

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

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS		SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽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	
		$I_F = 50\text{mA}$, $T_J = 25^\circ\text{C}$		-	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 ⁽²⁾	$V_R = 25\text{V}$, $T_J = 25^\circ\text{C}$		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 $PW = 30\text{ ms}$

ORDERING INFORMATION				
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

EXAMPLE				
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

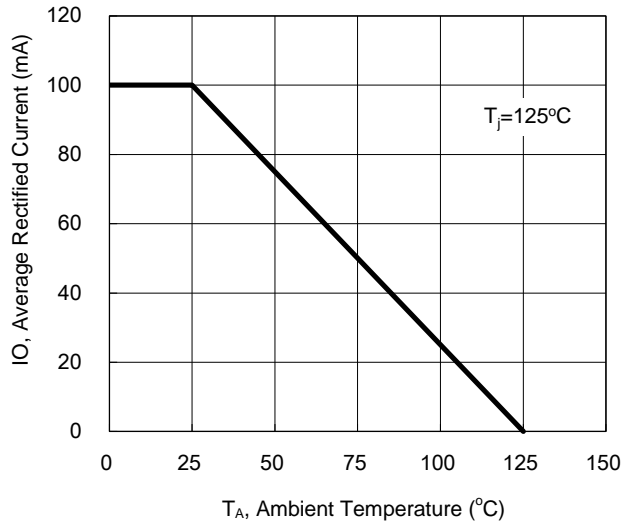


Fig.2 Typical Forward Characteristics

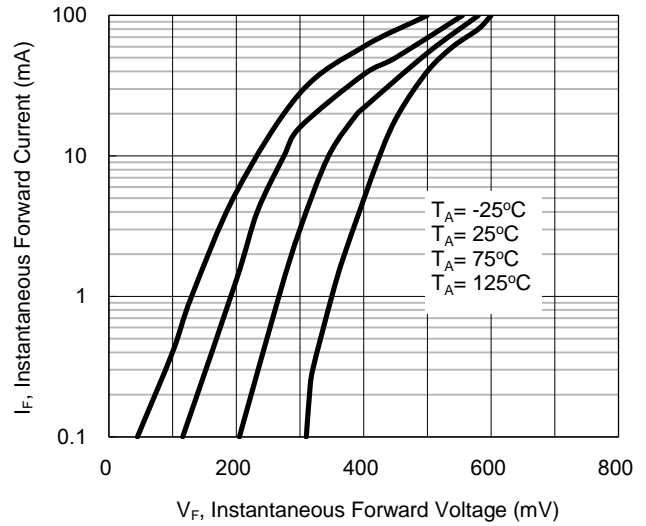


Fig.3 Typical Reverse Characteristics

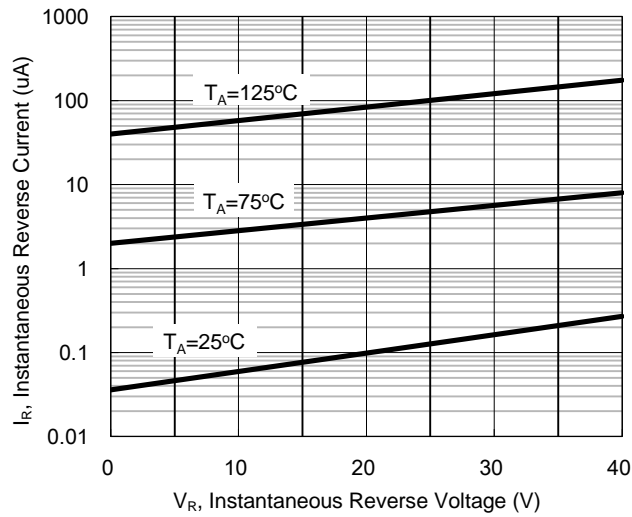
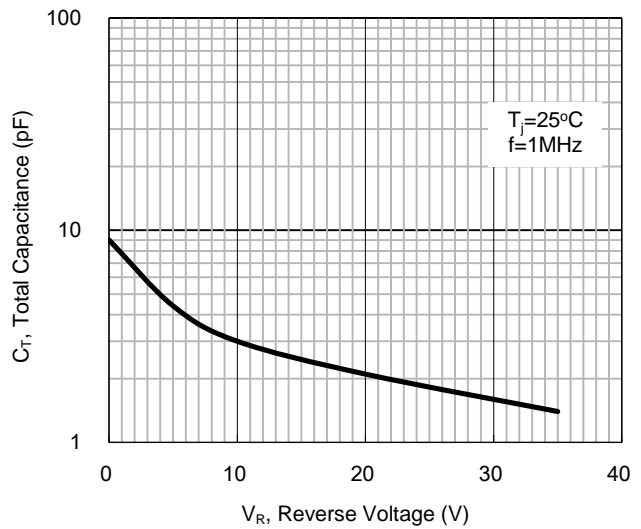
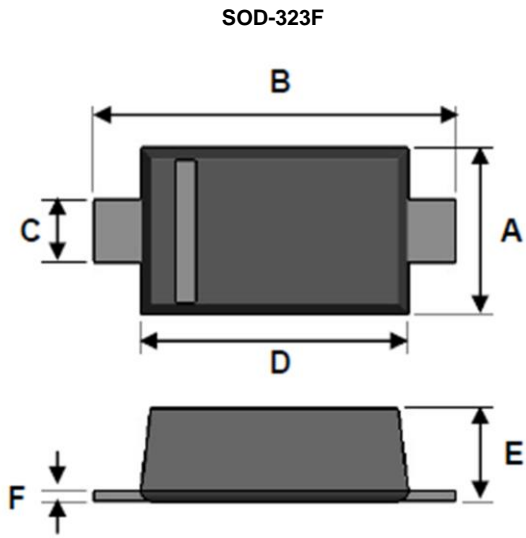


Fig.4 Total Capacitance VS. Reverse Voltage

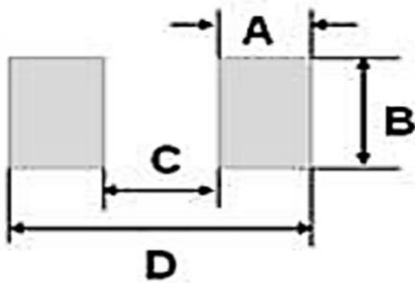


PACKAGE OUTLINE DIMENSION



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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