

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)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ 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	$I_F=200\text{mA}$	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

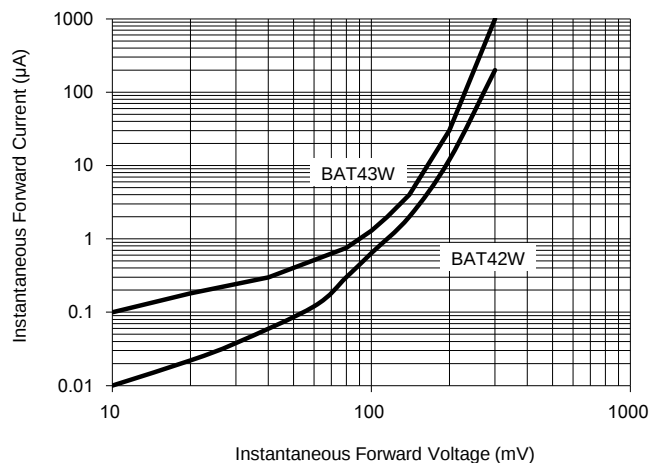


Fig. 2 Typical Forward Characteristics

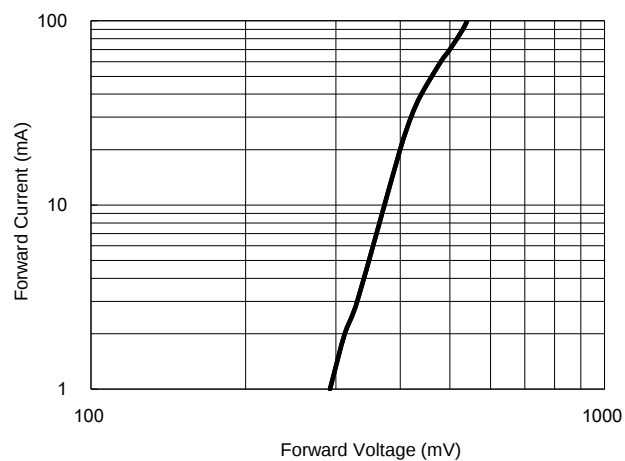


Fig. 3 Typical Reverse Characteristics

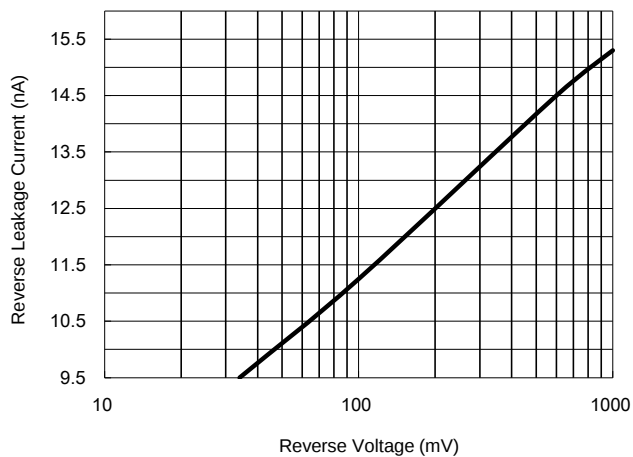
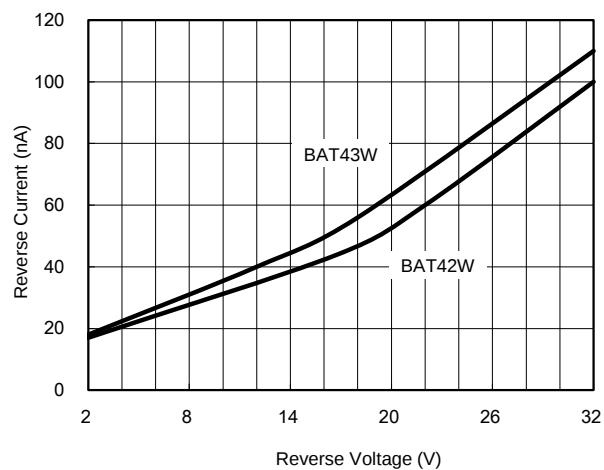


Fig. 4 Typical Reverse Characteristics



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

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

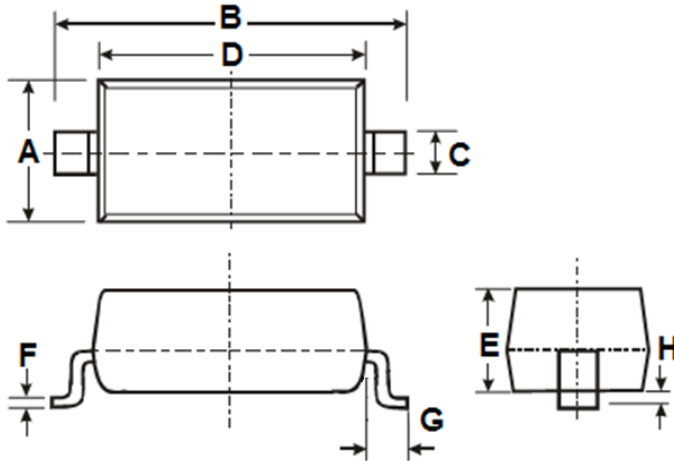
Note 2: Whole series with green compound

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

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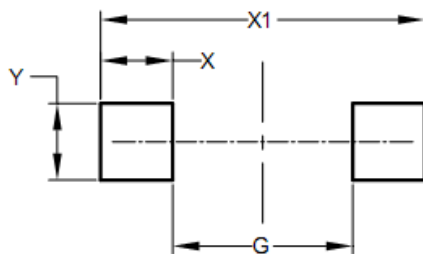
PACKAGE OUTLINE DIMENSIONS

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
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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