

Small Signal Product

## Surface Mount, Switching Schottky Barrier Diode

### FEATURES

- Low forward voltage drop
- Surface mount device type
- Moisture sensitivity level (MSL): 1
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


**SOD-123**


### MECHANICAL DATA

- Case: Bend lead SOD-123 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guarantee
- High temperature soldering guaranteed : 260°C/10s
- Polarity: Indicated by cathode band
- Weight: 0.01 g (approximately)



<b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	BAT42W	BAT43W	UNIT	
Repetitive Peak Reverse Voltage	$V_{RRM}$	30		V	
Working Peak Reverse Voltage	$V_{RWM}$				
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	21		V	
Forward Continue Current (Note 1)	$I_{FM}$	200		mA	
Repetitive Peak Forward Current @ $t < 1.0\text{s}$	$I_{FM}$	500		mA	
Non-Repetitive Peak Forward Surge Current @ $t < 1.0\text{ms}$	$I_{FSM}$	4		A	
Repetitive Peak Forward Surge Current	$I_{FRM}$	500		mA	
Power Dissipation (Note 1)	$P_d$	200		mW	
Maximum Forward Voltage	$V_F$	$I_F=200\text{mA}$	1.0	V	
		$I_F=2\text{mA}$	-		0.33
		$I_F=10\text{mA}$	0.40		-
		$I_F=15\text{mA}$	-		0.45
		$I_F=50\text{mA}$	0.65		-
Peak Reverse Current @ $V_R=25\text{V}$ & $T_J=25^\circ\text{C}$	$I_R$	500		nA	
Junction Capacitance $V_R=1\text{V}$ , $f=1.0\text{MHz}$	$C_J$	10		pF	
Reverse Recovery Time (Note 2)	$t_{rr}$	5		ns	
Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	625		$^\circ\text{C}$	
Operating Temperature Range	$T_J$	-55 to +125		$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-55 to +125		$^\circ\text{C}$	

Notes: 1. Valid provided that terminals are kept at ambient temperature.

 Notes: 2. Test conditions :  $I_F=10\text{mA}$ ,  $I_R=10\text{mA}$ ,  $R_L=100\Omega$ ,  $I_{RR}=1\text{mA}$

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**RATINGS AND CHARACTERISTICS CURVES**

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

Fig.1 Typical Forward Characteristics

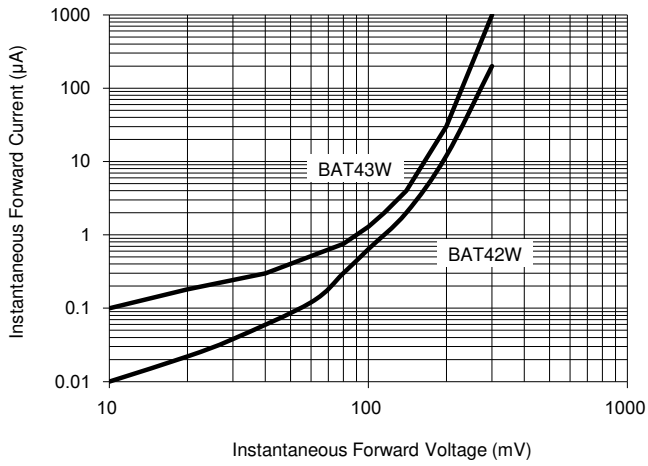


Fig. 2 Typical Forward Characteristics

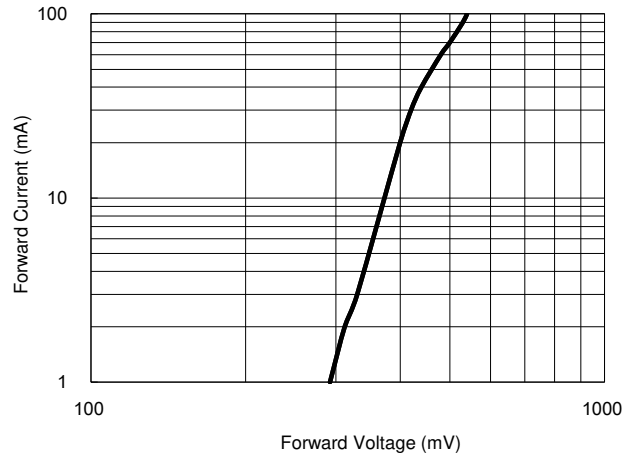


Fig. 3 Typical Reverse Characteristics

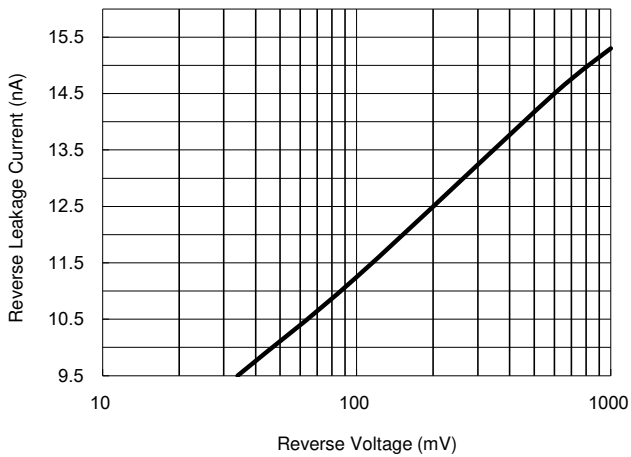
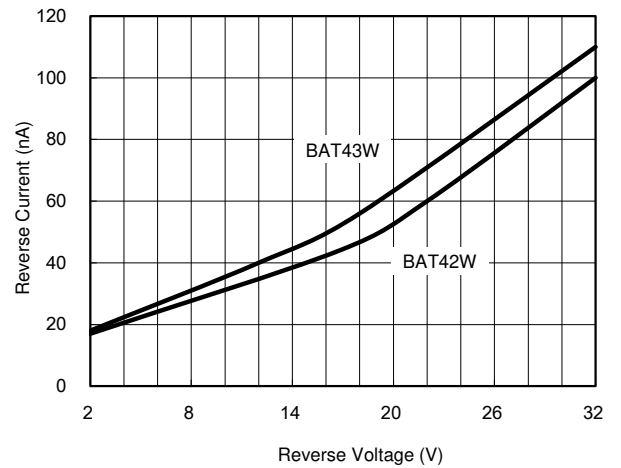


Fig. 4 Typical Reverse Characteristics



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<b>ORDERING INFORMATION</b>				
<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
BAT4xW (Note 1&2)	RH	G	SOD-123	3K / 7" Reel

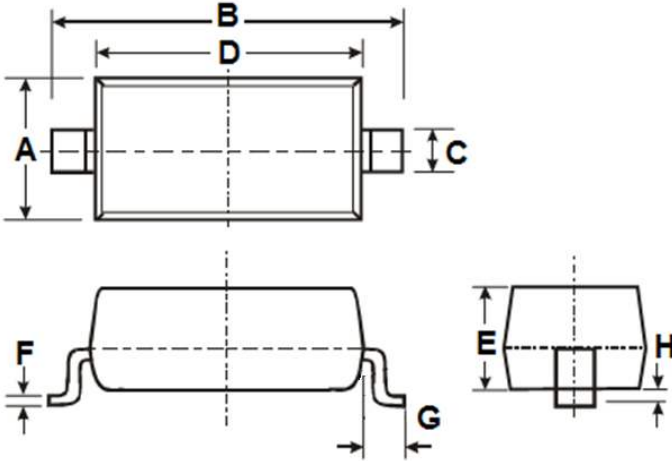
Note 1: "x" is Device Code from "2" - "3".

Note 2: Whole series with green compound

<b>EXAMPLE</b>				
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
BAT42W RHG	BAT42W	RH	G	Green compound

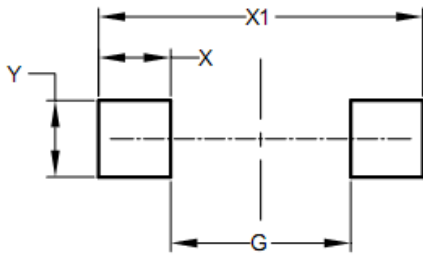
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**PACKAGE OUTLINE DIMENSIONS**  
SOD-123



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

**SUGGEST PAD LAYOUT**



DIM.	Unit (mm)		Unit (inch)	
	Min	Min	Min	Min
G	2.25		0.089	
X	0.90		0.035	
X1	4.05		0.159	
Y	0.95		0.037	

**MARKING**

Part No.	Marking
BAT42W	S7
BAT43W	S8

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