

Small Signal Schottky Diode



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MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 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
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT42WS	BAT42WS-E3-08 or BAT42WS-E3-18	Single	L2	Tape and reel
	BAT42WS-HE3-08 or BAT42WS-HE3-18			
BAT43WS	BAT43WS-E3-08 or BAT43WS-E3-18	Single	L3	
	BAT43WS-HE3-08 or BAT43WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, 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⁾	$t_p < 1 \text{ s}, \delta < 0.5$	I_{FRM}	500	mA
Surge forward current ⁽¹⁾	$t_p < 10 \text{ ms}$	I_{FSM}	4	A
Power dissipation ⁽¹⁾		P_{tot}	150	mW

Note

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

THERMAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, 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 ($T_{amb} = 25^\circ C$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100 \mu A$ (pulsed)		$V_{(BR)}$	30			V
Leakage current ⁽¹⁾	$V_R = 25 V$		I_R			0.5	μA
	$V_R = 25 V, T_j = 100^\circ C$		I_R			100	μA
Forward voltage ⁽¹⁾	$I_F = 200 mA$		V_F			1000	mV
	$I_F = 10 mA$	BAT42WS	V_F			400	mV
	$I_F = 50 mA$	BAT42WS	V_F			650	mV
	$I_F = 2 mA$	BAT43WS	V_F	260		330	mV
	$I_F = 15 mA$	BAT43WS	V_F			450	mV
Diode capacitance	$V_R = 1 V, f = 1 MHz$		C_D		7		pF
Reverse recovery time	$I_F = 10 mA, I_R = 100 mA, I_R = 1 mA, R_L = 100 \Omega$		t_{rr}			5	ns

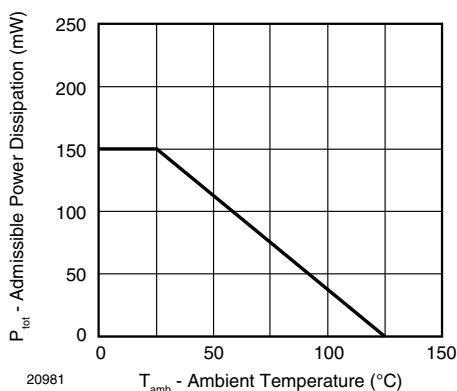
Note
⁽¹⁾ Pulse test; $t_p \leq 300 \mu s, t_p/T < 0.02$
TYPICAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

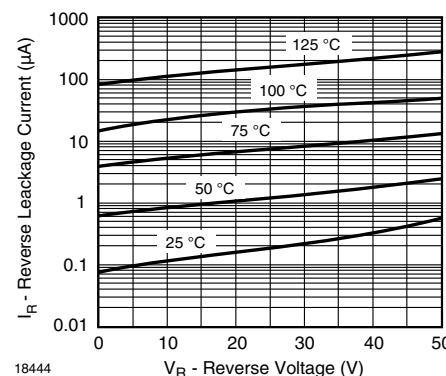


Fig. 3 - Typical Reverse Characteristics

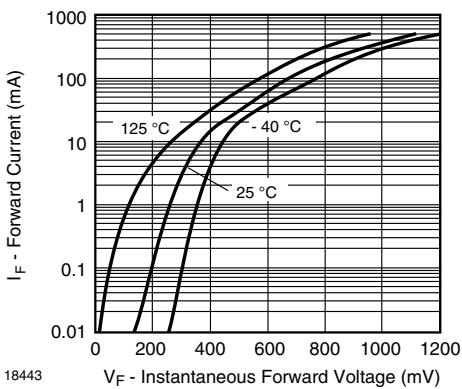


Fig. 2 - Typical Forward Characteristics

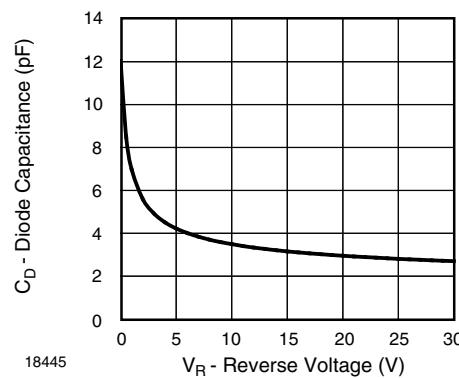
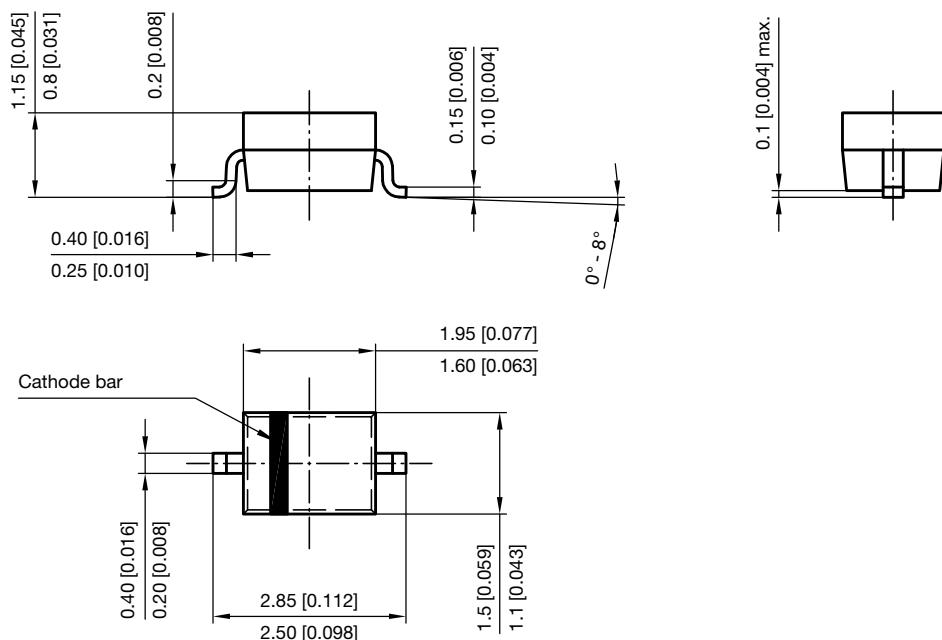
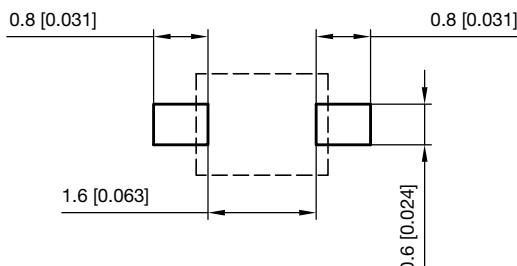


Fig. 4 - Typical Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-323**


Footprint recommendation:



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