1A, 200V - 400V Ultra Fast Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Ideal for automated placement
- Ultra fast recovery time for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

- DC to DC converter
- Automotive application
- Car lighting
- Snubber
- Freewheeling application

MECHANICAL DATA

- Case: SOD-123W
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.016g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	1	A
V_{RRM}	200 - 400	V
I_{FSM}	30	A
$T_{J\ MAX}$	150	°C
Package	SOD-123W	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

SOD-123W

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER	**SYMBOL**	**UF1DLWH**	**UF1GLWH**	**UNIT**
Repetitive peak reverse voltage	V_{RRM}	200	400	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	V
Forward current	I_F	1		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30		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	$R_{\Theta JL}$	28	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	88	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	38	°C/W

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

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	UF1DLWH	I_F = 1A, T_J = 25°C	V_F	-	0.95	V
	UF1GLWH			-	1.25	V
Reverse current @ rated V_R(2)		T_J = 25°C	I_R	-	1	μA
		T_J = 125°C		-	50	μA
Junction capacitance	UF1DLWH	1MHz, V_R = 4.0V	C_J	40	-	pF
	UF1GLWH			25	-	pF
Reverse recovery time		I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	-	20	ns

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING	DEVICE MARKING
UF1DLWH	SOD-123W	10,000 / Tape & Reel	UDLW
UF1GLWH	SOD-123W	10,000 / Tape & Reel	UGLW

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

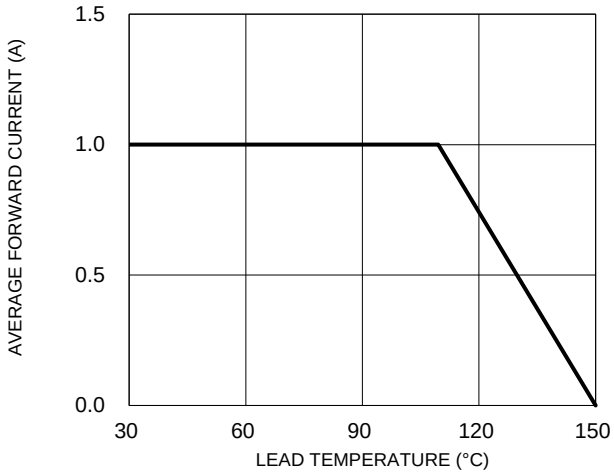


Fig.2 Typical Junction Capacitance

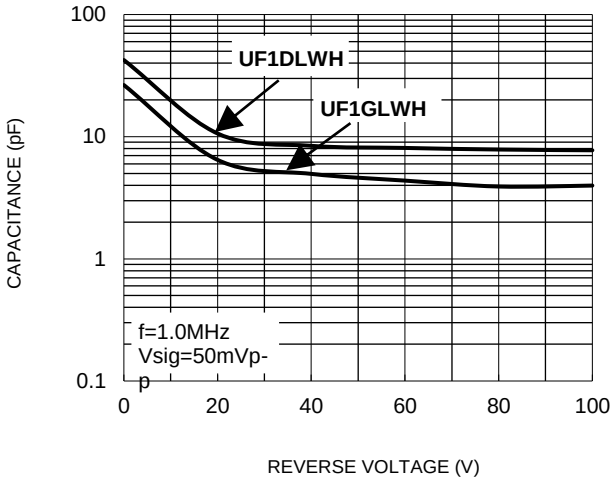


Fig.3 Typical Reverse Characteristics

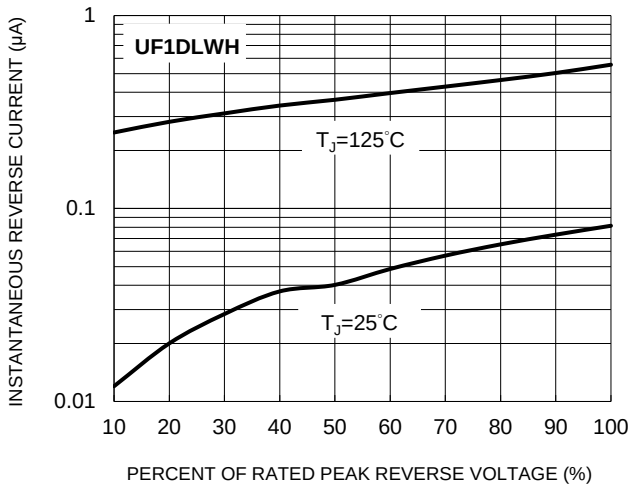


Fig.4 Typical Forward Characteristics

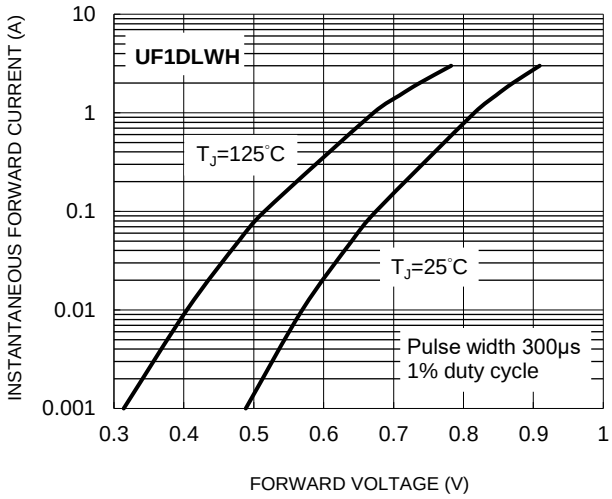


Fig.5 Typical Reverse Characteristics

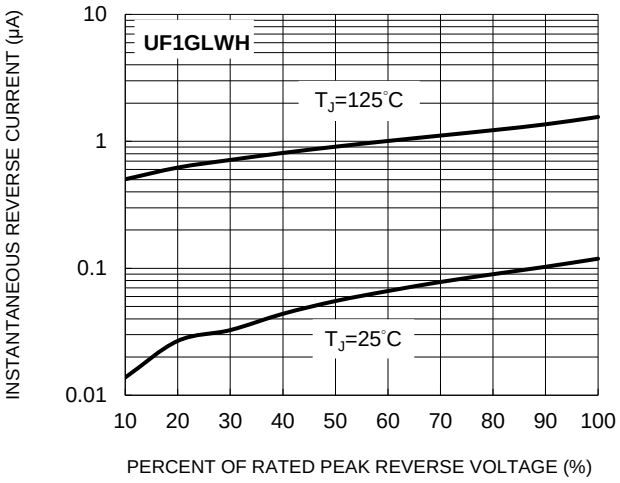
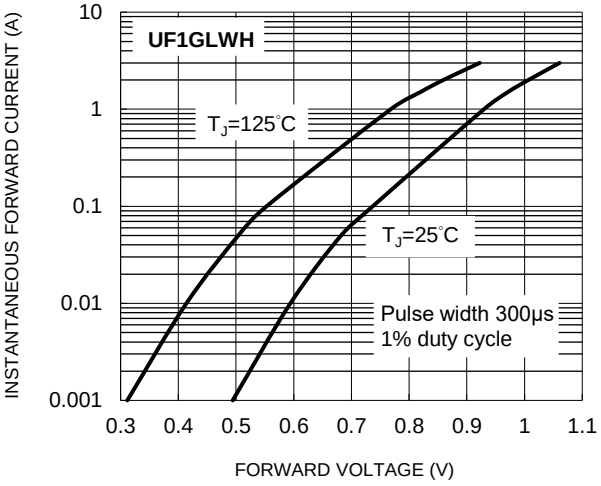
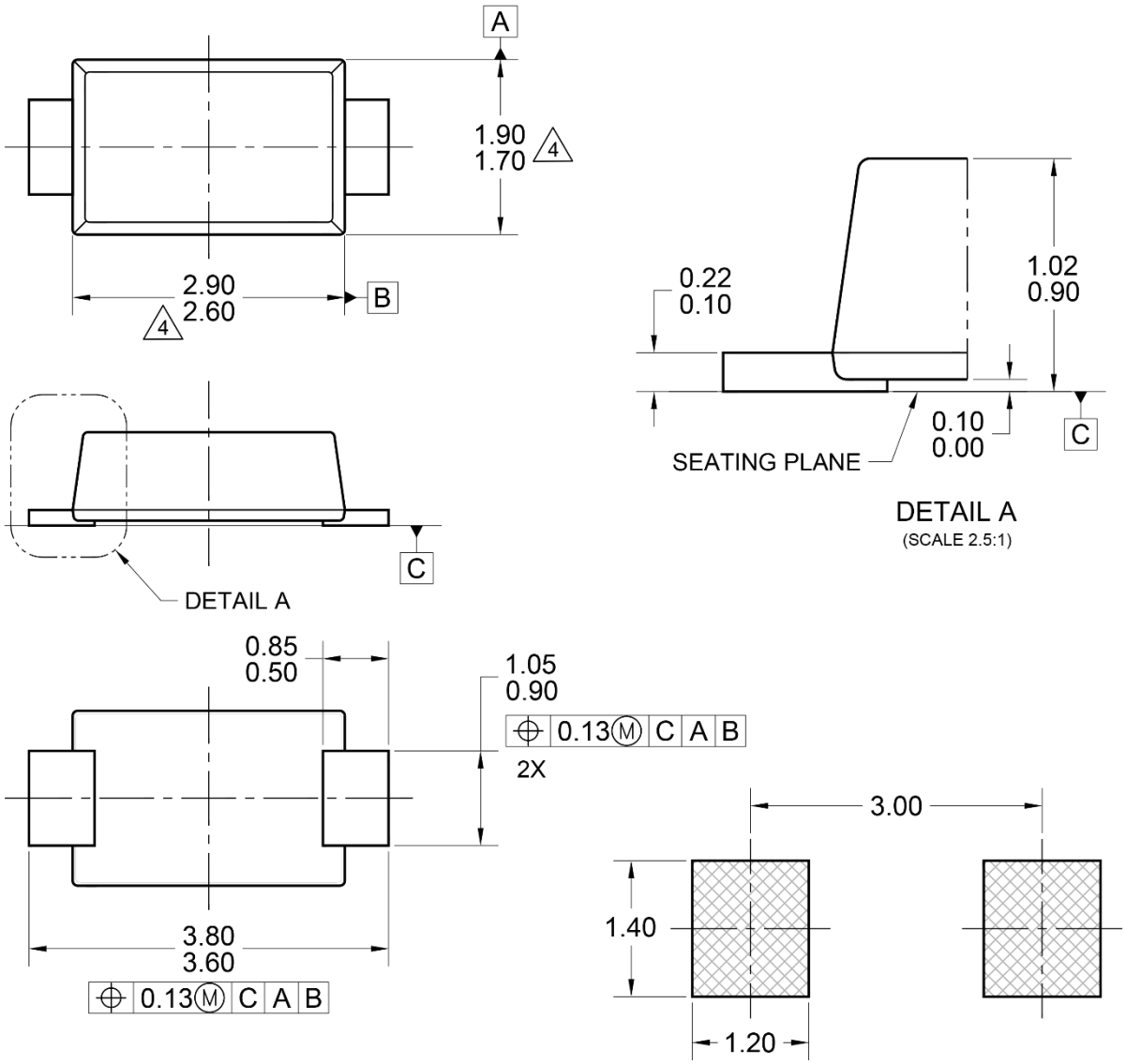


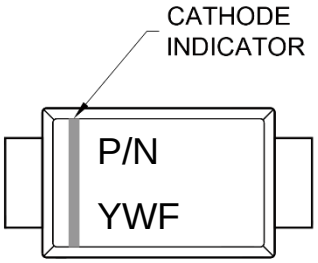
Fig.6 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS

SOD-123W





MARKING DIAGRAM

P/N = Device marking
YW = Date code
F = Factory code

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-2009.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-219, VARIATION AB, ISSUE C.
4. MODED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. DWG NO. REF: HQ2SD07-SOD123W-037 REV A.

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