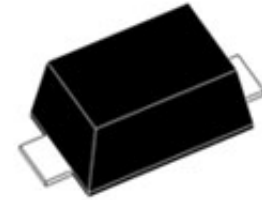


SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS

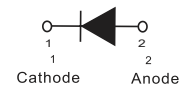
FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 20 11/65/EU and in accordance to WE EE 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-123FL
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whi sker test
- Polarity: Indicated by cath ode band
- Weight: 0.016 g (approx imately)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	EP2002	EP2004	EP2006	EP2008	EP2010	UNIT
Repetitive peak reverse voltage		V _{RRM}	200	400	600	800	1000	V
Reverse voltage, total rms value		V _{R(RMS)}	140	280	420	560	700	V
DC blocking voltage		V _{DC}	200	400	600	800	1000	V
Forward current		I _F	2					A
Surge peak forward current single half sine-wave superimposed on rated load	8.3 ms at T _A = 25°C	I _{FSM}	40					A
	1.0 ms at T _A = 25°C		100					A
Junction temperature		T _J	-55 to +150					°C
Storage temperature		T _{STG}	-55 to +150					°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	R _{θJL}	81	°C/W
Junction-to-ambient thermal resistance	R _{θJA}	116	°C/W
Junction-to-case thermal resistance	R _{θJC}	69	°C/W

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	I _F = 1A, T _J = 25°C	V _F	0.90	-	V
	I _F = 2A, T _J = 25°C		0.97	1.1	V
	I _F = 1A, T _J = 125°C		0.81	-	V
	I _F = 2A, T _J = 125°C		0.90	1.0	V
Reverse current @ rated V _R ⁽²⁾	T _J = 25°C	I _R	-	5	μA
	T _J = 125°C		-	100	μA
Junction capacitance	1 MHz, V _R =4.0V	C _J	10	-	pF

Notes:

(1) Pulse test with PW=0.3 ms (2) Pulse test with PW=30 ms

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

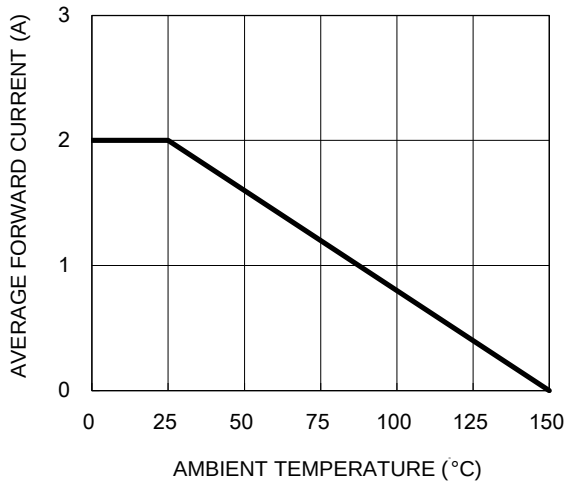


Fig.2 Typical Junction Capacitance

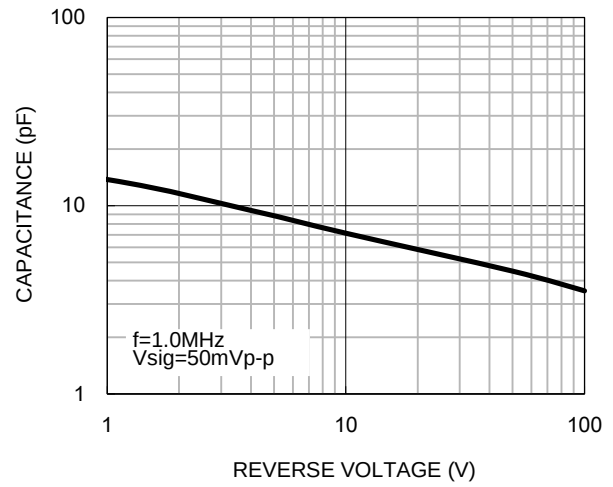


Fig.3 Typical Reverse Characteristics

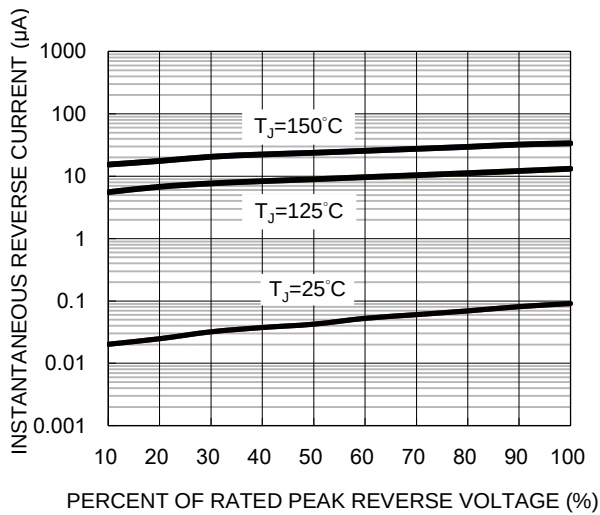


Fig.4 Typical Forward Characteristics

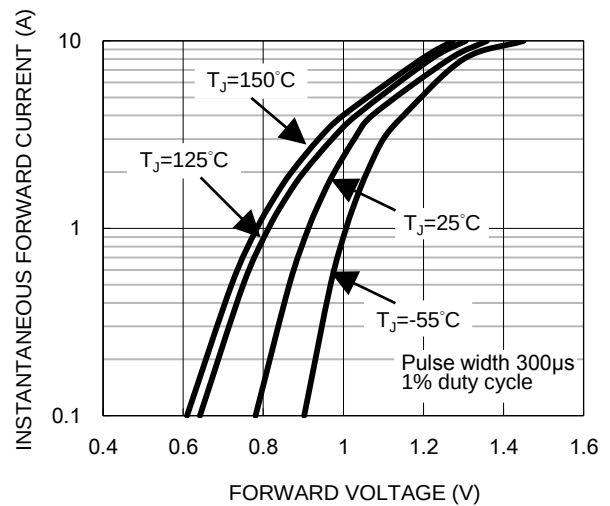
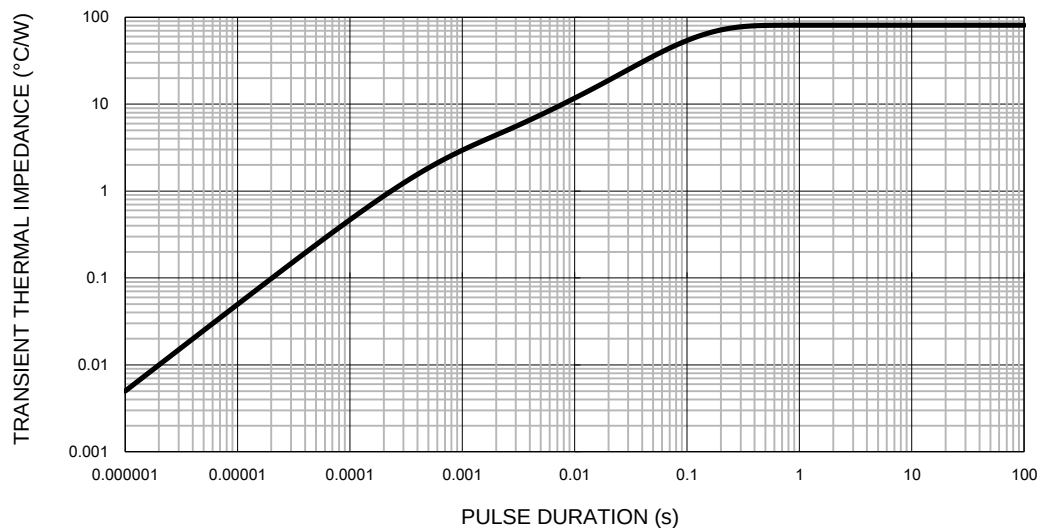
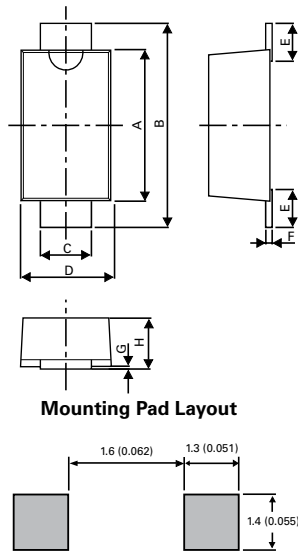


Fig.5 Typical Transient Thermal Impedance



SOD-123FH Package Outline Dimensions



Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	2.50	3.20	0.0984	0.1259
B	3.40	3.90	0.1339	0.1535
C	0.70	1.35	0.0275	0.0531
D	1.50	2.00	0.0591	0.0787
E	0.35	0.90	0.0138	0.0354
F	0.05	0.26	0.0020	0.0102
G	0.00	0.10	0.000	0.0039
H	0.70	1.35	0.0275	0.0531