BAT42WS / BAT43WS

SURFACE MOUNT SCHOTTKY BARRIER DIODE

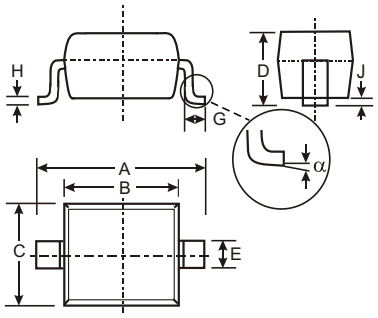
Lead-free

Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- **Lead Free/RoHS Compliant (Note 3)**

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- BAT42WS Marking: S7
- BAT43WS Marking: S8
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
	0	8
All Dimensions in mm		

Maximum Ratings @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	BAT42WS / BAT43WS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current (Note 1)	I_{FM}	200	mA
Repetitive Peak Forward Current (Note 1) @ t < 1.0s	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current @ t < 10ms	I_{FSM}	4.0	A
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R_{JA}	625	C/W
Operating and Storage Temperature Range	T_j , T_{STG}	-55 to +125	C

Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)		$V_{(BR)R}$	30		V	I_R = 100 A
Forward Voltage Drop	Both Types BAT42WS BAT42WS BAT43WS BAT43WS	V_F	 0.26 	1.0 0.40 0.65 0.33 0.45	V	I_F = 200mA I_F = 10mA I_F = 50mA I_F = 2.0mA I_F = 15mA
Reverse Current (Note 2)		I_R		500 100	nA A	V_R = 25V V_R = 25V, T_j = 100 C
Total Capacitance		C_T		10	pF	V_R = 1.0, f = 1.0MHz
Reverse Recovery Time		t_{rr}		5.0	ns	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100

Notes:
1. Part mounted on FR4 PC Board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration test pulse used to minimize self-heating effect.
3. No purposefully added lead.

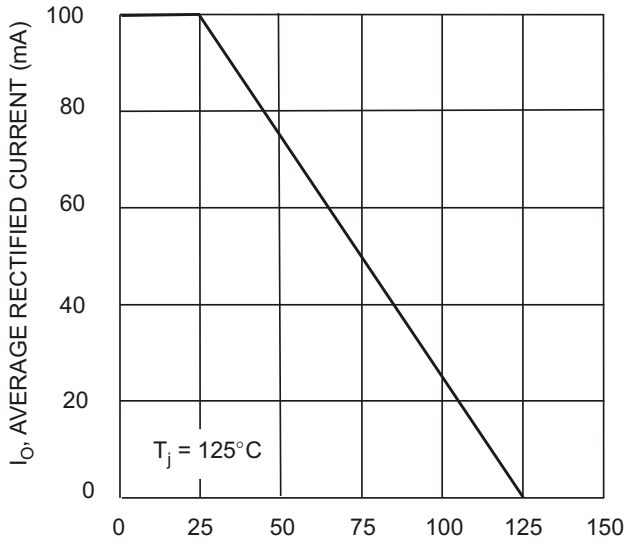


Fig. 1 Forward Current Derating Curve

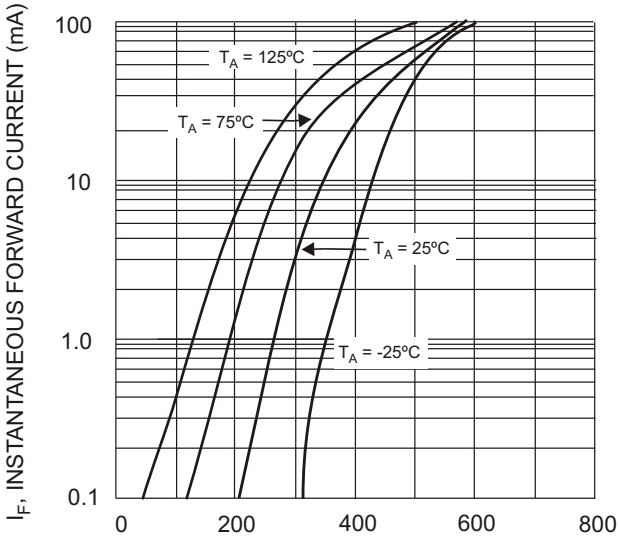


Fig. 2 Typical Forward Characteristics

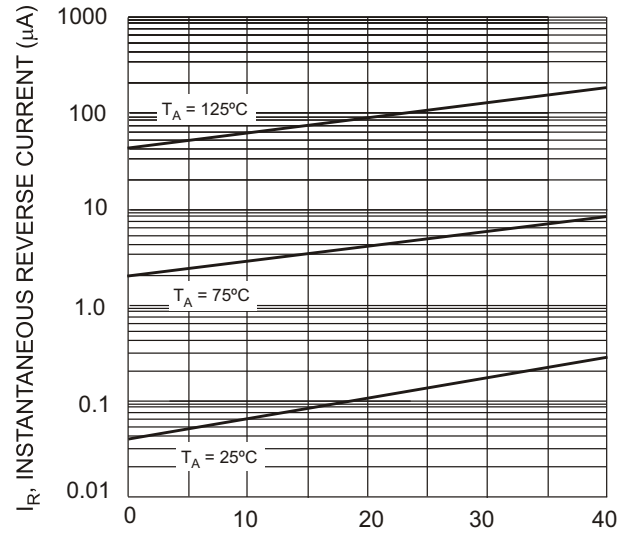


Fig. 3 Typical Reverse Characteristics

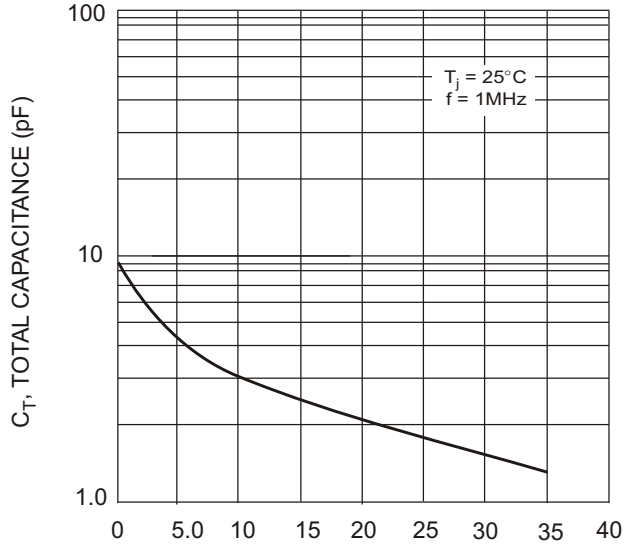


Fig. 4 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
BAT42WS-7-F BAT43WS-7-F	SOD-323	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

XX = Product Type Marking Code
See Sheet 1

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