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

Pb-Free RoHS COMPLIANT

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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°C unless otherwise noted)

PARAMETER	CONDITIONS		SYMBOL	MIN	MAX	UNIT
Forward voltage per diode (1)	BAT42WS	I_F = 200mA, T_J = 25°C	V_F	-	1.00	V
		I_F = 10mA, T_J = 25°C		-	0.40	
		I_F = 50mA, T_J = 25°C		-	0.65	
	BAT43WS	I_F = 200mA, T_J = 25°C		-	1.00	
		I_F = 2mA, T_J = 25°C		-	0.33	
		I_F = 15mA, T_J = 25°C		-	0.45	
Reverse voltage	I_R=100μA, T_J = 25°C		V_R	30	-	V
Reverse current @ rated V_R per diode (2)	V_R=25V T_J = 25°C		I_R	-	500	nA
Junction capacitance	1 MHz, V_R=1V		C_J	7(Typ.)		pF
Reverse recovery time	I_F=I_R=10mA, R_L=100Ω, I_{RR}=1mA		t_{rr}	5(Typ.)		ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 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°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

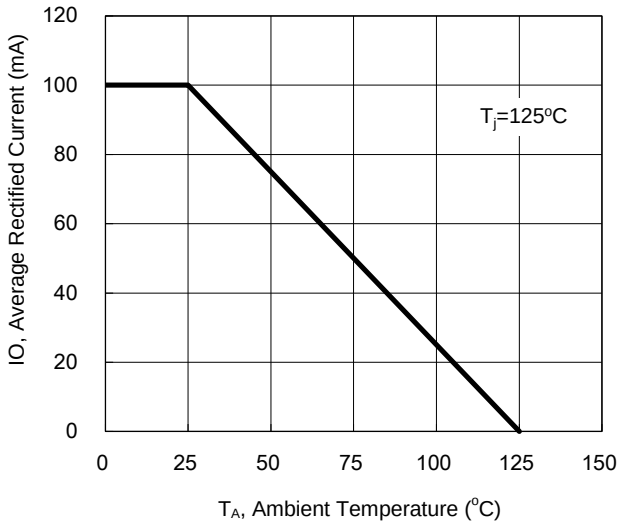


Fig.2 Typical Forward Characteristics

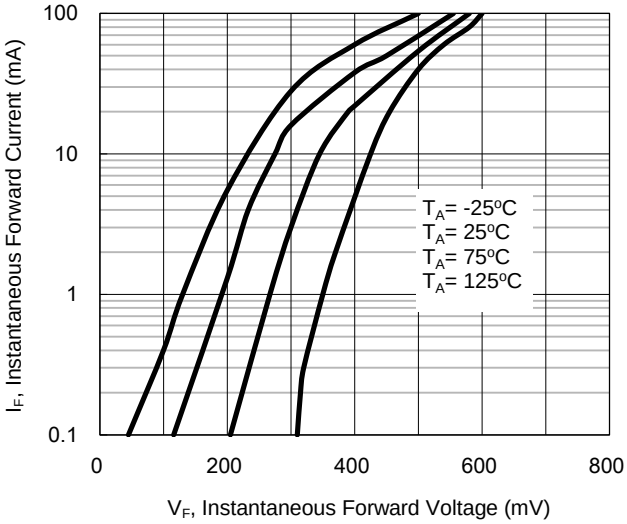


Fig.3 Typical Reverse Characteristics

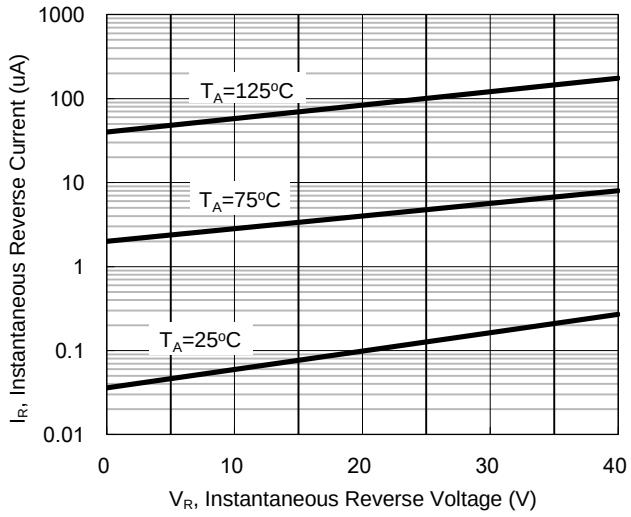
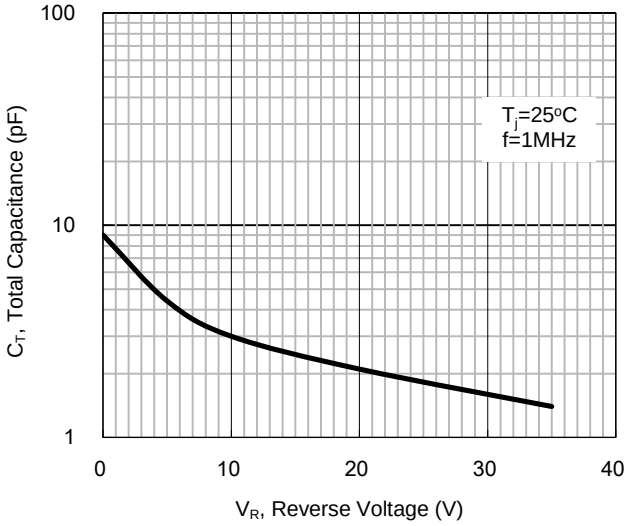
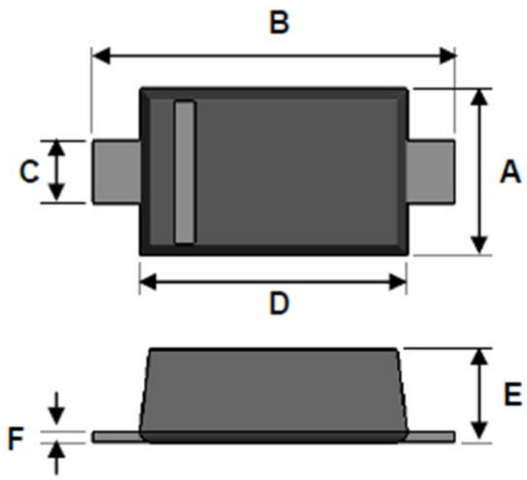


Fig.4 Total Capacitance VS. Reverse Voltage



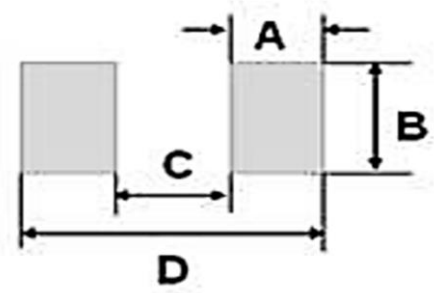
PACKAGE OUTLINE DIMENSION

SOD-323F



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	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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