



BAT42WS / BAT43WS

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

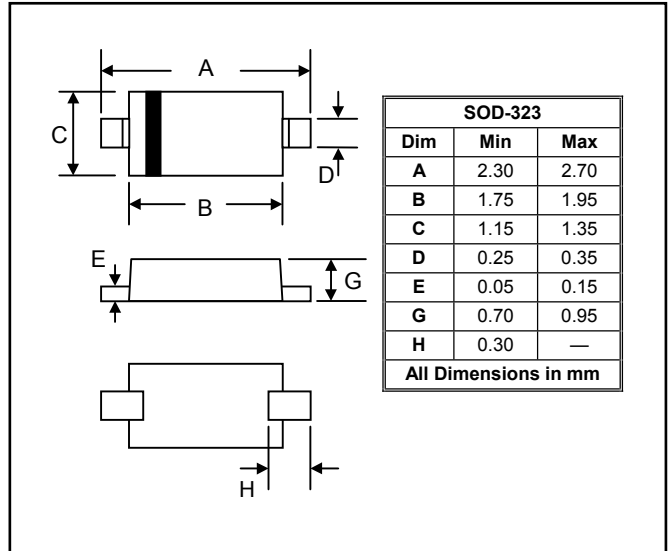
Reverse Voltage - 30 Volts Forward Current - 200 mAmpere

FEATURES

- Low Turn-on Voltage
- Fast Switching
- Ultra-small surface mount package.
- PN Junction Guard Ring for Transient and ESD Protection

MECHANICAL DATA

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)



Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	BAT42WS / BAT43WS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	30	V
Forward Continuous Current (Note 1)	I _F	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	P _d	200	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	625	K/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +125	°C

Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	30	—	—	V	@ I _{RS} = 100μA
Forward Voltage	V _F	—	—	0.4 1.0 0.33 1.0	V	@ I _F = 1.0mA @ I _F = 200mA @ I _F = 2.0mA @ I _F = 200mA
Reverse Leakage Current	I _R	—	—	0.5	μA	@ V _R = 25V
Junction Capacitance	C _j	—	—	10	pF	V _R = 1.0V, 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 Ω

Note: 1. Valid provided that terminals are kept at ambient temperature.



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RATINGS AND CHARACTERISTIC CURVES

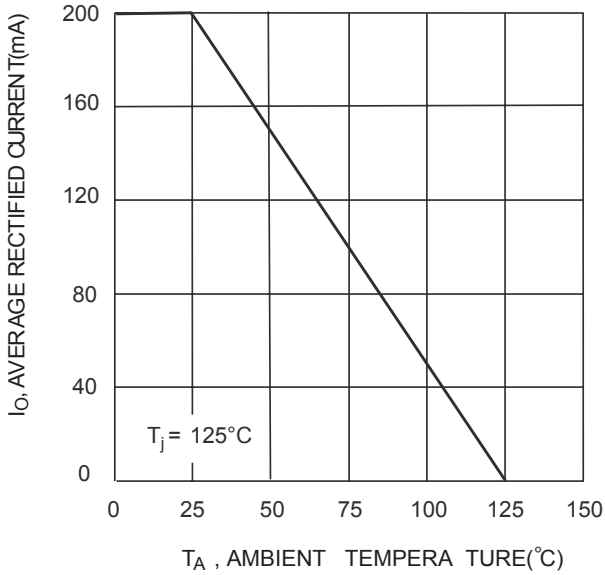


FIG. 1 Forward Current Derating Curve

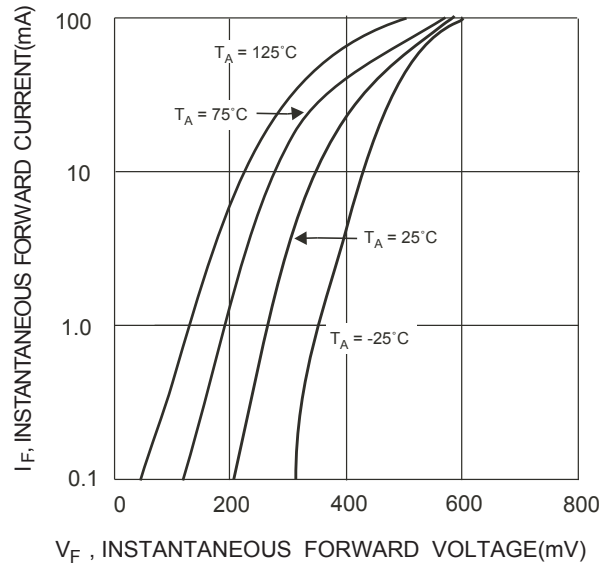


FIG. 2 Typical Forward Characteristics

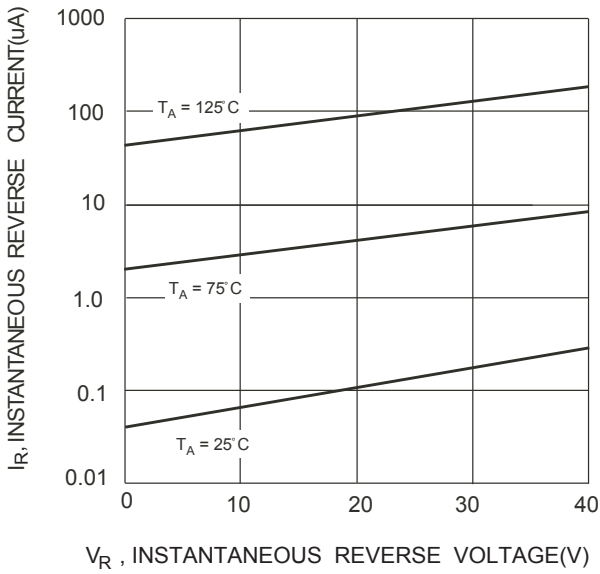


FIG. 3 Typical Reverse Characteristics

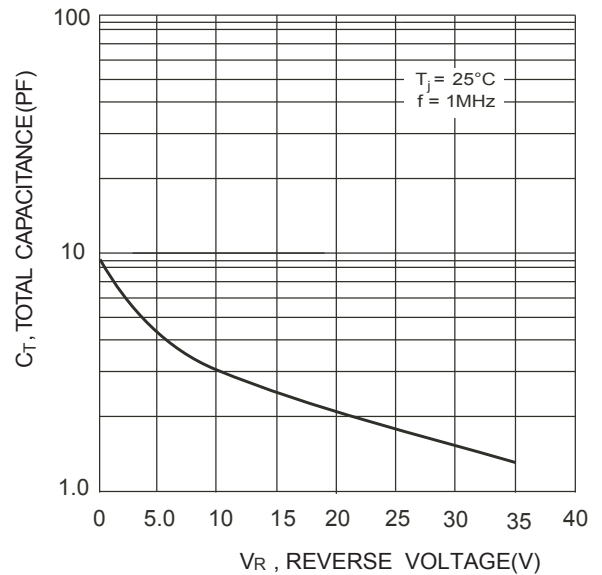


FIG. 4 Total Capacitance vs. Reverse Voltage