



Small Signal Schottky Diode



DESIGN SUPPORT TOOLS

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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

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
- For general purpose applications
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green commercial grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT42W-G	BAT42W-G3-08 or BAT42W-G3-18	Single	LC	Tape and reel
BAT43W-G	BAT43W-G3-08 or BAT43W-G3-18	Single	LD	

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}	500	mA
Surge forward current ⁽¹⁾	t _p < 10 ms	I _{FSM}	4	A
Power dissipation ⁽¹⁾	T _{amb} = 65 °C	P _{tot}	200	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}	300	K/W
Junction temperature		T _j	125	°C
Operating temperature range		T _{op}	-55 to +125	°C
Storage temperature range		T _{stg}	-55 to +150	°C

Note

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



ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I _R = 100 μA (pulsed)		V _(BR)	30			V
Leakage current (1)	V _R = 25 V		I _R			0.5	μA
	V _R = 25 V, T _j = 100 °C		I _R			100	μA
Forward voltage (1)	I _F = 200 mA		V _F			1000	mV
	I _F = 10 mA	BAT42W-G	V _F			400	mV
	I _F = 50 mA	BAT42W-G	V _F			650	mV
	I _F = 2 mA	BAT43W-G	V _F	260		330	mV
	I _F = 15 mA	BAT43W-G	V _F			450	mV
Diode capacitance	V _R = 1 V, f = 1 MHz		C _D		7		pF
Reverse recovery time	I _F = 10 mA, I _R = 10 mA, i _R = 1 mA, R _L = 100 Ω		t _{rr}			5	ns

Note

(1) Pulse test; t_p ≤ 300 μs, t_p/T < 0.02

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

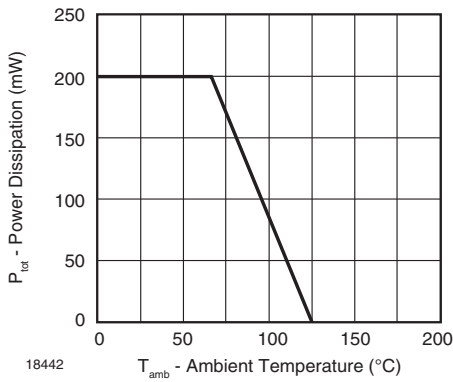


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

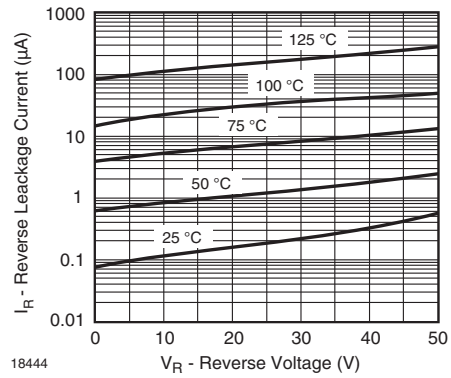


Fig. 3 - Typical Reverse Characteristics

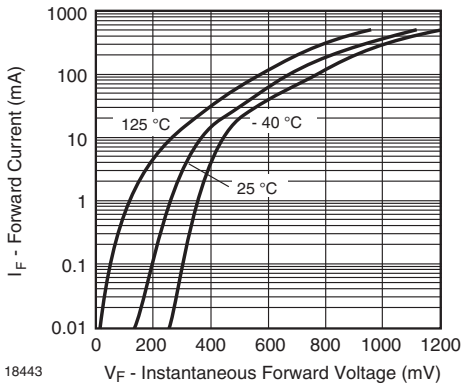


Fig. 2 - Typical Forward Characteristics

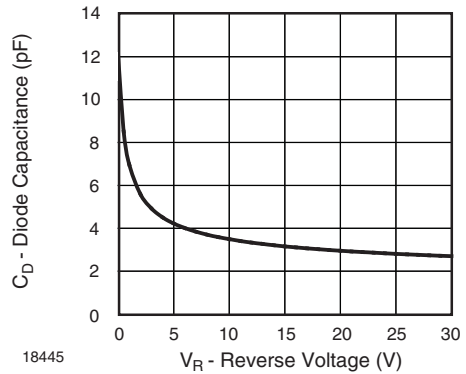
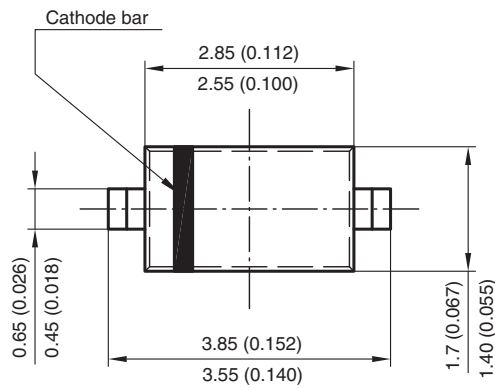
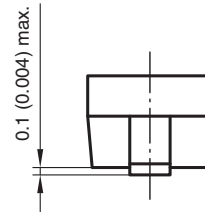
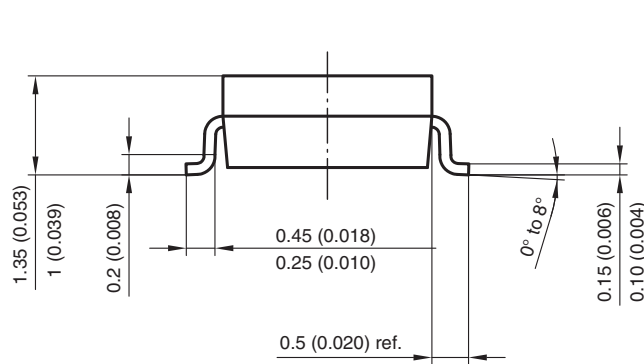


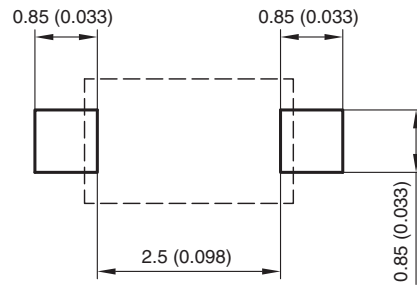
Fig. 4 - Typical Capacitance vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-123



Mounting Pad Layout



Rev. 4 - Date: 24. Sep. 2009
 Document no.: S8-V-3910.01-001 (4)
 17432



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