

200mA, 30V Schottky Barrier Diode

FEATURES

- Designed for mounting on small surface
- Low capacitance
- Low forward voltage drop
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Adapters
- For switching power supply
- Inverter

MECHANICAL DATA

- Case: SOD-323F
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	4	A
V_F at $I_F = 200\text{mA}$	1	V
$T_{J\text{ MAX}}$	125	°C
Package	SOD-323F	
Configuration	Single die	


SOD-323F


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	BAT42WS	BAT43WS	UNIT
Marking code on the device		B1	B2	
Repetitive peak reverse voltage	V_{RRM}	30		V
Maximum dc blocking voltage	V_R	30		V
Average rectified forward current	I_F	200		mA
Peak forward surge current	I_{FSM}	4		A
Junction temperature range	T_J	-65 to +125		°C
Storage temperature range	T_{STG}	-65 to +125		°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER		CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	BAT42WS	$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	-	1.00	V
		$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.40	V
		$I_F = 50\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.65	V
	BAT43WS	$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$		-	-	1.00	V
		$I_F = 2\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.33	V
		$I_F = 15\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.45	V
Reverse voltage		$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$	V_R	30	-	-	V
Reverse current @ rated V_R ⁽²⁾		$V_R = 25\text{V}, T_J = 25^\circ\text{C}$	I_R	-	-	500	nA
Junction capacitance		1MHz, $V_R = 1\text{V}$	C_J	-	7	-	pF
Reverse recovery time		$I_F = I_R = 10\text{mA}, R_L = 100\Omega$ $I_{rr} = 1\text{mA}$	t_{rr}	-	5	-	ns

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
BATxWS RR	SOD-323F	3K / 7" Reel
BATxWS RRG	SOD-323F	3K / 7" Reel
BATxWS R9	SOD-323F	10K / 13" Reel
BATxWS R9G	SOD-323F	10K / 13" Reel

Notes:

1. "x" is device code from "42"(BAT42WS) to "43"(BAT43WS)
2. "G" means green compound (halogen-free)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

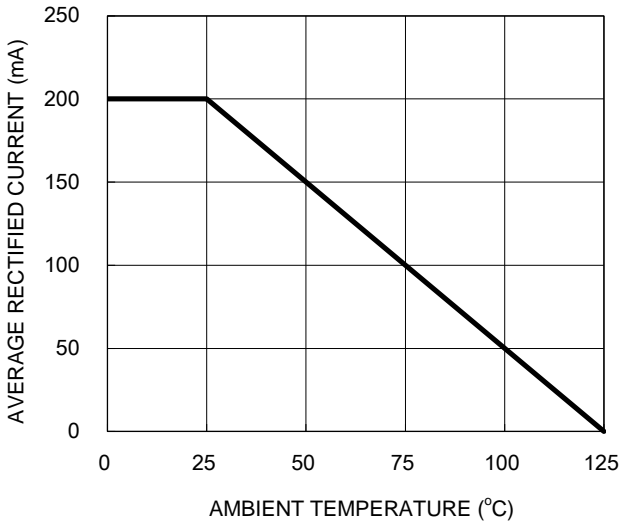


Fig.2 Typical Forward Characteristics

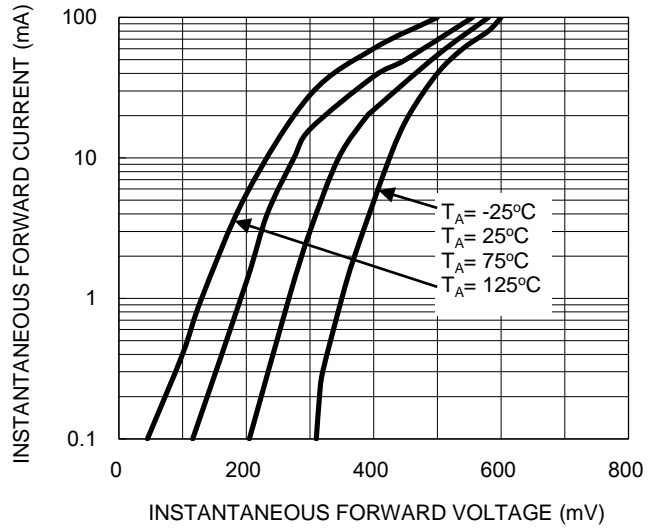


Fig.3 Typical Reverse Characteristics

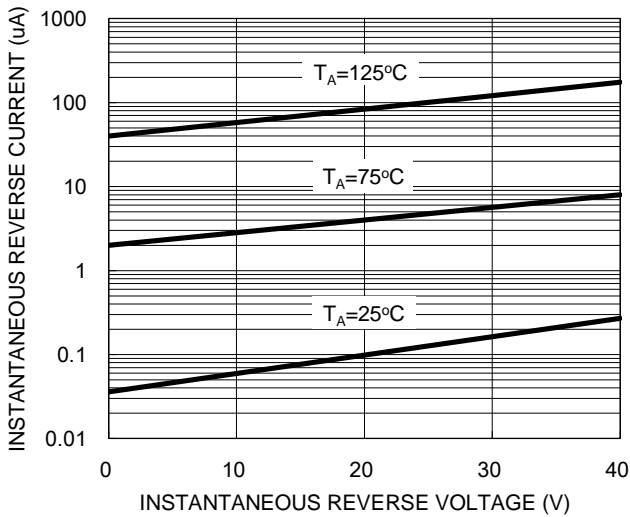
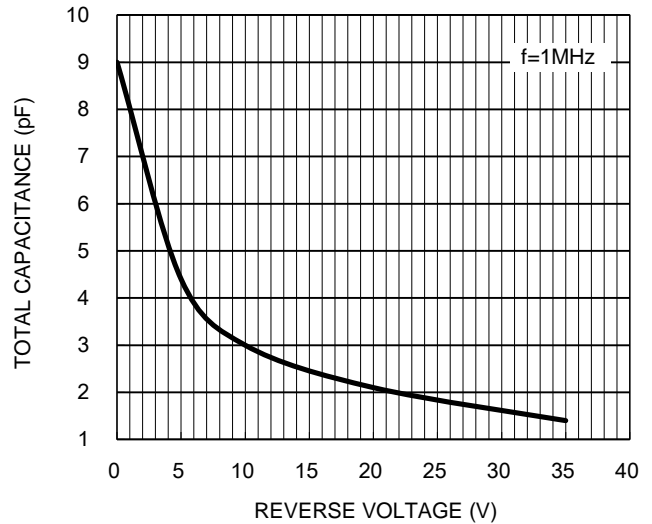
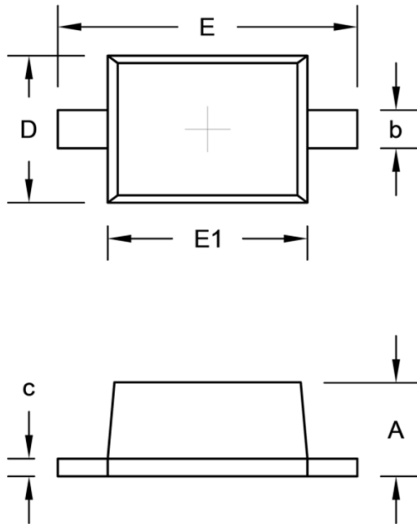


Fig.4 Total Capacitance VS. Reverse Voltage



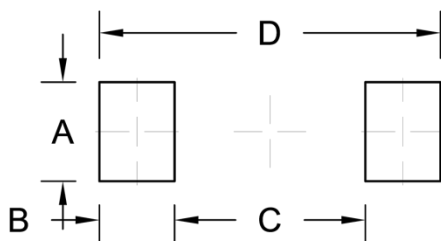
PACKAGE OUTLINE DIMENSION

SOD-323F



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.60	1.00	0.024	0.039
b	0.25	0.40	0.010	0.016
c	0.05	0.25	0.002	0.010
D	1.15	1.35	0.045	0.053
E	2.30	2.80	0.091	0.110
E1	1.60	1.80	0.063	0.071

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.83	0.033
B	0.63	0.025
C	1.60	0.063
D	2.86	0.113

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