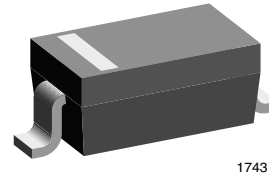


Small Signal Schottky Diode

Features

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



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Mechanical Data

Case: SOD-123

Weight: approx. 10.3 mg

Packaging codes/options:

GS18/10k per 13" reel (8 mm tape), 10k/box

GS08/3k per 7" reel (8 mm tape), 15k/box

Parts Table

Part	Ordering code	Type marking	Remarks
BAT54W-V	BAT54W-V-GS18 or BAT54W-V-GS08	L4	Tape and reel

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward continuous current		I_F	200 ¹⁾	mA
Repetitive peak forward current	$t_p < 1\text{ s}, \delta < 0.5$	I_{FRM}	300 ¹⁾	mA
Surge forward current	$t_p < 10\text{ ms}$	I_{FSM}	600 ¹⁾	mA
Power dissipation ¹⁾		P_{tot}	150 ¹⁾	mW

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	650 ¹⁾	K/W
Maximum junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	tested with 100 μA pulses	$V_{(BR)}$	30			V
Leakage current ¹⁾	$V_R = 25\text{ V}$	I_R			2	μA
Forward voltage ¹⁾	$I_F = 0.1\text{ mA}$	V_F			240	mV
	$I_F = 1\text{ mA}$	V_F			320	mV
	$I_F = 10\text{ mA}$	V_F			400	mV
	$I_F = 30\text{ mA}$	V_F			500	mV
	$I_F = 100\text{ mA}$	V_F			800	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			10	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA}$; $I_R = 1\text{ mA}$; $R_L = 100\text{ }\Omega$	t_{rr}			5	ns

Note

¹⁾ Pulse test: $t_p < 300\text{ }\mu\text{s}$, $\theta < 2\%$

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

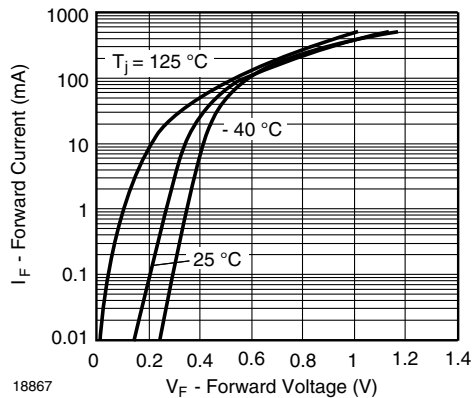


Figure 1. Typical Forward Current vs. Forward Voltage vs. Various Temperatures

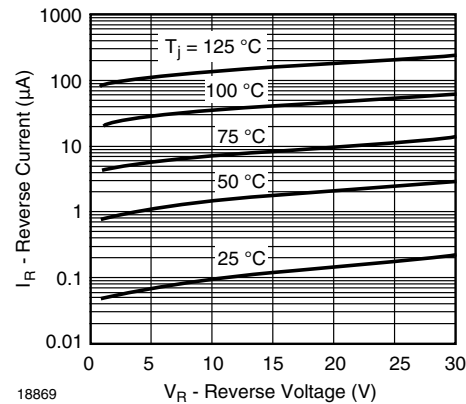


Figure 3. Typical Reverse Current vs. Reverse Voltage vs. Various Temperatures

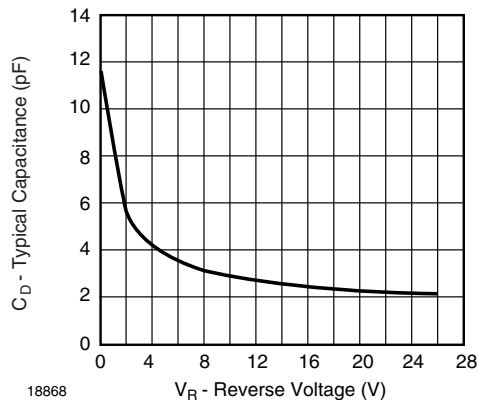
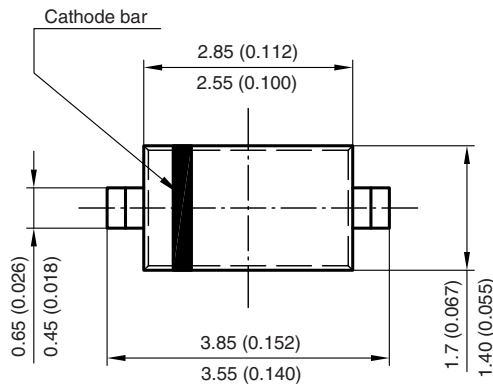
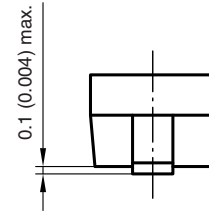
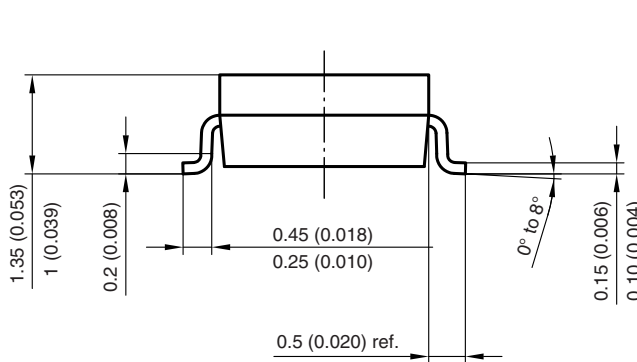
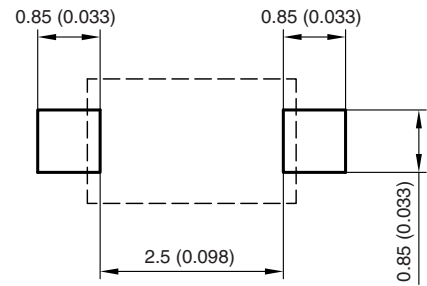


Figure 2. Typical Capacitance vs. Reverse Applied Voltage

Package Dimensions in millimeters (inches): **SOD-123**



Mounting Pad Layout



Rev. 4 - Date: 24. Sep. 2009
 Document no.: S8-V-3910.01-001 (4)
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