

Surface Mount Super Fast Recovery Rectifier Diode

Features

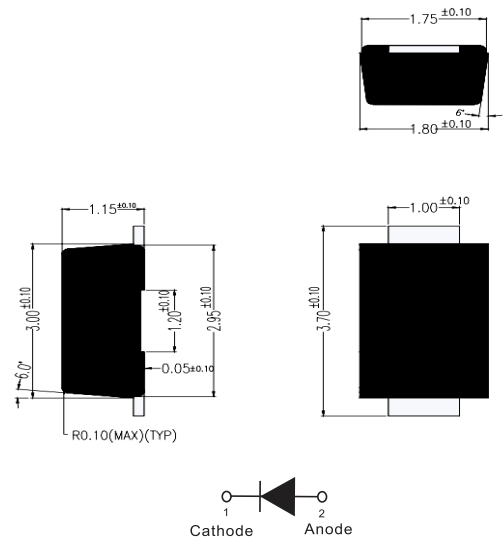
- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Low power loss, high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

Mechanical Data

- Case: SOD-123FL
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test

SOD-123FL

Unit : inch(mm)



Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	ES2D FL	ES2G FL	ES2J FL	Unit
Repetitive peak reverse voltage	V_{RRM}	200	400	600	V
Reverse voltage, total rms value	V_{RMS}	140	280	420	V
Maximum DC blocking voltage	V_{DC}	200	400	600	
Forward current	$I_{F(AV)}$	2			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	40			A
Junction temperature	T_J	- 55 to +150			$^{\circ}\text{C}$
Storage temperature	T_{STG}	- 55 to +150			$^{\circ}\text{C}$

Thermal Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Typ	Unit
Junction to Lead Thermal Resistance	$R_{\theta JL}$	81	$^{\circ}\text{C/W}$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	116	$^{\circ}\text{C/W}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Typ	MAX	Unit
Forward voltage ⁽¹⁾	$I_F = 2\text{A}, T_J = 25^{\circ}\text{C}$	V_F	-	1.0	V
			-	1.3	V
			-	1.7	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^{\circ}\text{C}$	I_R	-	5	μA
	$T_J = 125^{\circ}\text{C}$		-	100	μA
Junction capacitance	1 MHz, $V_R=4\text{V}$	C_J	15	-	pF
Reverse recovery time	$I_F=0.5\text{A}, I_R=1.0\text{A}$ $I_{RR}=0.25\text{A}$	t_{rr}	-	35	nS

Notes:

1. Pulse test with $PW=0.3\text{ ms}$
2. Pulse test with $PW=30\text{ ms}$



Characteristics Curves

Fig1. Forward Current Derating Curve

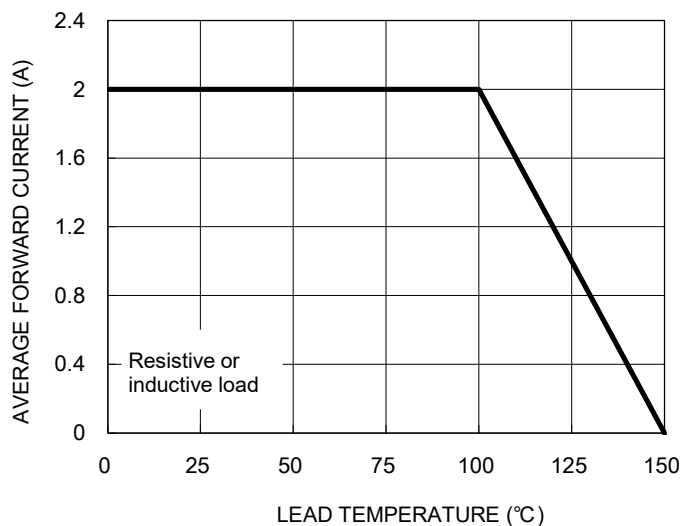


Fig2. Typical Junction Capacitance

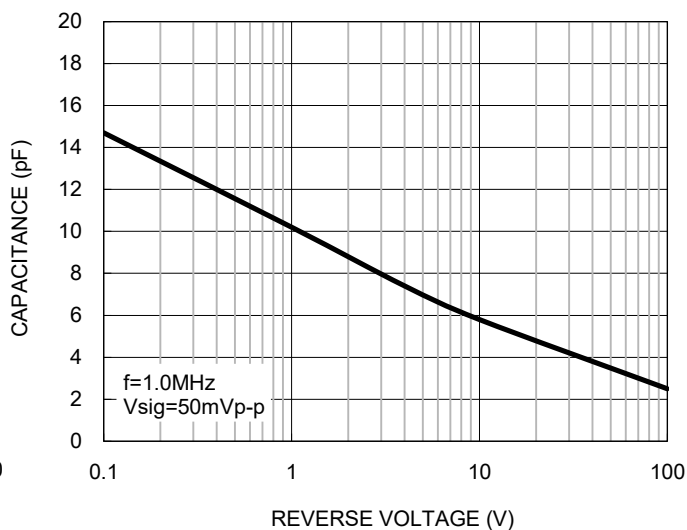


Fig3. Typical Reverse Characteristics

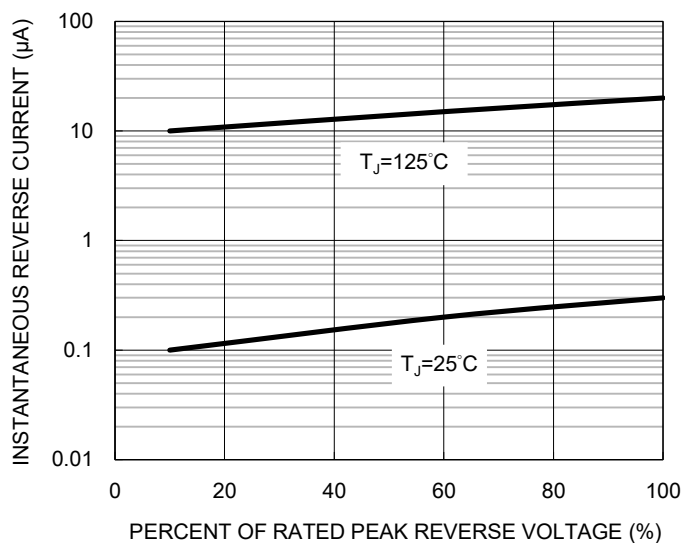


Fig4. Typical Forward Characteristics

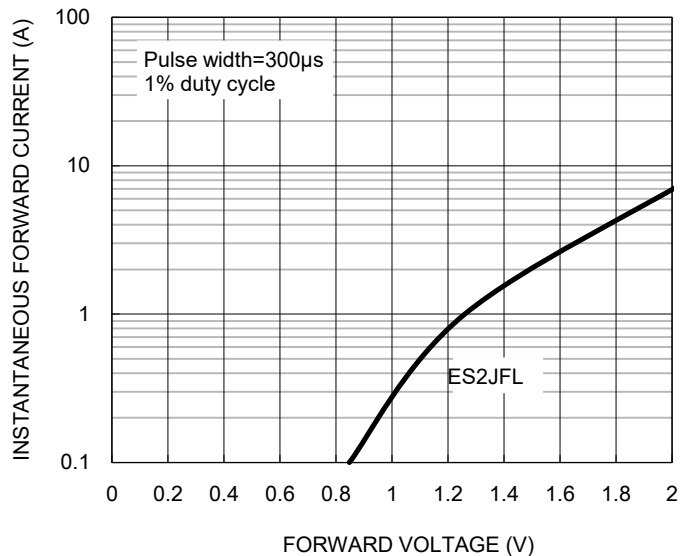


Fig5. Maximum Non-repetitive Forward Surge Current

