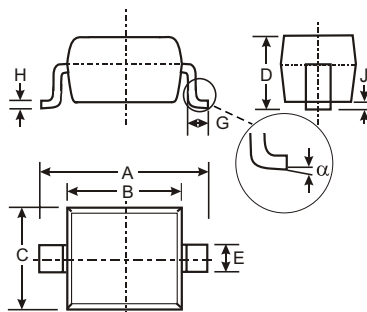


Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- Also Available in Lead Free Version

Mechanical Data

- Case: SOD-323, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Leads: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 2
- 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	
α	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)	$R_{\theta JA}$	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	$I_R = 100\mu A$
Forward Voltage Drop (Note 2)	V_F	—	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 μA	$V_R = 25V$ $V_R = 25V, T_j = 100°C$
Total Capacitance	C_T	—	10	pF	$V_R = 1.0, f = 1.0MHz$
Reverse Recovery Time	t_{rr}	—	5.0	ns	$I_F = I_R = 10mA$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

- 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.

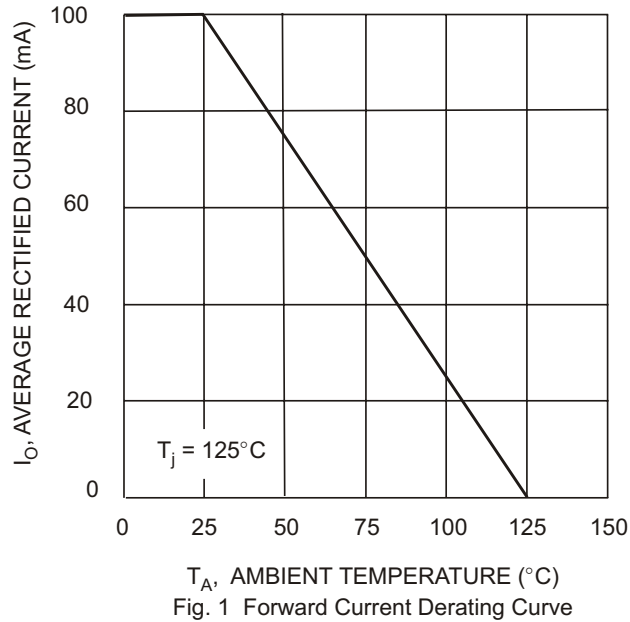


Fig. 1 Forward Current Derating Curve

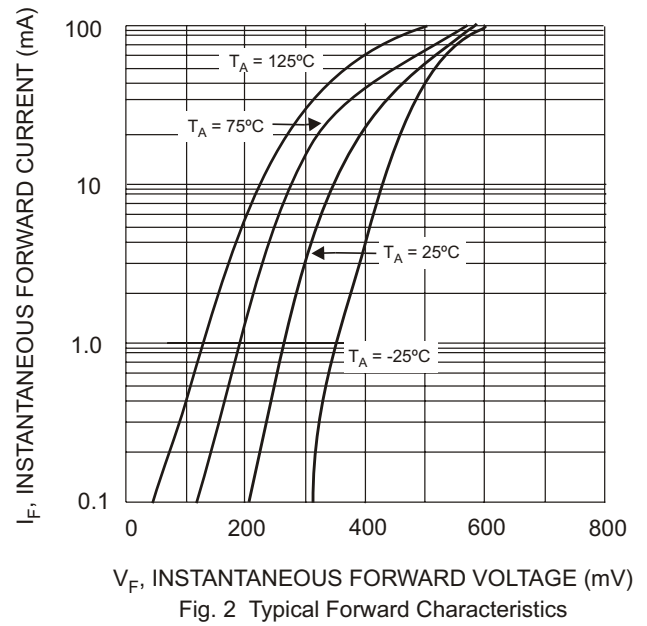


Fig. 2 Typical Forward Characteristics

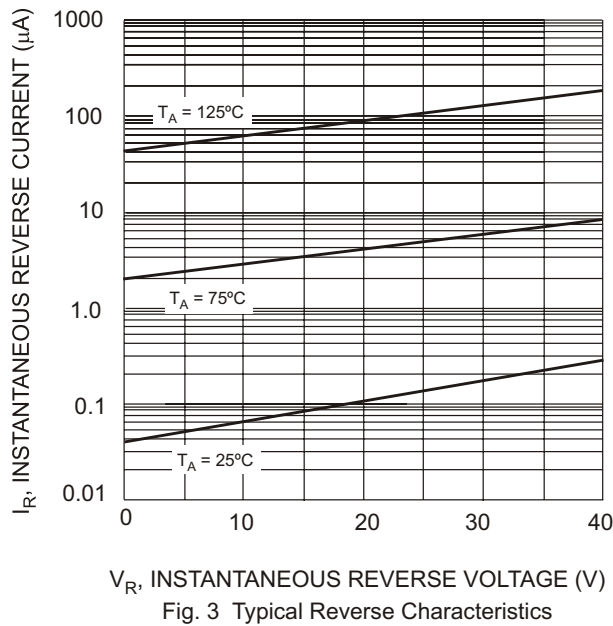


Fig. 3 Typical Reverse Characteristics

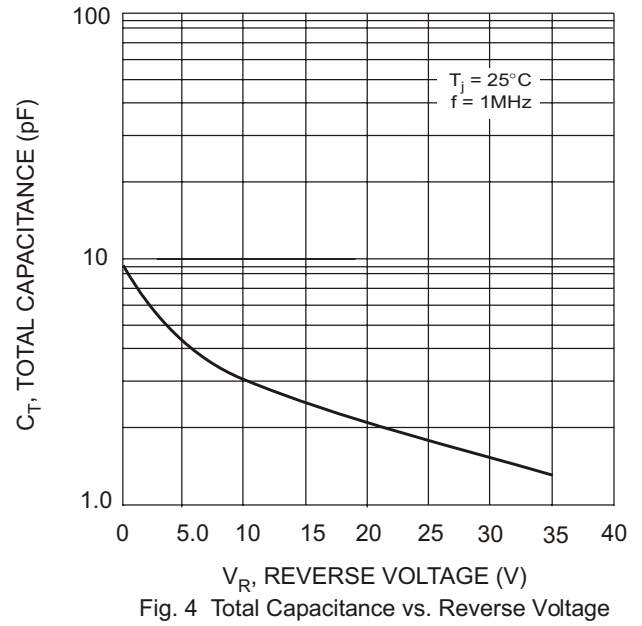


Fig. 4 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 3)

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

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
Example: BAT43WS-7-F.

Marking Information



XX = Product Type Marking Code
See Sheet 1