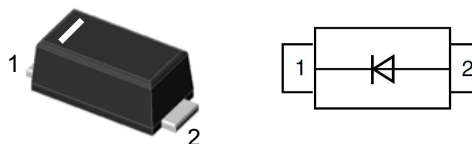


Schottky Barrier Rectifier in SOD-123FL

Features

- Schottky barrier diodes
- Low forward voltage drop
- High Junction Temperature
- Moisture sensitivity: level 1, per J-STD-020



Mechanical Data

- **Case:** SOD-123FL (plastic package).
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Applications

For use of fast switching in RF module, Lighting, cellular phone, portable device, power supplies and other consumer applications.

Absolute Maximum Ratings							
Ratings at 25 °C, ambient temperature unless otherwise specified							
Parameter	Symbol	CS1020FL	CS1030FL	CS1040FL	CS1060FL	CS10100FL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	60	100	V
Maximum RMS voltage	V_{RMS}	14	21	28	42	70	V
Maximum DC blocking voltage	V_{DC}	20	30	40	60	100	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30					A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150					°C

Electrical Characteristics								
(T _A = 25 °C unless otherwise specified)								
Parameter	Test Conditions	Symbol	CS1020FL	CS1030FL	CS1040FL	CS1060FL	CS10100FL	Unit
Maximum instantaneous forward voltage	$I_F=1A, T_A=25^{\circ}C$	V_F	0.55			0.70	0.85	V
Maximum DC reverse current at rated DC blocking voltage	$T_A=25^{\circ}C$	I_R	0.5					mA
	$T_A=125^{\circ}C$		50			10		
Typical junction capacitance	4.0 V, 1 MHz	C_J	110			80	pF	

Thermal Characteristics							
Parameter	Symbol	CS1020FL	CS1030FL	CS1040FL	CS1060FL	CS10100FL	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	85					°C/W
Operating junction temperature range	T_J	-50~+150					°C
Storage temperature range	T_{STG}	-50~+150					°C

Note1: Thermal resistance from junction to lead, mounted on PCB with 5.0x5.0mm copper pads

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Figure 1. Forward Current Derating Curve

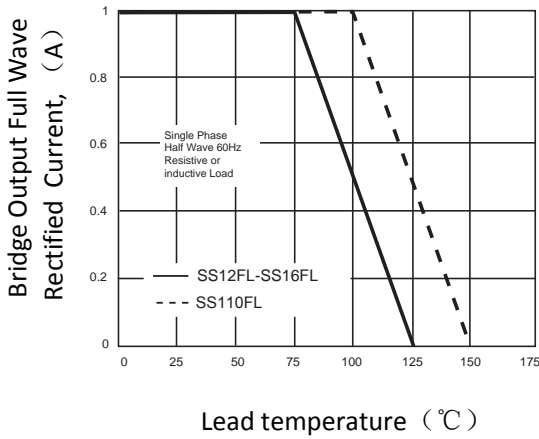


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

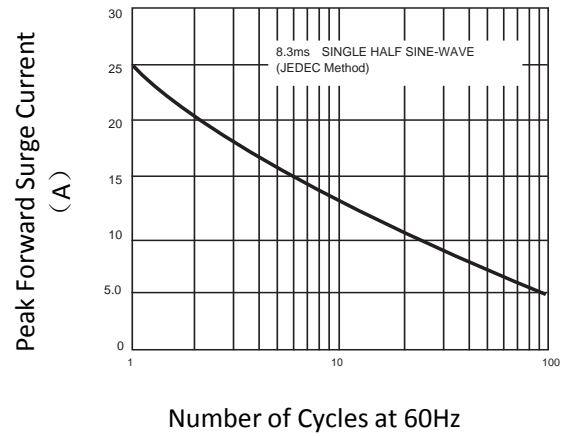


Figure 3. Typical Instantaneous Forward Characteristics

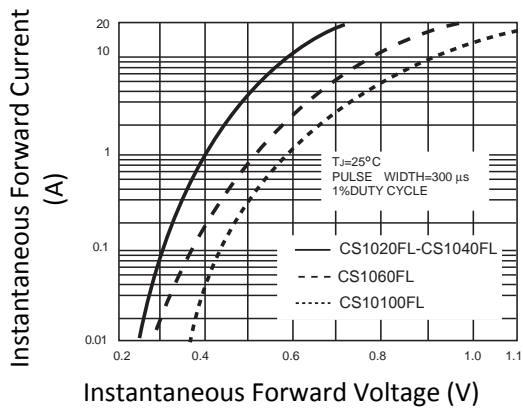


Figure 4. Typical Reverse Characteristics

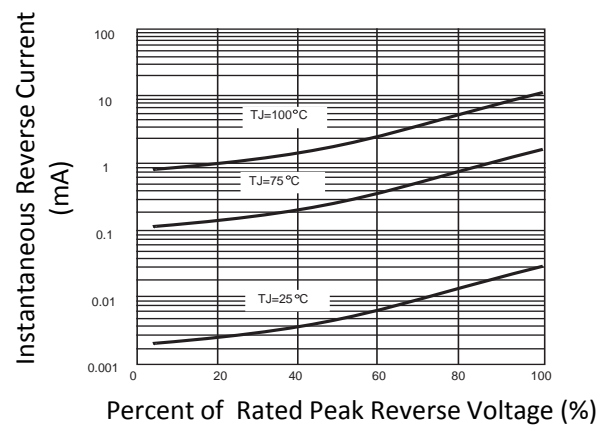
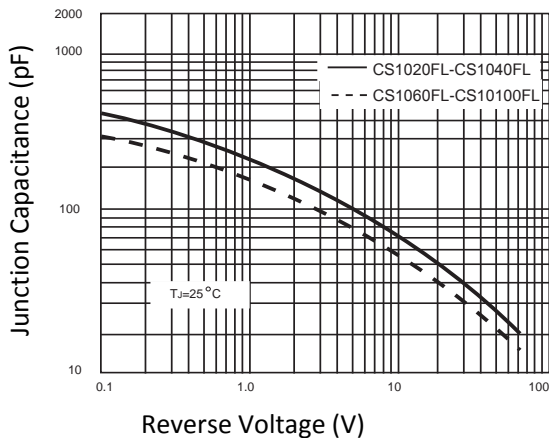
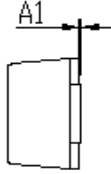
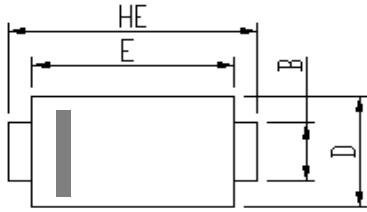


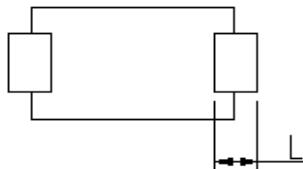
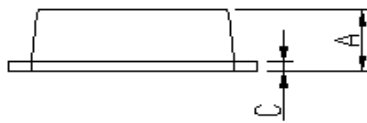
Figure 5. Typical Junction Capacitance



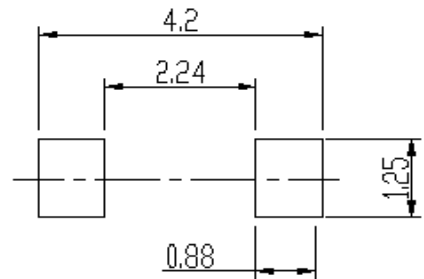
Package Dimensions



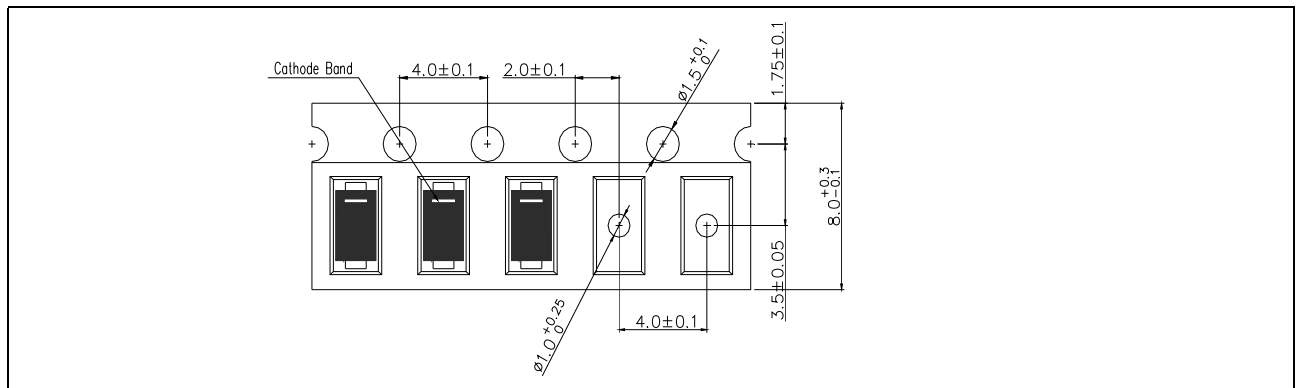
DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154



Soldering footprint



Package Information



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
CS1020FL Thur CS10100FL	SOD-123FL	Tape and reel	3000pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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