Surface Mount UltraFast Recovery Rectifiers

Parameter	Value	Unit
V_{RRM}	50~1000	V
$I_{F(AV)}$	1.0	A

SOD-123FL

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- High efficiency

Applications

- For use in high-frequency rectification and free-wheeling applications in switching-mode converters and inverters for consumer electronics, computer systems, and telecommunications.

Absolute Maximum Ratings and Characteristics (at TJ = 25℃ unless otherwise specified)

Parameter	Symbol	U1A	U1B	U1D	U1G	U1J	U1K	U1M	Units
Maximum Repetitive 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 Tc = 125℃	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1A	V_F	1.0			1.3	1.65			V
Maximum DC Reverse Current Ta = 25℃ at Rated DC Blocking Voltage Ta =125 ℃	I_R	5 100							μA
Maximum Reverse Recovery Time（1）	t_{rr}	50				75			ns
Typical Junction Capacitance（2）	C_j	15							pF
Typical Thermal Resistance（3）	$R_{\theta JA}$	85							℃/W
Operating and Storage Temperature Range	T_j ,T_{stg}	-55 ~ +150							℃

Notes:

（1）Measured with IF=0.5A, IR =1A, Irr =0.25A .

（2）Measured at 1 MHz and applied reverse voltage of 4 VD.C

（3）P.C. B . mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas .

Typical characteristics

Fig.1 Forward Current Derating Curve

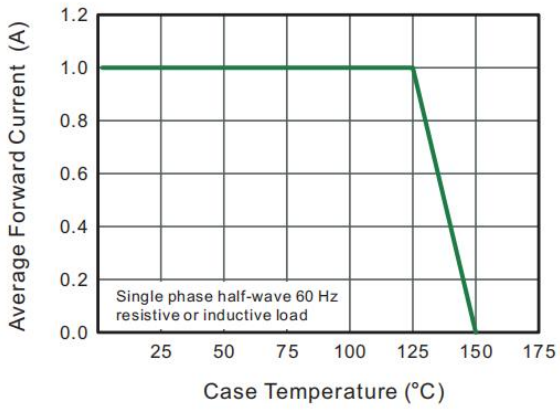


Fig.2 Typical Reverse Characteristics

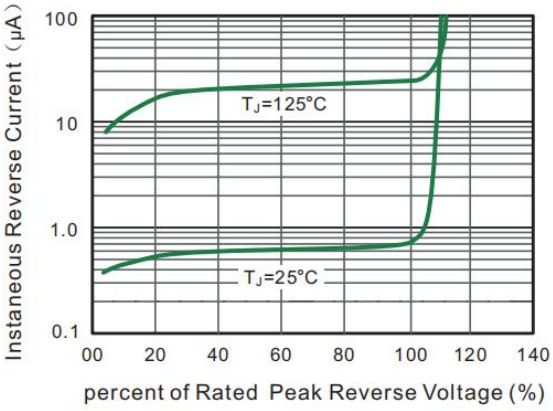


Fig.3 Typical Forward Characteristics

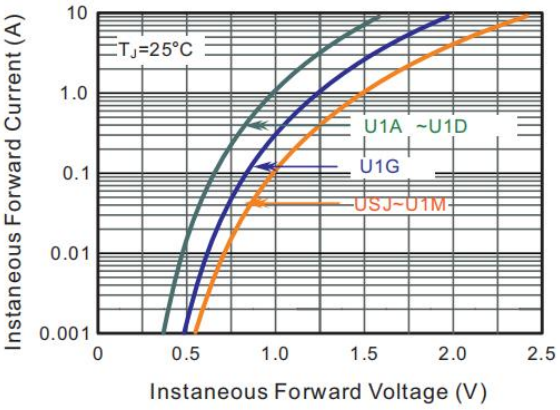


Fig.4 Maximum Non-Repetitive Peak Forward Surage Current

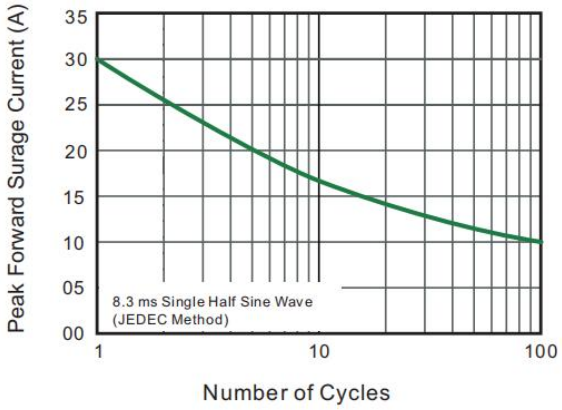


Fig.5- Typical Transient Thermal Impedance

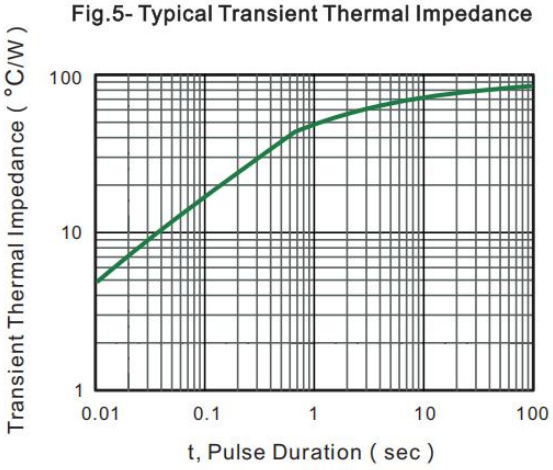
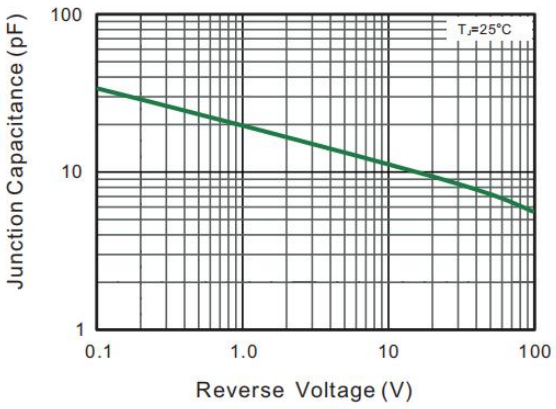


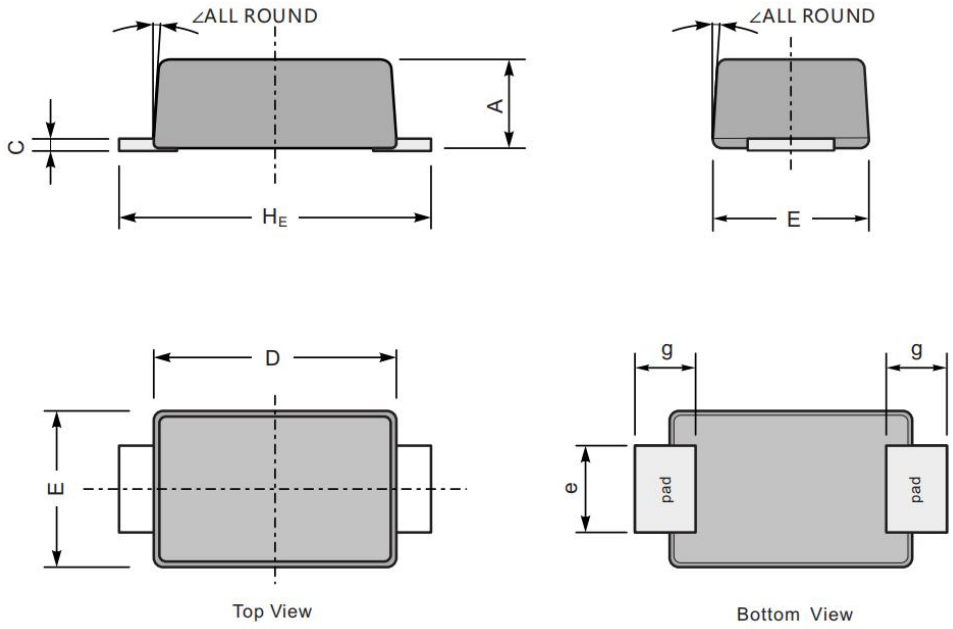
Fig.6 Typical Junction Capacitance



Package Outlines

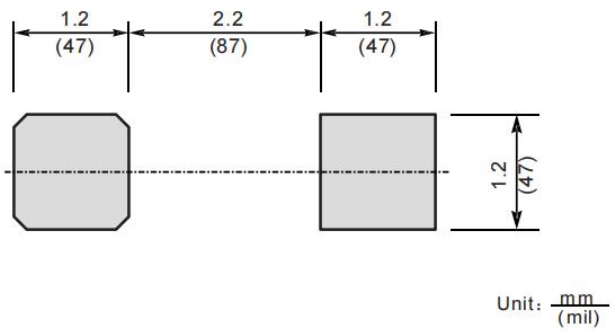
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.15	0.20	2.9	1.9	1.2	0.9	3.8	5°
	min	0.95	0.12	2.6	1.7	0.9	0.7	3.5	
mil	max	45	7.9	114	75	47	35	150	
	min	37	4.7	102	67	35	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
U1A	U1A
U1B	U1B
U1D	U1D
U1G	U1G
U1J	U1J
U1K	U1K
U1M	U1M

***Important Usage Information and Disclaimer**

The specifications of Zhuhai Hypersemi Co., Ltd. products are not guarantees of product characteristics. They reflect typical performance expected in standard applications, which may vary with specific uses. Users must conduct prior testing for their applications and make necessary adjustments.

Users are responsible for the safety of applications utilizing our products and must implement adequate safety measures to prevent physical injury, fire, or other risks in case of product failure. It is the user's duty to ensure that application designs comply with all applicable laws and standards. Our products must not be used in any applications where a product failure could reasonably result in personal injury, unless specifically authorized in a signed document by Zhuhai Hypersemi Co., Ltd.

No representations or warranties are made regarding the accuracy or completeness of this information, including any claims of non-infringement of third-party intellectual property rights. Zhuhai Hypersemi Co., Ltd. assumes no liability for any applications or uses of its products and does not grant any licenses to its intellectual property rights or those of others. We also make no claims regarding non-infringement of third-party intellectual property rights that may arise from applications.

Due to technical requirements, our products may contain hazardous substances. For details, please contact your nearest sales office. This document replaces all previous information and may be updated. We reserve the right to make changes.