



Small Signal Schottky Diode



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MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.0 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
BAT42WS-G	BAT42WS-G3-08 or BAT42WS-G3-18	Single	LC	Tape and reel
BAT43WS-G	BAT43WS-G3-08 or BAT43WS-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⁾		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
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 ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulsed)		$V_{(BR)}$	30			V
Leakage current ⁽¹⁾	$V_R = 25\text{ V}$		I_R			0.5	μA
	$V_R = 25\text{ V}, T_J = 100\text{ }^{\circ}\text{C}$		I_R			100	μA
Forward voltage ⁽¹⁾	$I_F = 200\text{ mA}$		V_F			1000	mV
	$I_F = 10\text{ mA}$	BAT42WS-G	V_F			400	mV
	$I_F = 50\text{ mA}$	BAT42WS-G	V_F			650	mV
	$I_F = 2\text{ mA}$	BAT43WS-G	V_F	260		330	mV
	$I_F = 15\text{ mA}$	BAT43WS-G	V_F			450	mV
Diode capacitance	$V_R = 1\text{ V}, f = 1\text{ MHz}$		C_D		7		pF
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 100\text{ mA},$ $i_R = 1\text{ mA}, R_L = 100\text{ }\Omega$		t_{rr}			5	ns

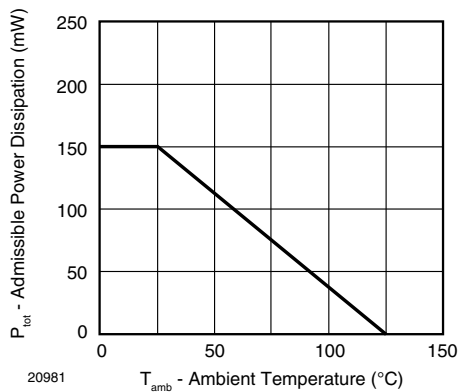
Note
⁽¹⁾ Pulse test; $t_p \leq 300\text{ }\mu\text{s}$, $t_p/T < 0.02$
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

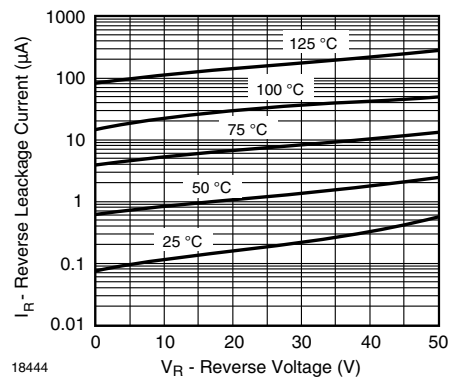


Fig. 3 - Typical Reverse Characteristics

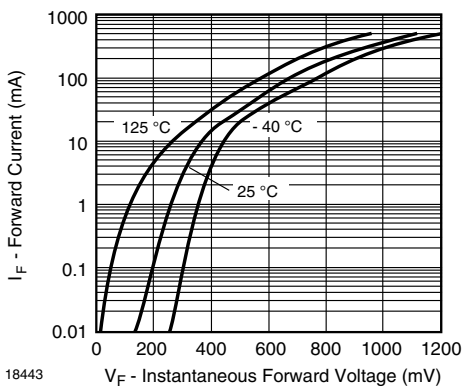


Fig. 2 - Typical Forward Characteristics

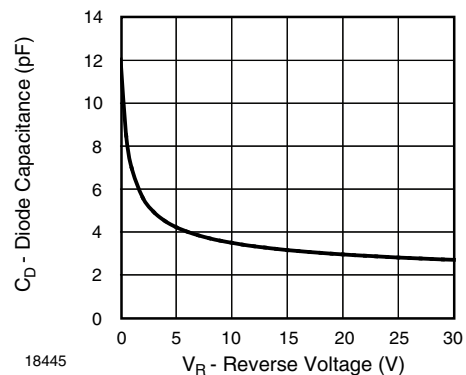
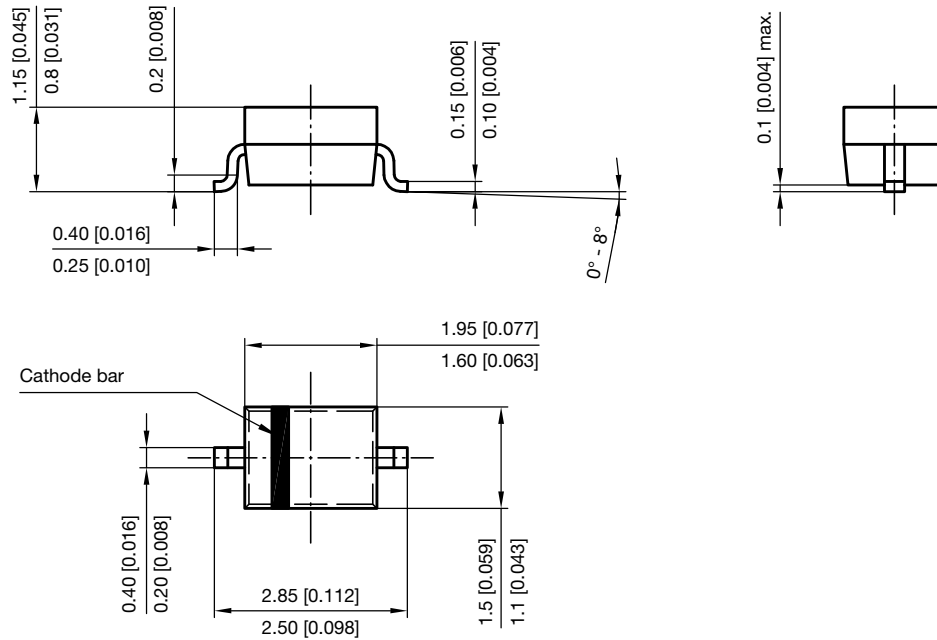


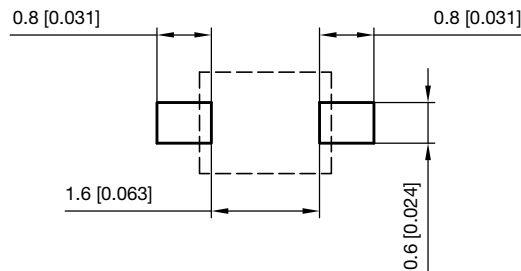
Fig. 4 - Typical Capacitance vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



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