Elektronische Bauelemente

BAT42WS /BAT43WS

VOLTAGE 30V

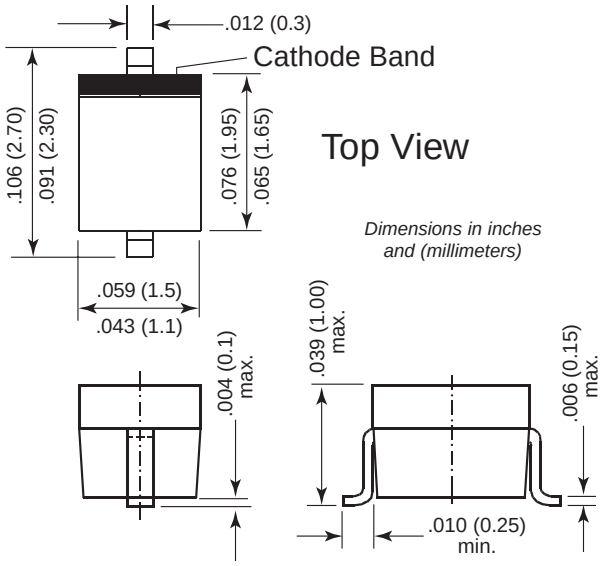
0.2 AMP Schottky Barrier Rectifiers

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

SOD-323(SC-76)



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

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)	$R_{\theta JA}$	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 = 100μA
Forward Voltage Drop (Note 2) All Types	V_{FM}	—	1.0	V	I_F = 200mA
BAT42WS		—	0.40		I_F = 10mA
BAT42WS		—	0.65		I_F = 50mA
BAT43WS		0.26	0.33		I_F = 2.0mA
BAT43WS		—	0.45		I_F = 15mA
Peak Reverse Current (Note 2)	I_{RM}	—	500	nA	V_R = 25V
			100	μA	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	ηv	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.

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Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature

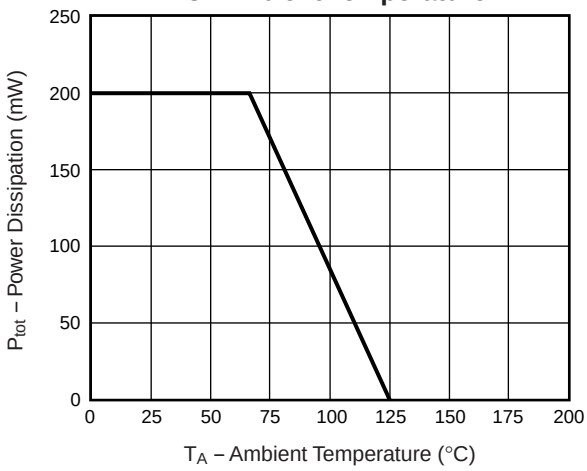


Fig. 2 – Typical Reverse Characteristics

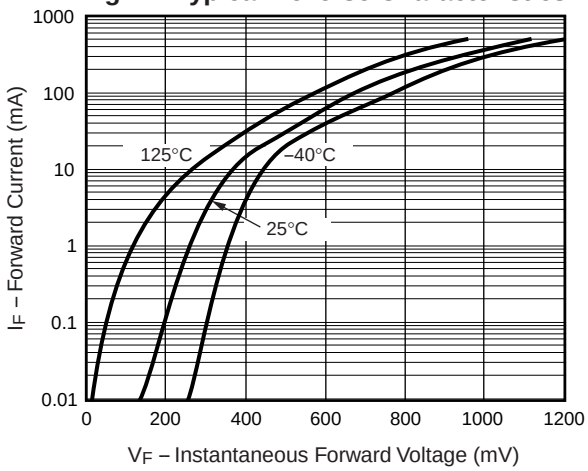


Fig. 3 – Typical Reverse Characteristics

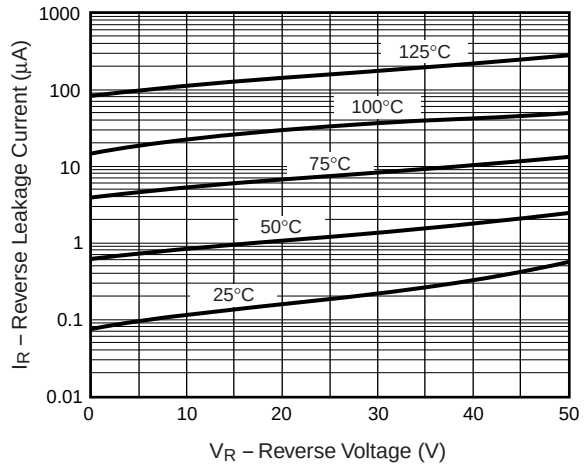


Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage

