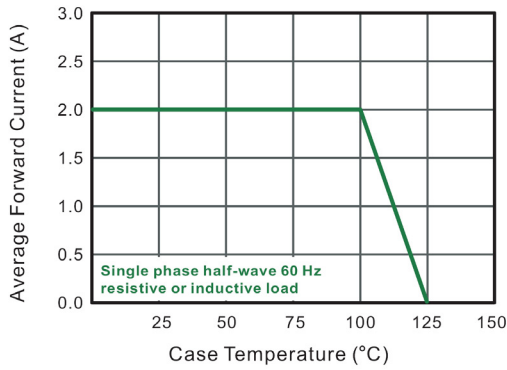


Fig.2 Typical Reverse Characteristics

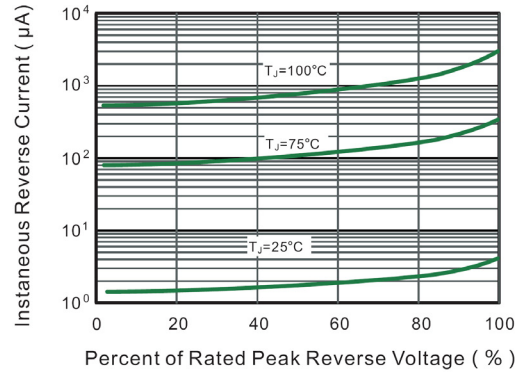


Fig.3 Typical Forward Characteristic

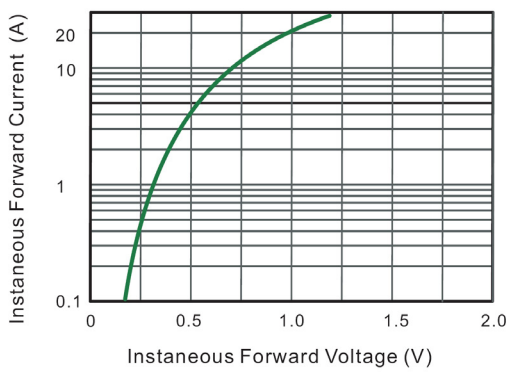


Fig.4 Typical Junction Capacitance

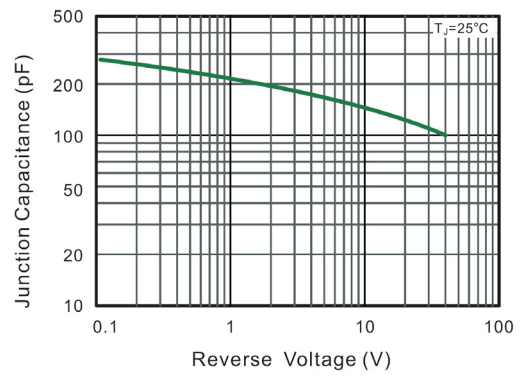


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

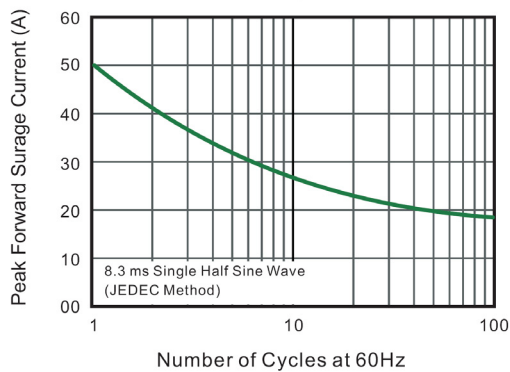
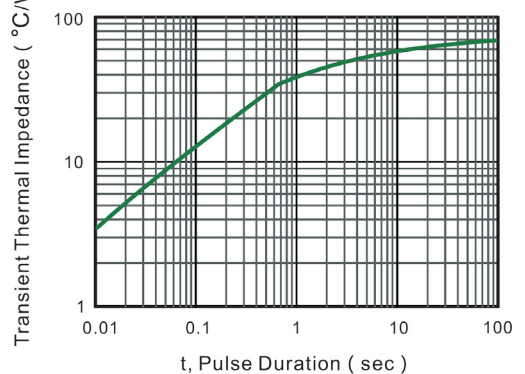
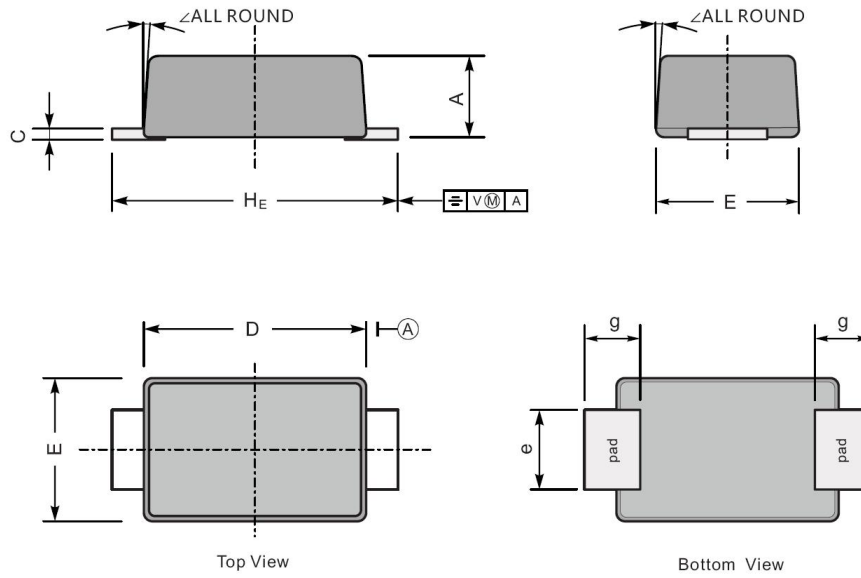


Fig.6- Typical Transient Thermal Impedance



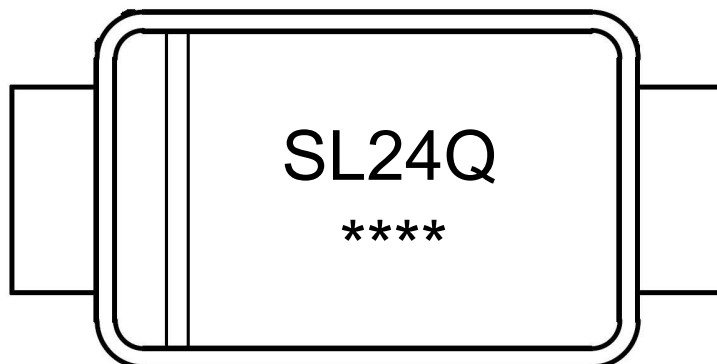
外形尺寸图 / Package Dimensions

SOD-123FL



UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
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：

SL24： 为型号代码

Q： 为汽车无卤产品标识

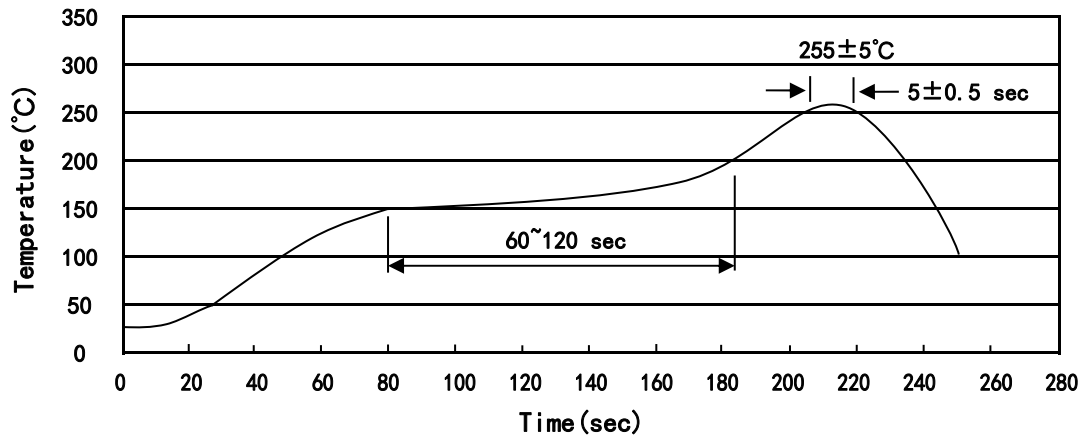
\*\*\*\*： 为生产批号代码，随生产批号变化

Note:

SL24： 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 <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
SOD-123FL	3,000	8	24,000	6	144,000	7" ×8	185×180×105	390×385×205

**使用说明 / Notices**