

## 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 <sub>A</sub> =25°C unless otherwise noted)										
PARAMETER				SYMBOL	TSSW3U45		TSSW3U60		UNIT	
Marking code					W3U45		W3U60			
Maximum repetitive peak reverse voltage				V <sub>RRM</sub>	45		60		V	
Working Peak Reverse Voltage				V <sub>RWM</sub>						
DC Blocking Voltage				V <sub>RM</sub>						
Maximum RMS voltage				V <sub>RMS</sub>	32		42		V	
Maximum average forward rectified current				I <sub>F(AV)</sub>	3				A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load				I <sub>FSM</sub>	50				A	
					Typ	Max	Typ	Max		
Instantaneous forward voltage (Note 1)			I <sub>F</sub> = 1A	T <sub>J</sub> = 25°C	V <sub>F</sub>	0.33	-	0.39	-	V
			I <sub>F</sub> = 3A			0.40	0.47	0.49	0.58	
			I <sub>F</sub> = 1A	T <sub>J</sub> = 125°C		0.24	-	0.28	-	
			I <sub>F</sub> = 3A			0.34	0.44	0.43	0.52	
Maximum Instantaneous reverse current at rated reverse voltage			T <sub>J</sub> = 25°C T <sub>J</sub> = 125°C		I <sub>R</sub>	1000			µA	
						50			mA	
Typical thermal resistance				R <sub>θJL</sub> R <sub>θJA</sub>	20 75				°C/W	
Operating junction temperature range				T <sub>J</sub>	- 55 to +150				°C	
Storage temperature range				T <sub>STG</sub>	- 55 to +150				°C	

Note 1: Pulse test with pulse width=300 $\mu\text{s}$ , 1% duty cycle

**ORDERING INFORMATION**

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

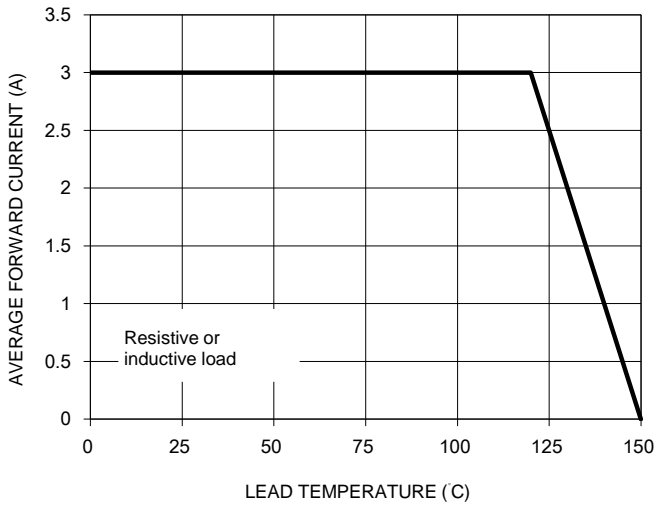


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

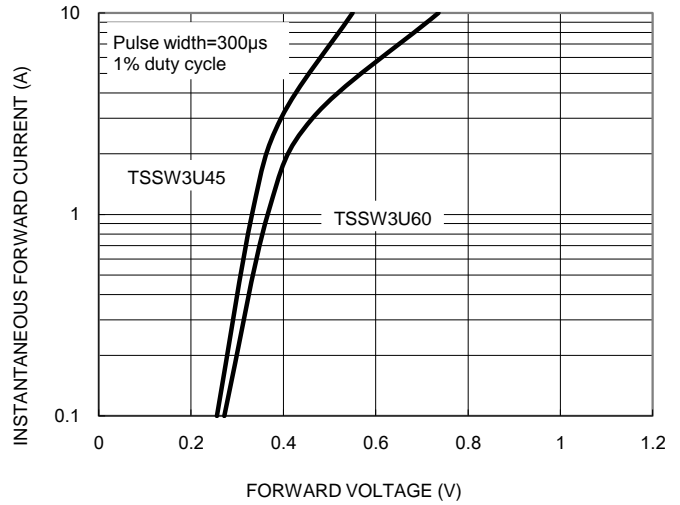


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

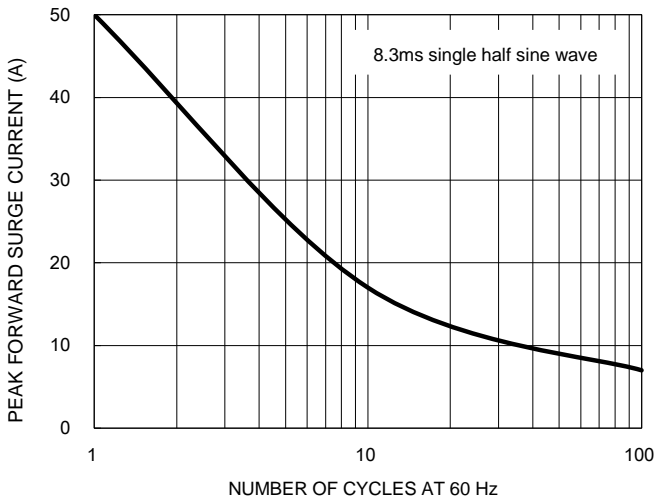


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

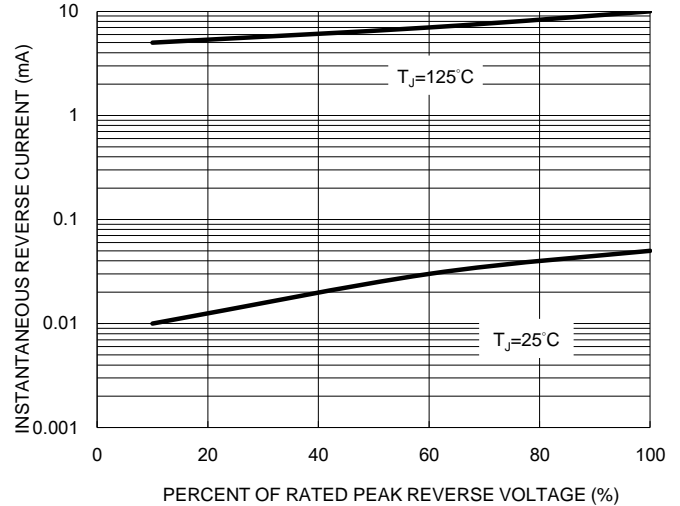
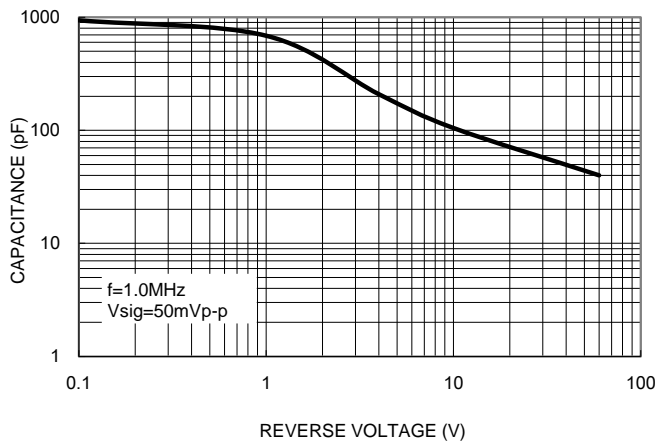
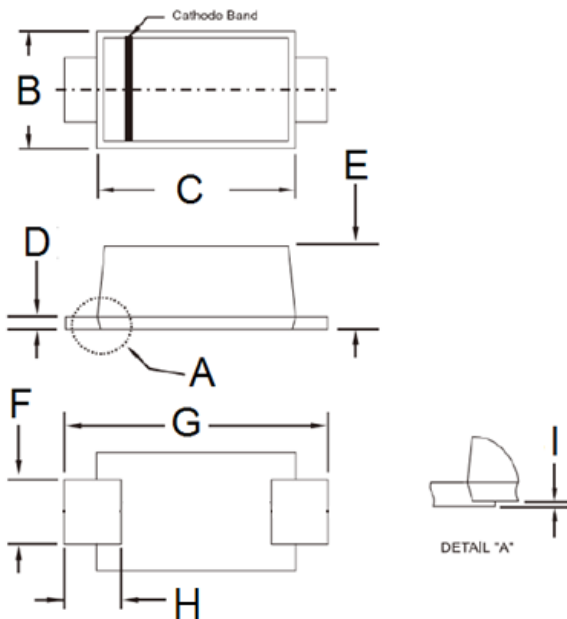


FIG. 5 TYPICAL JUNCTION CAPACITANCE



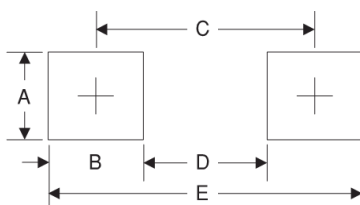
## PACKAGE OUTLINE DIMENSIONS

### SOD-123W



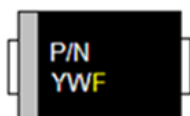
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
B	1.70	1.90	0.067	0.075
C	2.60	2.90	0.102	0.114
D	0.10	0.22	0.004	0.009
E	0.90	1.02	0.035	0.040
F	0.90	1.05	0.035	0.041
G	3.60	3.80	0.142	0.150
H	0.50	0.85	0.020	0.033
I	0.00	0.10	0.000	0.004

## 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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