

## 200mA, 30V Schottky Barrier Diode

### FEATURES

- Designed for mounting on small surface
- Low capacitance
- Low forward voltage drop
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Adapters
- For switching power supply
- Low stored charge
- Inverter

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	200	mA
$V_{RRM}$	30	V
$I_{FSM}$	4	A
$V_F$ at $I_F=200mA$	1	V
$T_J$ Max.	125	°C
Package	SOD-323F	
Configuration	Single dice	

### MECHANICAL DATA

- Case: SOD-323F
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band



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	$I_{F(AV)}$	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)						
PARAMETER	CONDITIONS		SYMBOL	MIN	MAX	UNIT
Forward voltage per diode <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	
		$I_F = 50\text{mA}$ , $T_J = 25^\circ\text{C}$		-	0.65	
	BAT43WS	$I_F = 200\text{mA}$ , $T_J = 25^\circ\text{C}$		-	1.00	
		$I_F = 2\text{mA}$ , $T_J = 25^\circ\text{C}$		-	0.33	
		$I_F = 15\text{mA}$ , $T_J = 25^\circ\text{C}$		-	0.45	
Reverse voltage	$I_R = 100\mu\text{A}$ , $T_J = 25^\circ\text{C}$		$V_R$	30	-	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$V_R = 25\text{V}$ , $T_J = 25^\circ\text{C}$		$I_R$	-	500	nA
Junction capacitance	1 MHz, $V_R = 1\text{V}$		$C_J$	7(Typ.)		pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$ , $R_L = 100\Omega$ , $I_{RR} = 1\text{mA}$		$t_{rr}$	5(Typ.)		ns

**Notes:**

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

<b>ORDERING INFORMATION</b>				
PART NO.	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
BATXXWS (Note 1)	RR	G	SOD-323F	3K / 7" Reel
	R9			10K / 13" Reel

**Notes:**

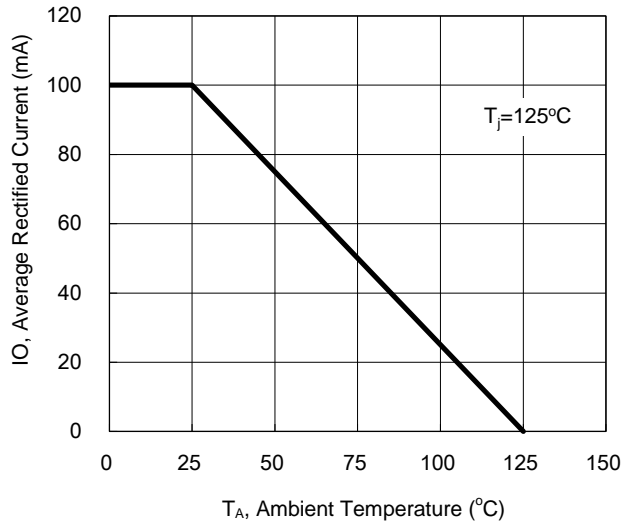
1. "xx" is device code from "42"(BAT42WS) to "43"(BAT43WS)
- \*: optional available

<b>EXAMPLE</b>				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BAT42WS RRG	BAT42WS	RR	G	Green compound

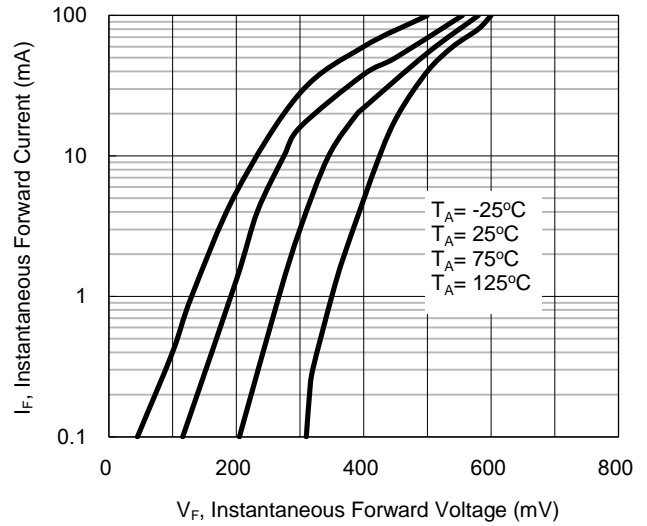
**CHARACTERISTICS CURVES**

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

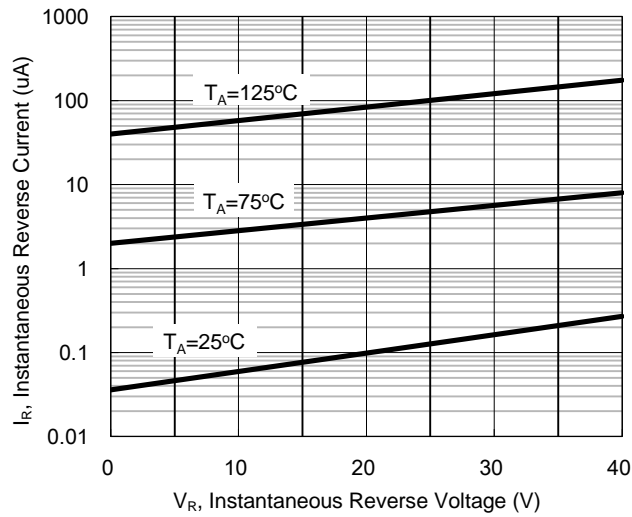
**Fig.1 Forward Current Derating Curve**



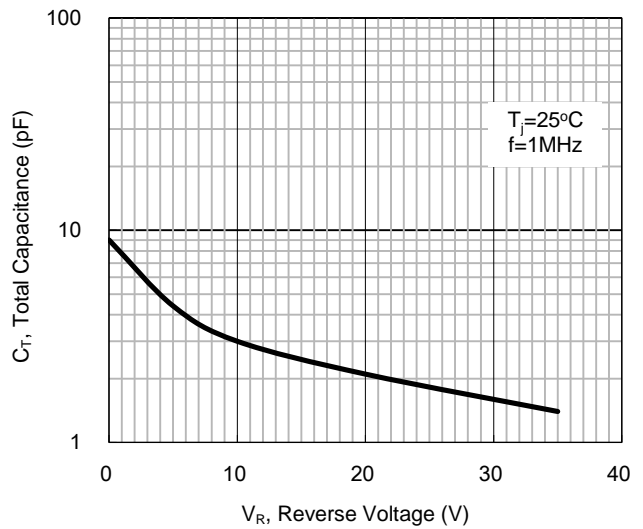
**Fig.2 Typical Forward Characteristics**



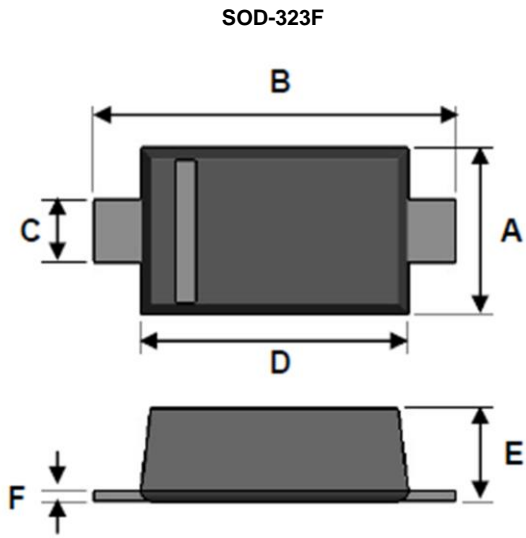
**Fig.3 Typical Reverse Characteristics**



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

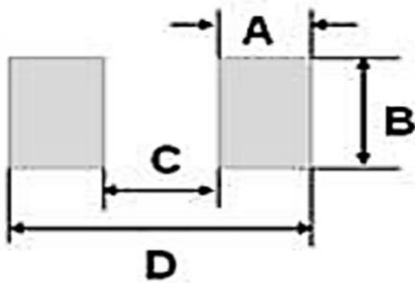


**PACKAGE OUTLINE DIMENSION**



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.80	0.091	0.110
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.10	0.031	0.043
F	0.05	0.25	0.002	0.010

**SUGGEST PAD LAYOUT**



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

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