

## 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

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)							
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage <sup>(1)</sup>	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 $V_R$ <sup>(2)</sup>		$V_R = 25\text{V}, T_J = 25^\circ\text{C}$	$I_R$	-	-	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  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
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

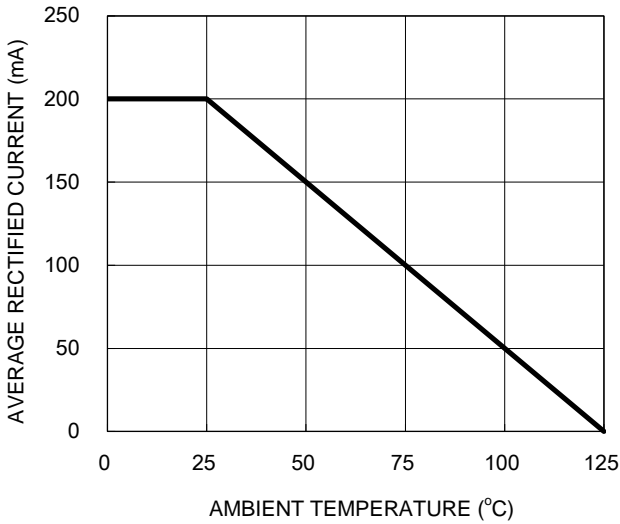
**Notes:**

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

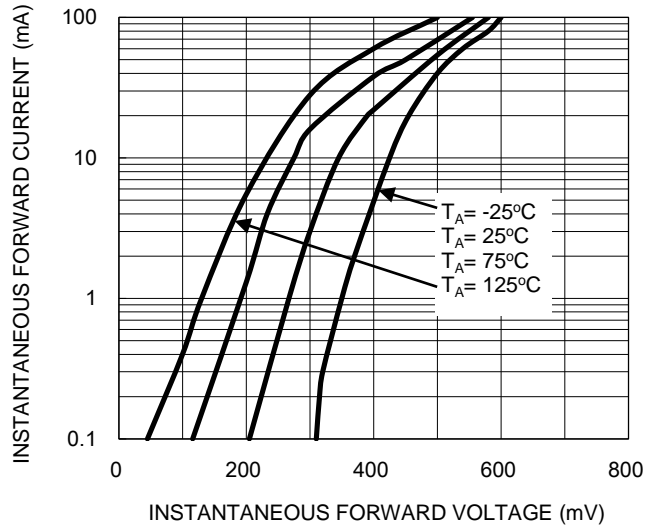
**CHARACTERISTICS CURVES**

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

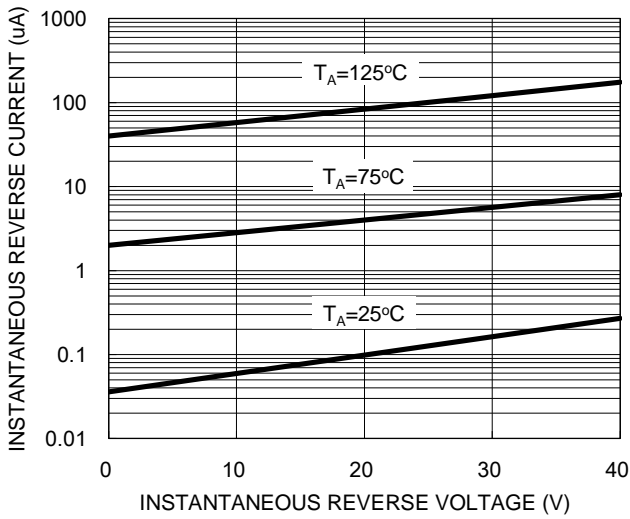
**Fig.1 Forward Current Derating Curve**



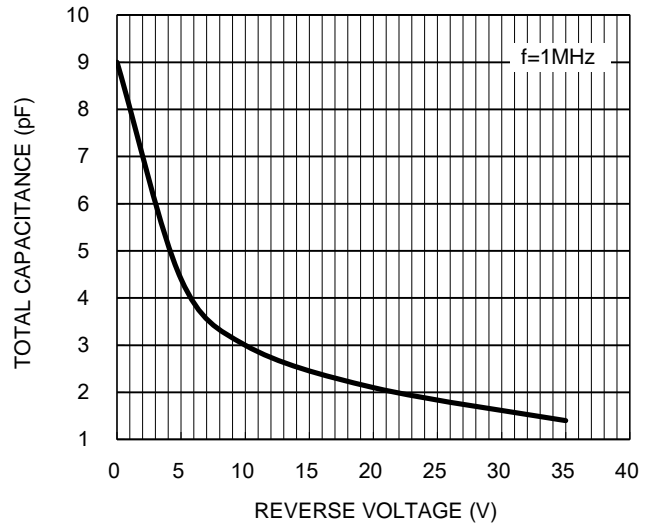
**Fig.2 Typical Forward Characteristics**



**Fig.3 Typical Reverse Characteristics**

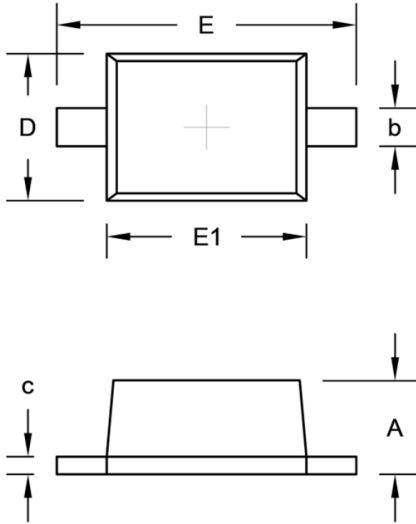


**Fig.4 Total Capacitance VS. Reverse Voltage**



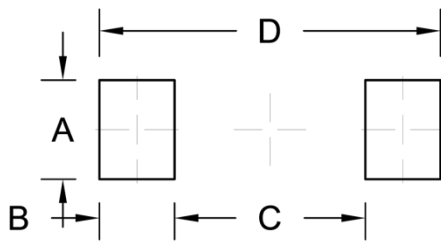
**PACKAGE OUTLINE DIMENSION**

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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