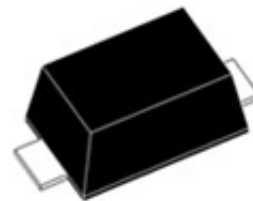


1A, 400V - 1000V Surface Mount Rectifier

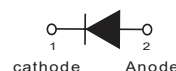
FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics



MECHANICAL DATA

- Case: SOD- 123FH
- 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
- Polarity: As marked
- Weight: 16 mg (approximately)



cathode Anode

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	EP1004TH	EP1006TH	EP1010TH	UNIT
Repetitive peak reverse voltage	V_{RRM}	400	600	1000	V
Reverse voltage, total rms value	V_{RMS}	280	420	700	V
Maximum DC blocking voltage	V_{DC}	400	600	1000	
Forward current	$I_{F(AV)}$	1			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 PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction to Lead Thermal Resistance	$R_{\theta JL}$	25	$^\circ\text{C/W}$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	85	$^\circ\text{C/W}$

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.0	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA
	$T_J = 125^\circ\text{C}$		-	50	μA
Junction capacitance	1 MHz, $V_R=4\text{V}$	C_J	7		pF

Notes:

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

Typical Characteristics

Fig. 1 Forward Current Derating Curve

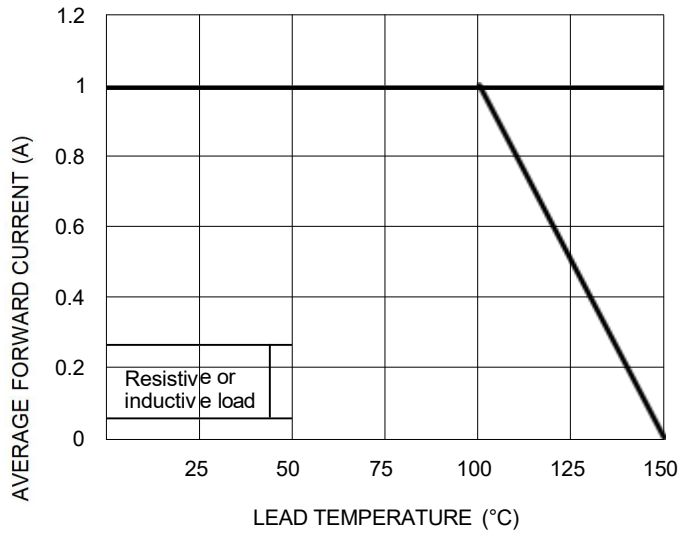


Fig. 2 Typical Junction Capacitance

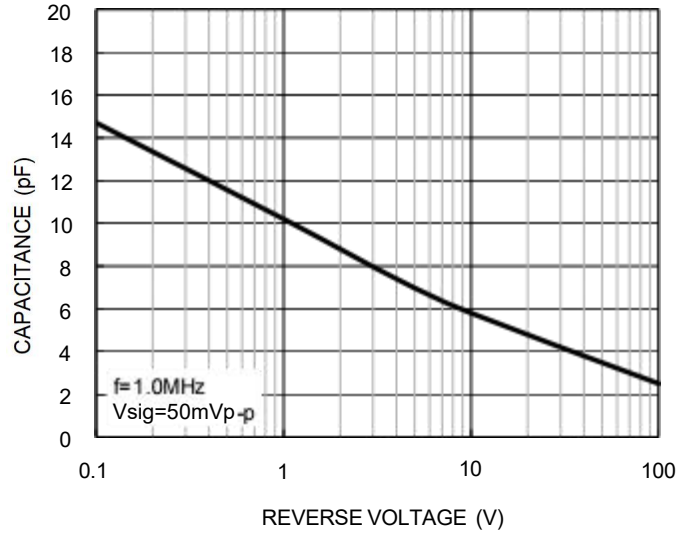


Fig. 3 Typical Reverse Characteristics

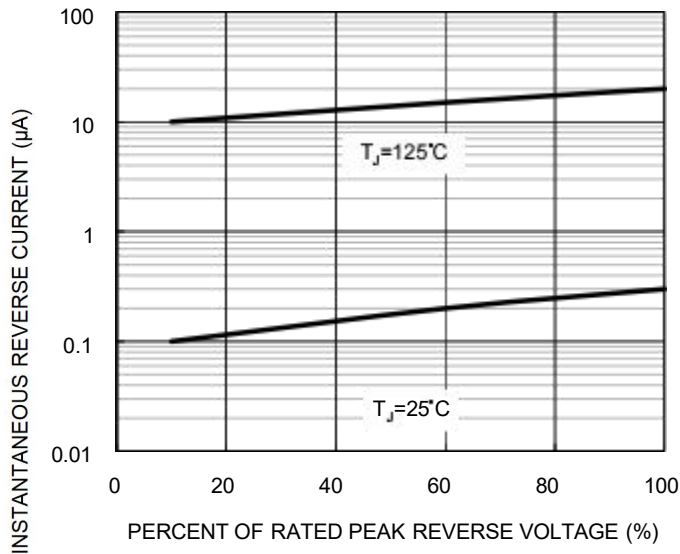


Fig. 4 Typical Forward Characteristics

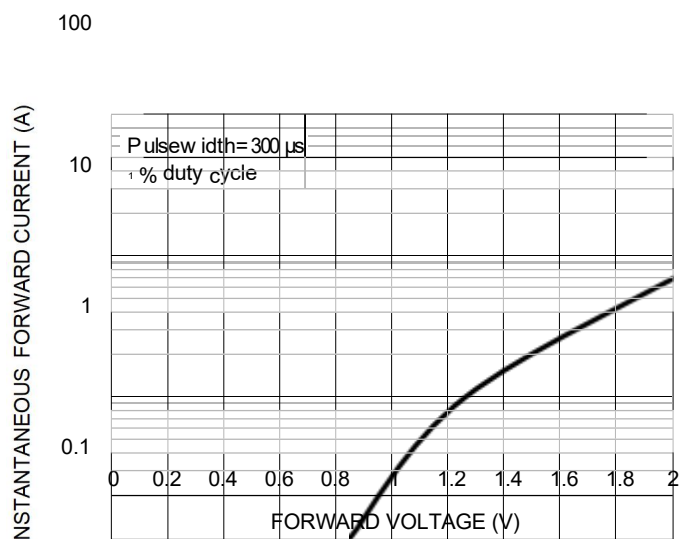
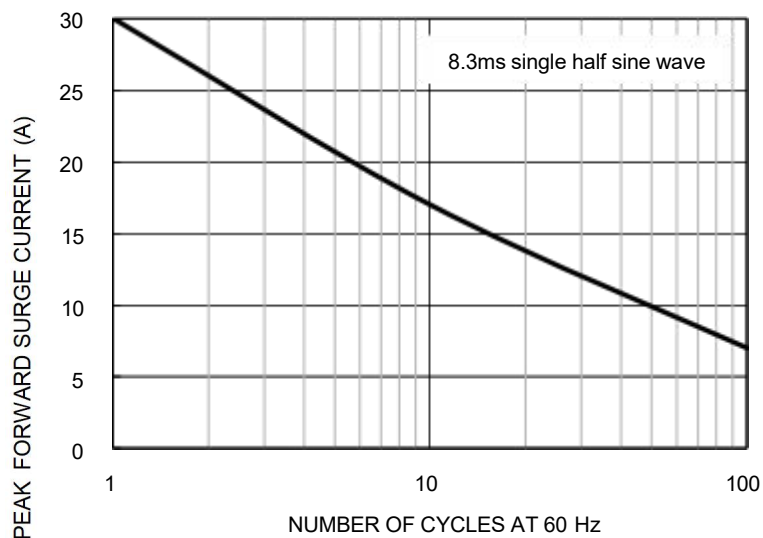


Fig. 5 Maximum Non-repetitive Forward Surge Current



SOD-123FH Package Outline Dimensions

