



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
- Base P/N-G3 - green, commercial grade
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT54W-G	BAT54W-G3-08 or BAT54W-G3-18	Single diode	L8	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		V _{RRM}	30	V	
Forward continuous current ⁽¹⁾		I _F	200	mA	
Repetitive peak forward current ⁽¹⁾	t _p < 1 s, δ < 0.5	I _{FRM}	300	mA	
Surge forward current ⁽¹⁾	t _p = 10 ms	I _{FSM}	600	mA	
Power dissipation ⁽¹⁾		P _{tot}	150	mW	

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	650	K/W	
Maximum junction temperature		T _J	125	°C	
Storage temperature range		T _{stg}	- 65 to + 150	°C	
Operating temperature range		T _{op}	- 55 to + 125	°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
Reserve 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
Reserve recovery time	$I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $i_R = 1\text{ mA}$, $R_L = 100\text{ }\Omega$	t_{rr}			5	ns

Note

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

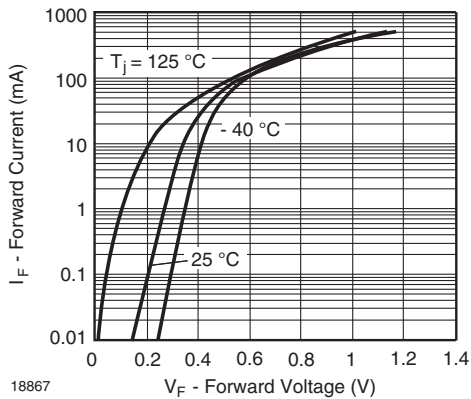
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage vs. Various Temperatures



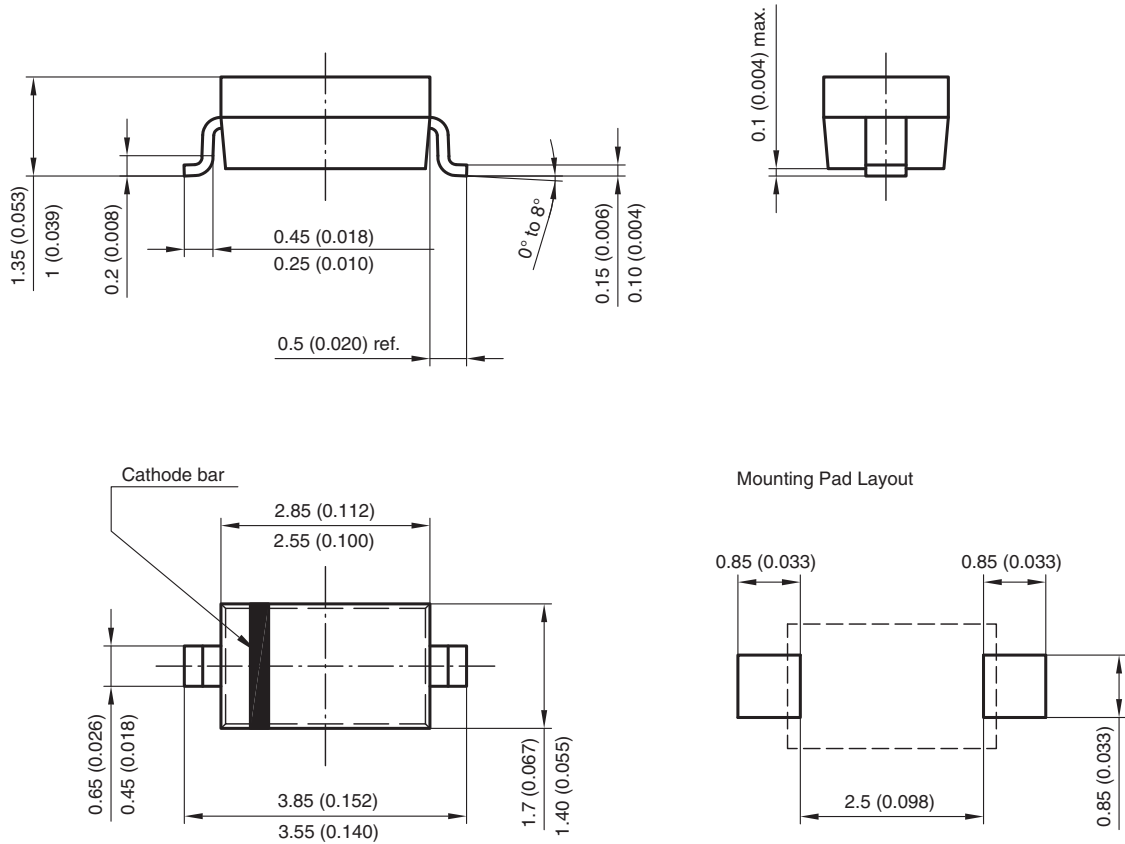
Fig. 3 - Typical Reverse Current vs. Reverse Voltage vs. Various Temperatures



Fig. 2 - Typical Capacitance vs. Reverse Applied Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-123



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