

3A, 45V - 60V Trench Schottky Rectifiers

FEATURES

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Lower power loss/ high efficiency
- High forward surge capability
- Halogen-free according to IEC 61249-2-21
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC


SOD-123W


MECHANICAL DATA

Case: SOD-123W

Molding compound: UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per J-STD-002

Meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 16 mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)								
PARAMETER		SYMBOL	TSSW3U45		TSSW3U60		UNIT	
Marking code			W3U45		W3U60			
Maximum repetitive peak reverse voltage		V_{RRM}	45		60		V	
Working Peak Reverse Voltage		V_{RWM}						
DC Blocking Voltage		V_{RM}						
Maximum RMS voltage		V_{RMS}	32	42		V		
Maximum average forward rectified current		$I_{F(AV)}$	3				A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	50				A	
			Typ	Max	Typ	Max		
Instantaneous forward voltage (Note 1)	$I_F = 1\text{A}$	$T_J = 25^\circ\text{C}$	V_F	0.33	-	0.39	-	V
	$I_F = 3\text{A}$			0.40	0.47	0.49	0.58	
	$I_F = 1\text{A}$	$T_J = 125^\circ\text{C}$		0.24	-	0.28	-	
	$I_F = 3\text{A}$			0.34	0.44	0.43	0.52	
Maximum Instantaneous reverse current at rated reverse voltage		$T_J = 25^\circ\text{C}$	1000				μA	
		$T_J = 125^\circ\text{C}$	50				mA	
Typical thermal resistance		$R_{\theta JL}$ $R_{\theta JA}$	20 75				$^\circ\text{C/W}$	
Operating junction temperature range		T_J	- 55 to +150				$^\circ\text{C}$	
Storage temperature range		T_{STG}	- 55 to +150				$^\circ\text{C}$	

Note 1: Pulse test with pulse width=300 μs , 1% duty cycle

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSSW3Uxx (Note 1, 2)	H	RV	G	SOD-123W	3,000 / 7" Plastic reel
		RQ			10,000 / 13" Paper reel

Note 1: "x" defines voltage from 45V (TSSW3U45) to 60V (TSSW3U60)

Note 2: Whole series with green compound (halogen-free)

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSSW3U45HRVG	TSSW3U45	H	RV	G	AEC-Q101 qualified Green compound

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

FIG.1 FORWARD CURRENT DERATING CURVE

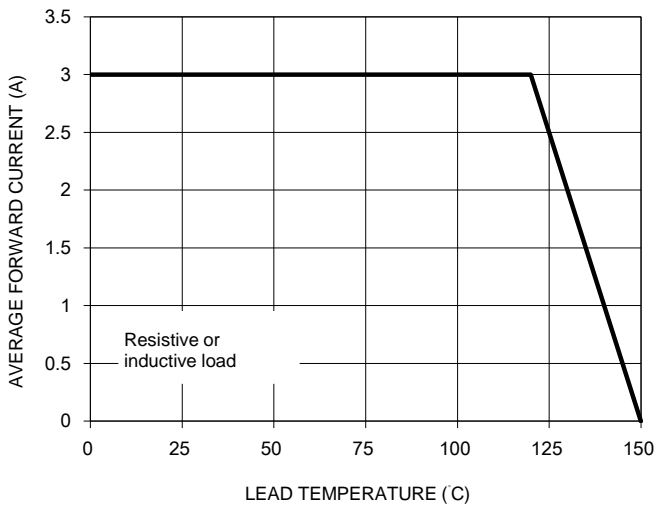


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

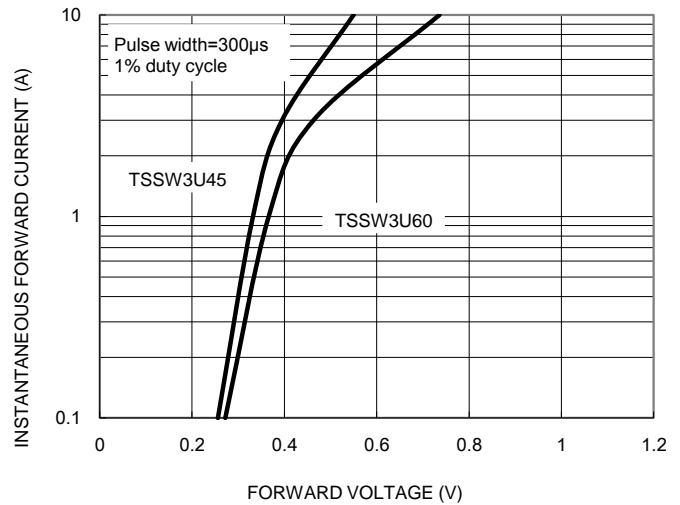


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

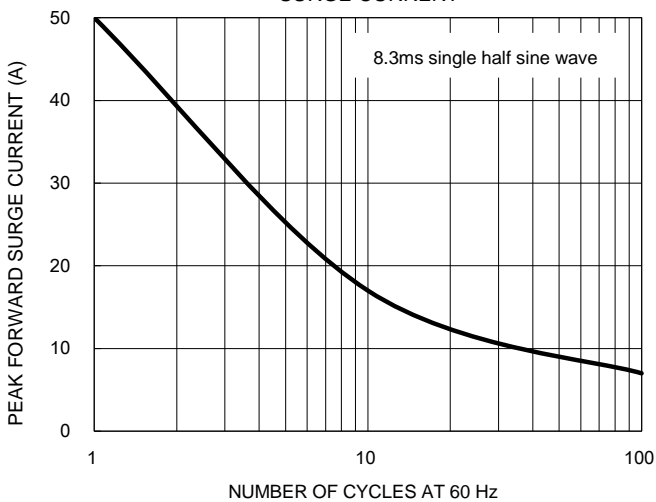


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

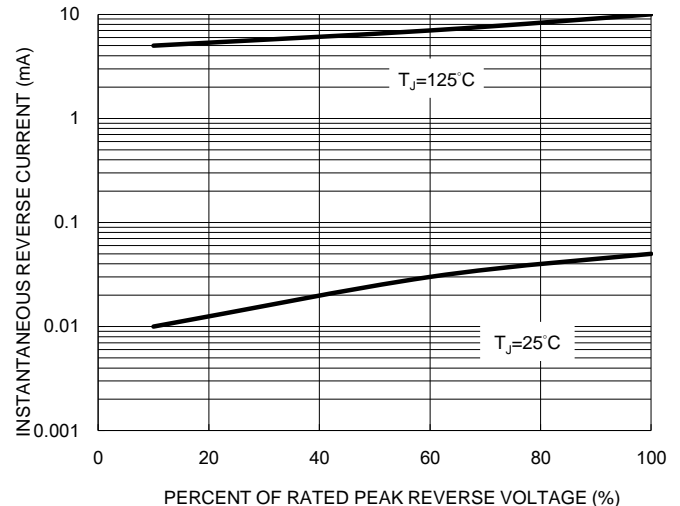
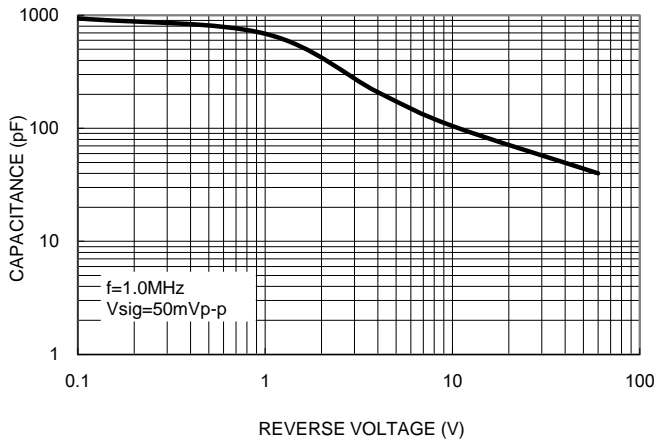
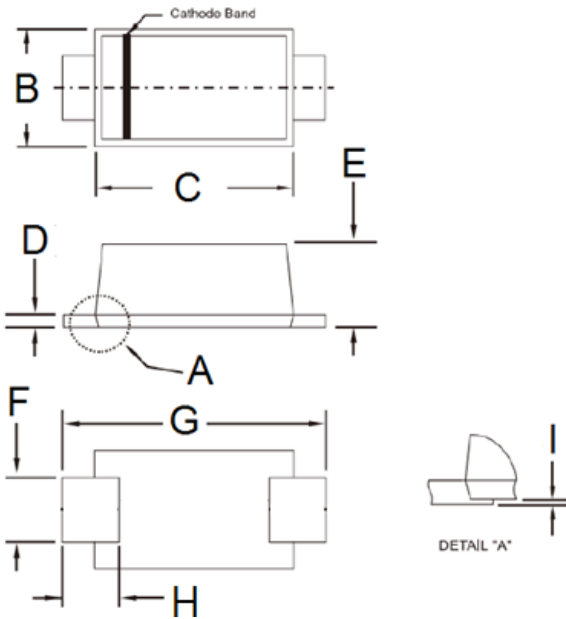


FIG. 5 TYPICAL JUNCTION CAPACITANCE



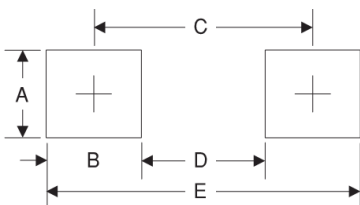
PACKAGE OUTLINE DIMENSIONS

SOD-123W



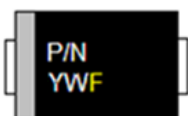
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
B	1.70	1.90	0.067	0.075
C	2.60	2.90	0.102	0.114
D	0.10	0.22	0.004	0.009
E	0.90	1.02	0.035	0.040
F	0.90	1.05	0.035	0.041
G	3.60	3.80	0.142	0.150
H	0.50	0.85	0.020	0.033
I	0.00	0.10	0.000	0.004

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.4	0.055
B	1.2	0.047
C	3.1	0.122
D	1.9	0.075
E	4.3	0.169

MARKING DIAGRAM



- P/N = Marking Code
- YW = Date Code
- F = Factory Code

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