

100mA, 30V Schottky Barrier Diode

FEATURES

- Low forward voltage
- Surface mount device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Adapters
- For switching power supply
- Low stored charge
- Inverter

MECHANICAL DATA

- Case: SOD-123
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 11.00 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	100	mA
V_{RRM}	30	V
V_F at $I_F=100mA$	1	V
$T_{J\ MAX}$	125	°C
Package	SOD-123	



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

PARAMETER	SYMBOL	BAT54GW	UNIT
Marking code on the device		L9	
Power dissipation	P_D	500	mW
Reverse voltage	V_R	30	V
Forward current	I_F	100	mA
Repetitive peak forward current	I_{FRM}	300	mA
Non-repetitive peak forward surge current @ 8.3ms single half sine wave	I_{FSM}	600	mA
Junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +125	°C

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

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 0.1\text{mA}$, $T_J = 25^\circ\text{C}$	V_F	-	0.24	V
	$I_F = 1.0\text{mA}$, $T_J = 25^\circ\text{C}$			0.32	
	$I_F = 10\text{mA}$, $T_J = 25^\circ\text{C}$			0.40	
	$I_F = 30\text{mA}$, $T_J = 25^\circ\text{C}$			0.50	
	$I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$			1.00	
Reverse voltage	$I_R = 100\text{ }\mu\text{A}$, $T_J = 25^\circ\text{C}$	V_R	30	-	V
Reverse current ⁽²⁾	$V_R = 25\text{ V}$, $T_J = 25^\circ\text{C}$	I_R	-	2	μA
Total capacitance	$f=1\text{ MHz}$, $V_R=1\text{V}$	C_T	-	10	pF
Reverse recovery time	$I_F = 10\text{mA}$, $I_R = 10\text{mA}$ to 1mA , $R_L = 100\Omega$	t_{rr}	-	5	ns

Notes:

1. Pulse test with $PW=0.3\text{ ms}$
2. Pulse test with $PW=30\text{ ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
BAT54GW RHG	SOD-123	3K / 7" Reel

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

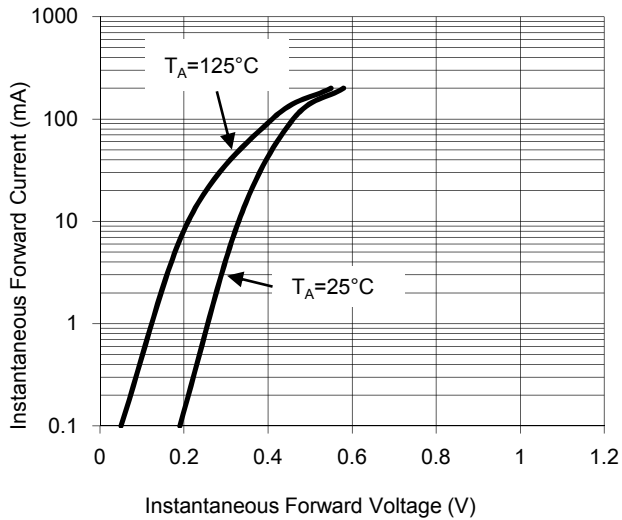


Fig.2 Typical Reverse Characteristics

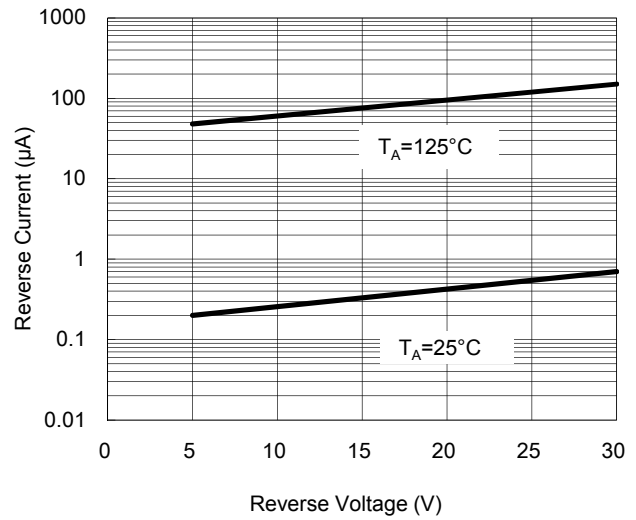


Fig.3 Typical Capacitance Characteristics

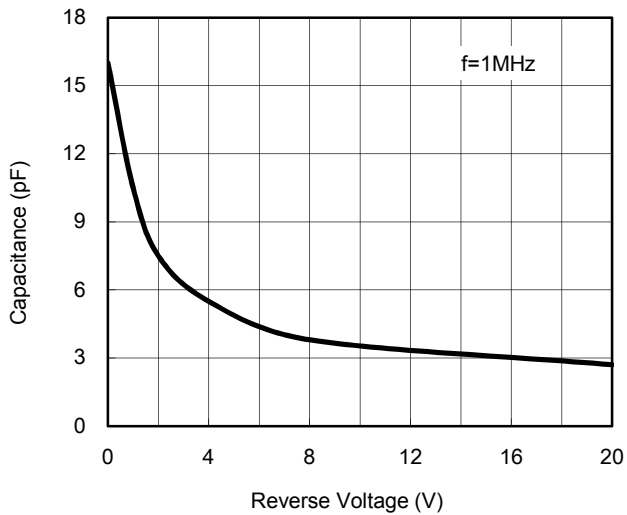
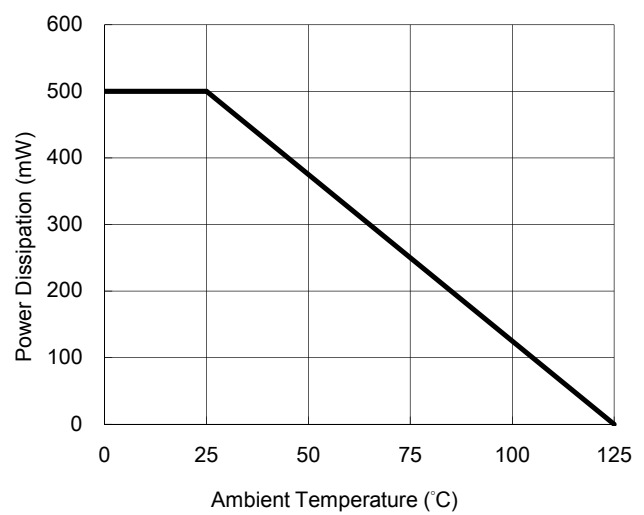
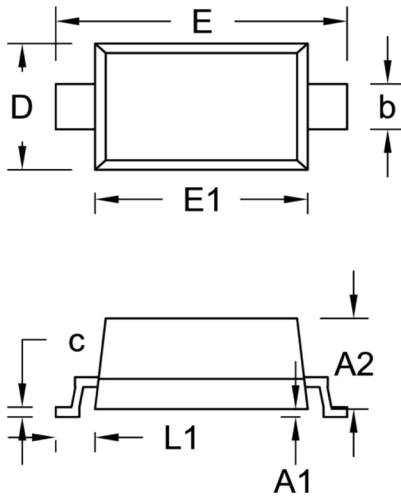


Fig.4 Power Derating Curve



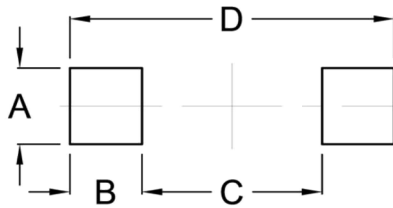
PACKAGE OUTLINE DIMENSION

SOD-123



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A1	-	0.10	-	0.004
A2	0.95	1.35	0.037	0.053
b	0.45	0.70	0.018	0.028
c	0.05	0.15	0.002	0.006
D	1.40	1.80	0.055	0.071
E	3.55	3.85	0.140	0.152
E1	2.55	2.85	0.100	0.112
L1	0.50 (REF)		0.020 (REF)	

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.95	0.037
B	0.90	0.035
C	2.25	0.089
D	4.05	0.159

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