

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

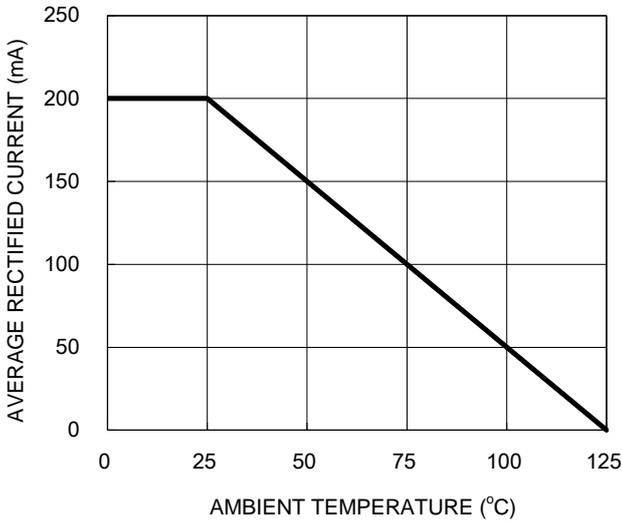


Fig.2 Typical Forward Characteristics

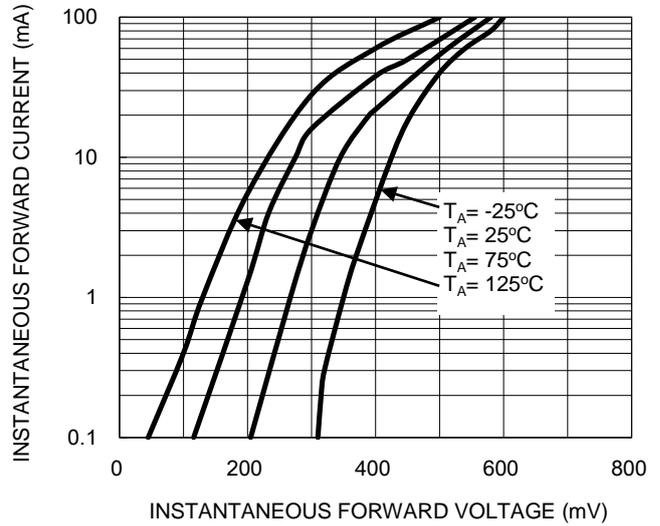


Fig.3 Typical Reverse Characteristics

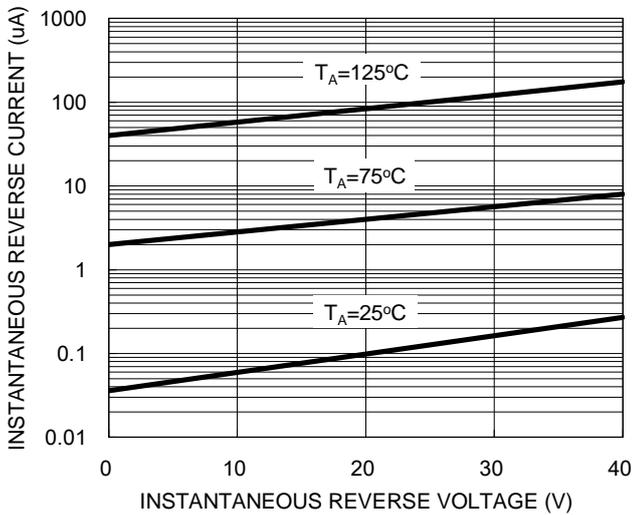
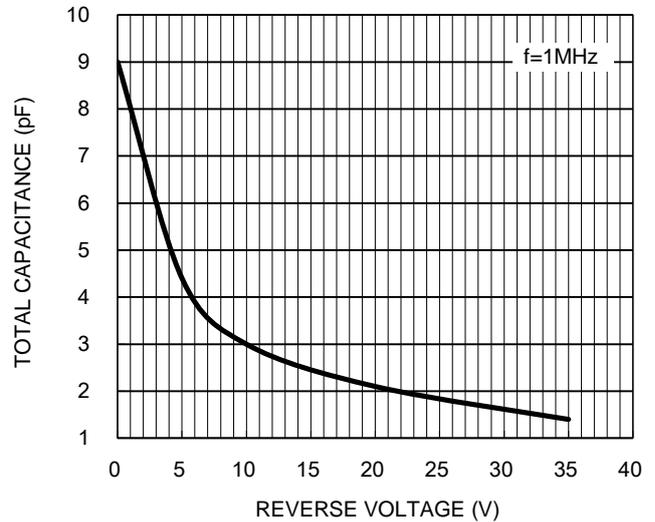
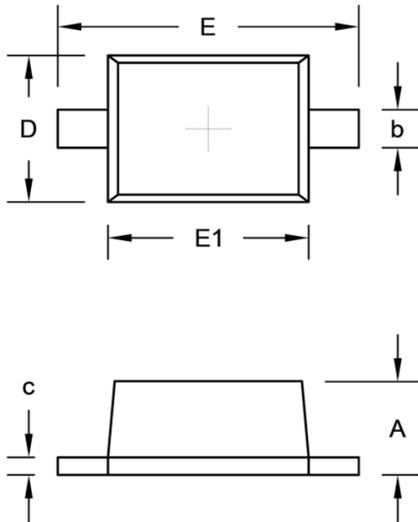


Fig.4 Total Capacitance VS. Reverse Voltage



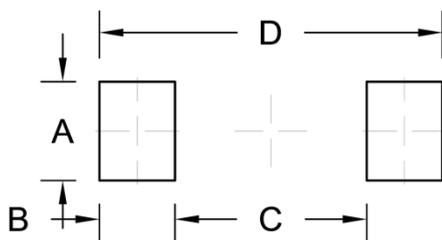
PACKAGE OUTLINE DIMENSION

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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Taiwan Semiconductor:](#)

[BAT42WS](#) [BAT43WS](#) [BAT43WS RRG](#) [BAT42WS RRG](#) [BAT42WS RR](#) [BAT43WS RR](#)