

A suffix of "-C" specifies halogen & lead-free

FEATURES

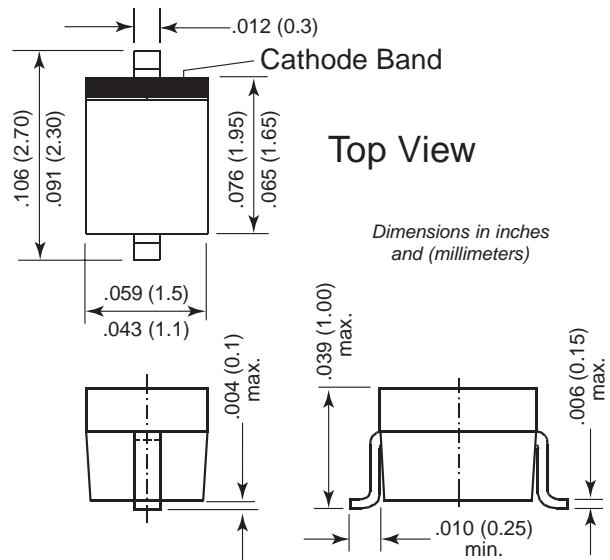
- RoHS Compliant Product
- High Current Capability
- Extremely Low Thermal Resistance
- For Surface Mount Application
- Higher Temp Soldering : 250°C for 10 Seconds at Terminals
- Low Forward Voltage

MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 Rate Flame Retardant
- Lead: Axial Leads, Solderable per MIL-STD-202, Method208 Guaranteed.
- Weight: approx. 0.0045g
- Mounting Position: Any

Marking Vodes: BAT42WS=S7
BAT43WS=S8

SOD-323(SC-76)



Dimensions in inches and (millimeters)

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbo	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	P _d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{θJA}	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 = 100μA
Forward Voltage Drop (Note 2)	V _{FM}	—	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
Peak Reverse Current (Note 2)	I _{RM}	—	500 100	nA μA	V _R = 25V V _R = 25V, T _j = 100°C
Total Capacitance	C _T	—	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 = 100Ω
Rectification Efficiency	η _V	80	—	%	R _L = 15Ω, C _L = 300pF, f = 45MHz, V _{RF} = 2.0V

Notes: 1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature

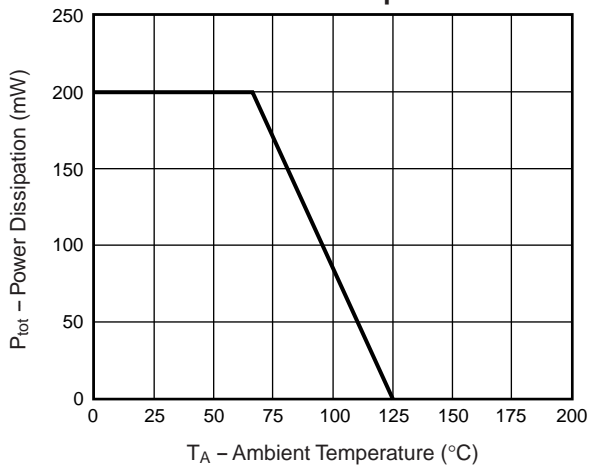


Fig. 2 – Typical Reverse Characteristics

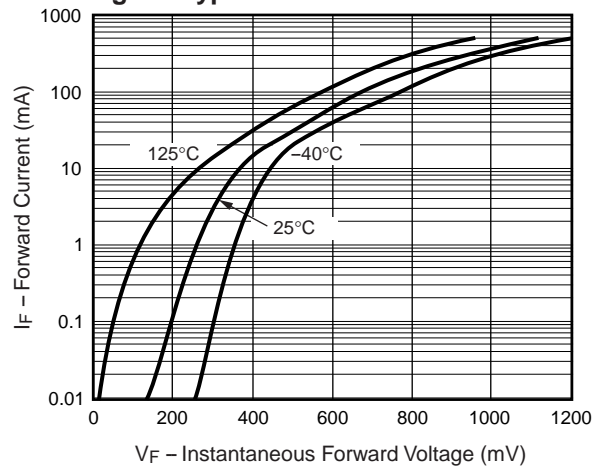


Fig. 3 – Typical Reverse Characteristics

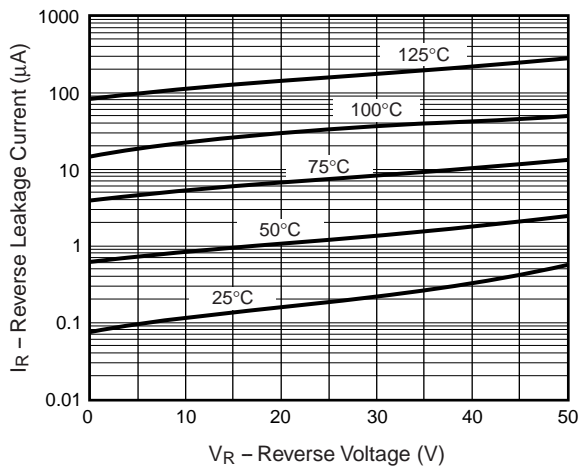


Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage

