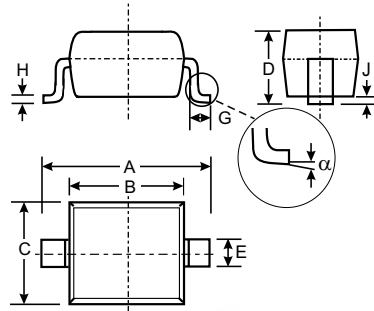


### Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package

### 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
- 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		

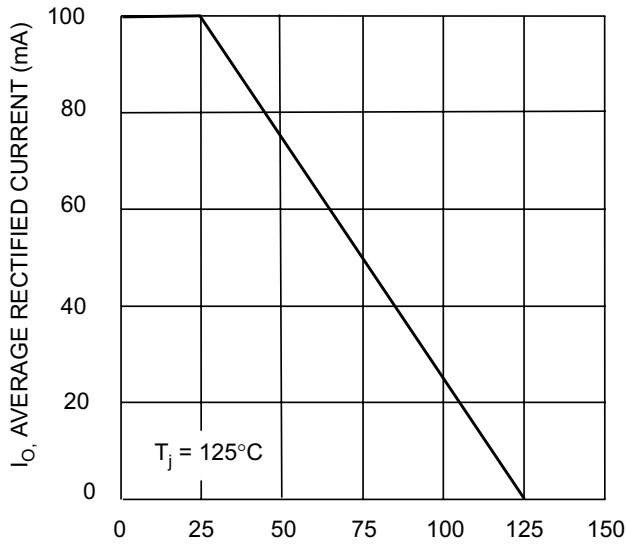
### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	BAT42WS / BAT43WS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Forward Continuous Current	I <sub>FM</sub>	200	mA
Average Rectified Output Current	I <sub>O</sub>	100	mA
Repetitive Peak Forward Current @ t < 1.0s	I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current @ t < 10ms	I <sub>FSM</sub>	4.0	A
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +125	°C

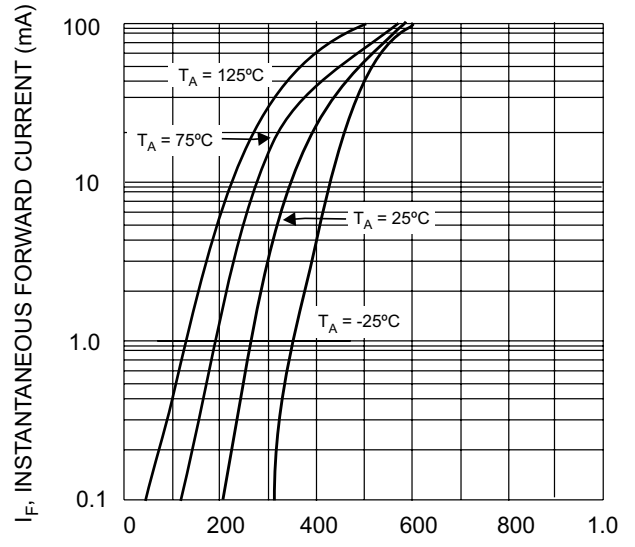
### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	30	—	V	I <sub>R</sub> = 100μA
Forward Voltage Drop (Note 2)	V <sub>FM</sub>	—	1.0 0.40 0.65 0.33 0.45	V	I <sub>F</sub> = 200mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 2.0mA I <sub>F</sub> = 15mA
Peak Reverse Current (Note 2)	I <sub>RM</sub>	—	500 100	nA μA	V <sub>R</sub> = 25V V <sub>R</sub> = 25V, T <sub>j</sub> = 100°C
Total Capacitance	C <sub>T</sub>	—	10	pF	V <sub>R</sub> = 1.0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	5.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

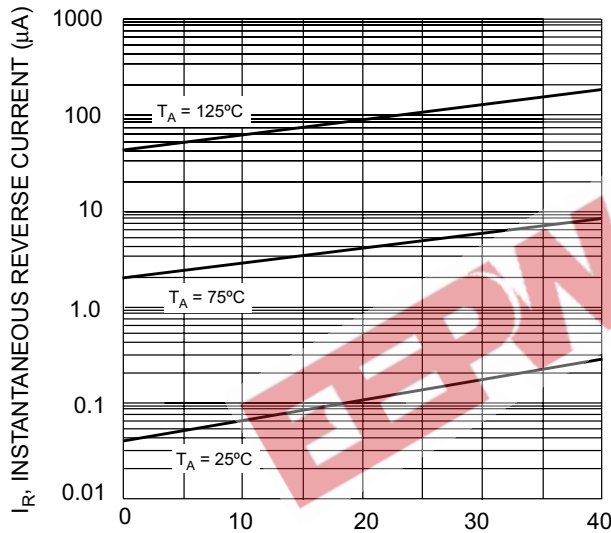
- Notes:
1. Part mounted on FR4 PC Board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration test pulse used to minimize self-heating effect.



$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



$V_R$ , INSTANTANEOUS REVERSE VOLTAGE (V)  
Fig. 3 Typical Reverse Characteristics

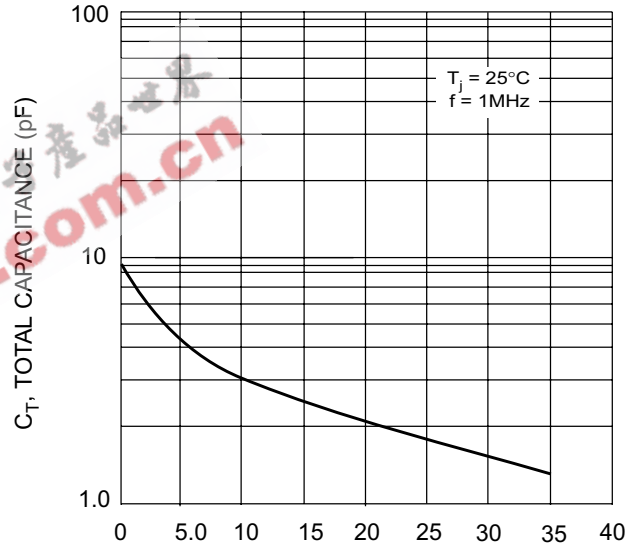


Fig. 4 Total Capacitance vs. Reverse Voltage

### Ordering Information (Note 2)

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

Notes: 2. 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