

FR101W~FR107W

Rev.F Apr.-2024

描述 / Descriptions

快恢复二极管，反向电压：50V~1000V，正向电流：1.0A，薄型 SOD-123FL 封装。

Surface Mount Fast Recovery Rectifiers, Reverse Voltage: 50 to1000V,Forward Current: 1.0A, SOD-123FL thin package.

特征 / Features

玻璃钝化芯片，反向恢复时间快，无铅符合欧盟 RoHS 指令 2011/65/EU，适用于表面贴装，无卤产品。

Glass Passivated Chip Junction, Fast reverse recovery time, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications, HF Product.

用途 / Applications

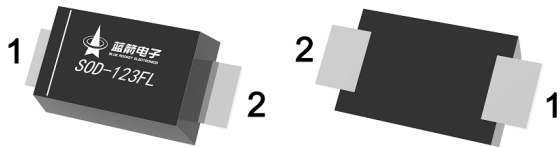
一般用途。

General purpose.

内部等效电路 / Equivalent Circuit

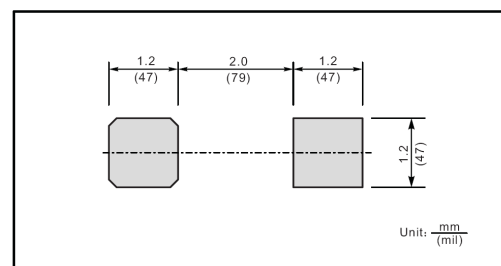


引脚排列 / Pinning



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



印章代码 / Marking

型号 Type number	FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	FR107W
印章 Marking code	F2			F5		F7	

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

参数 Parameter	符号 Symbol	数值 Rating							单位 Unit
		FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	FR107W	
Maximum Recurrent 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 $T_c=125^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Typical Junction Capacitance at $V_R=4\text{V}$, $f=1\text{MHz}$	C_j	15							pF
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	85							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55~+150							$^\circ\text{C}$

Note:

1)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	数值 Rating						单位 Unit
			FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	
Maximum Instantaneous Forward Voltage	V_F	$I_F=1.0\text{A}$	1.3						V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	I_R	$T_a=25^\circ\text{C}$	5						μA
		$T_a=125^\circ\text{C}$	100						μA
Maximum Reverse Recovery Time	t_{rr}	$I_F=0.5\text{A}$ $I_R=1\text{A}$ $I_{rr}=0.25\text{A}$	150		250		500		ns

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Forward Current Derating Curve

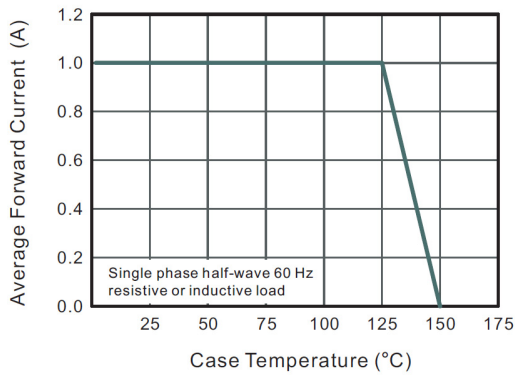


Fig.2 Typical Reverse Characteristics

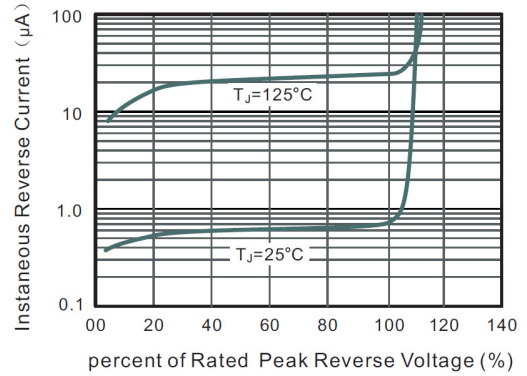


Fig.3 Typical Instantaneous Forward Characteristics

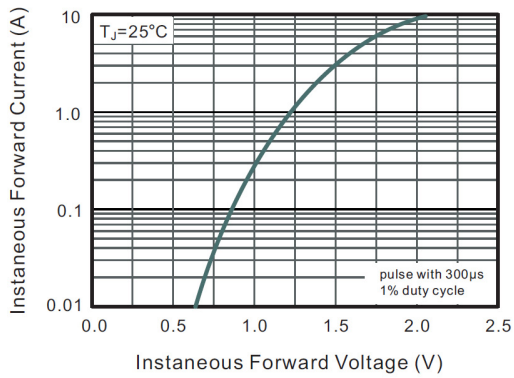


Fig.4 Typical Junction Capacitance

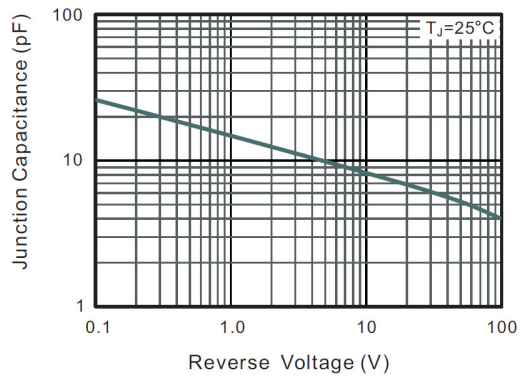
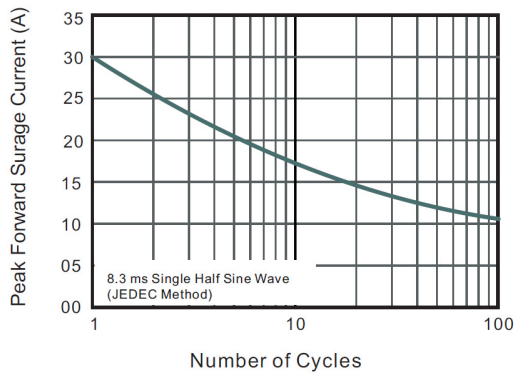
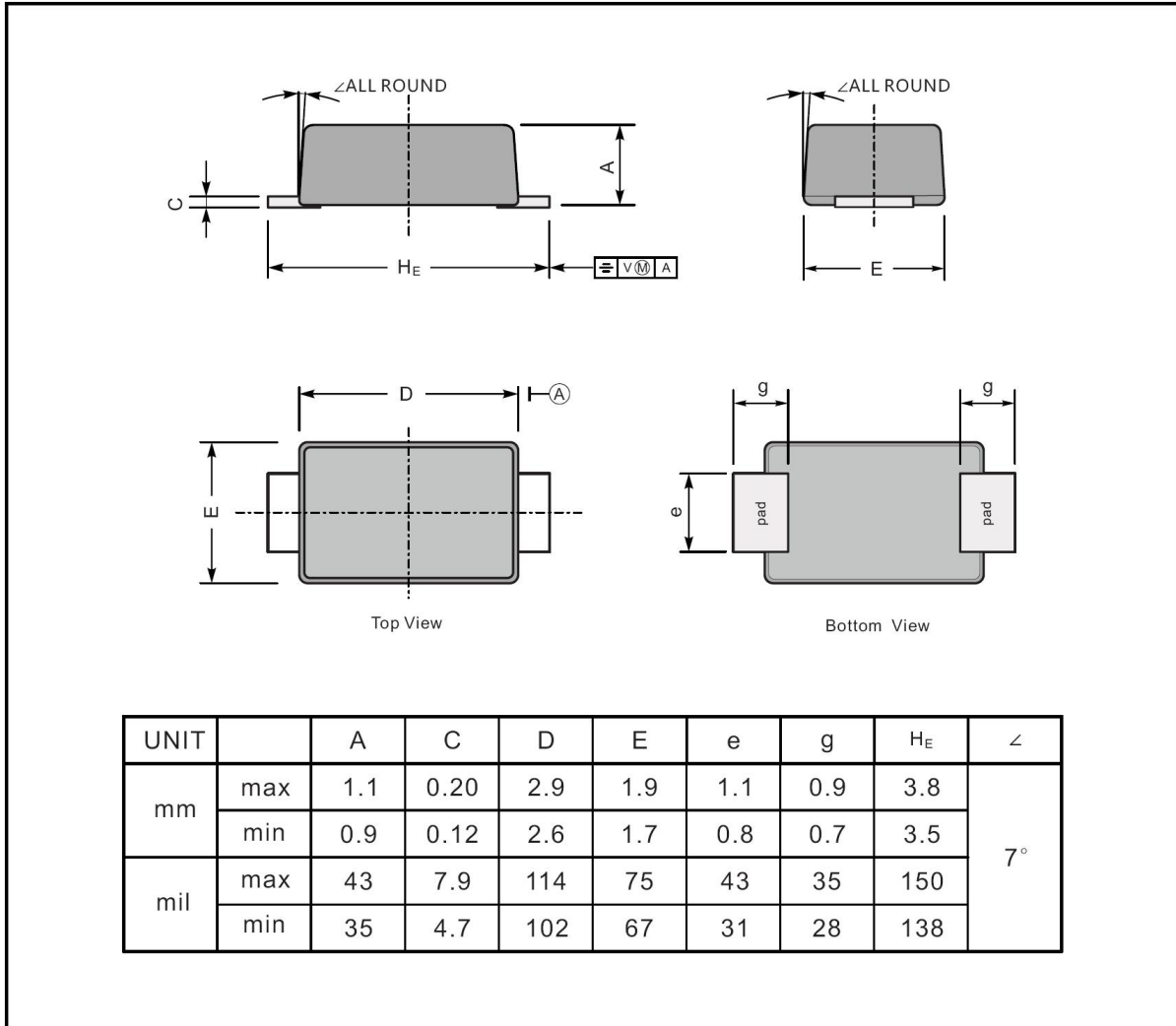


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

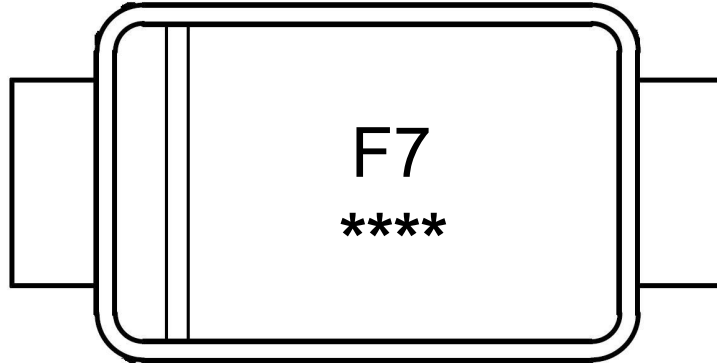


外形尺寸图 / Package Dimensions

SOD-123FL



印章说明 / Marking Instructions



说明：

F7： 为型号代码

****： 为生产批号代码，随生产批号变化

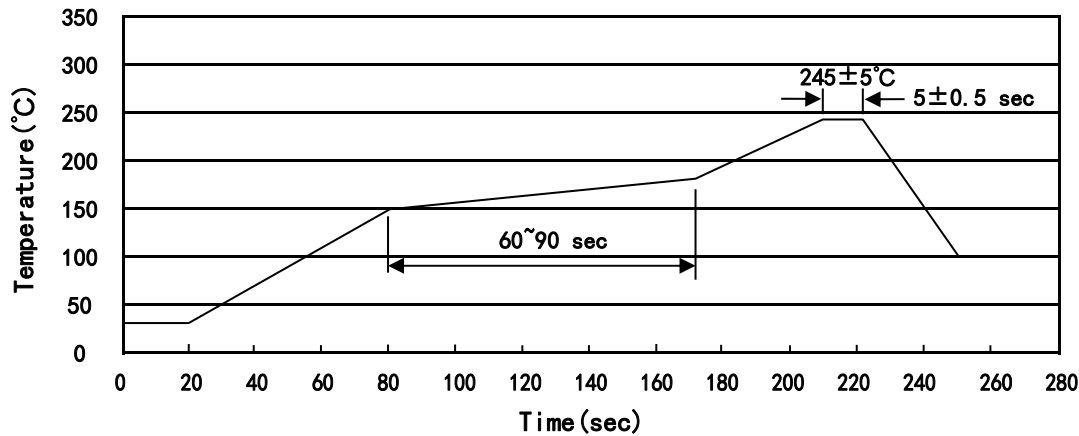
Note:

F7： Product Type Code

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

Marking

Type number	Marking code
FR101W	F2
FR102W	
FR103W	
FR104W	
FR105W	F5
FR106W	F7
FR107W	

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 150~180°C，时间 60~90sec;
- 2、峰值温度 245±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:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±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	3,000	8	24,000	6	144,000	7" ×8	185×180×105	390×385×205

使用说明 / Notices