



BAT42W / BAT43W

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

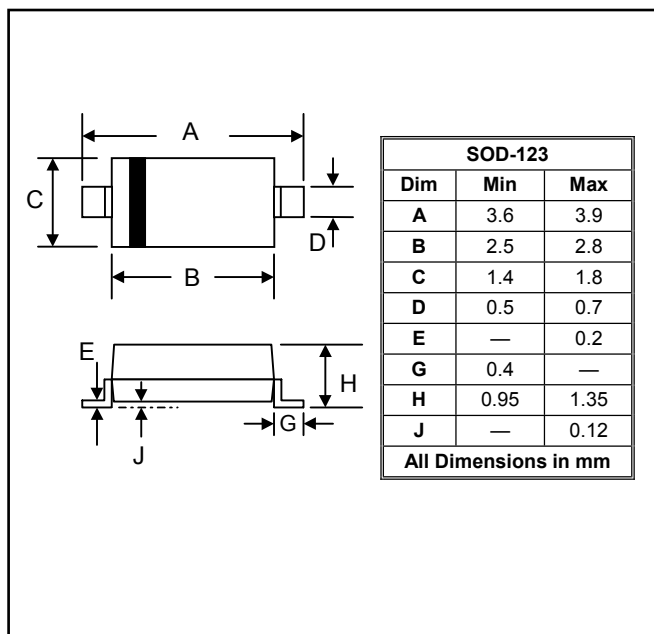
Reverse Voltage - 30 Volts Forward Current - 0.2 Ampere

FEATURES

- Plastic package has Underwriters Laboratory
- Flammability classification 94V-0 Utilizing Flame
- Retardant Epoxy Molding Compound
- For surface mount applications
- Low leakage current.

MECHANICAL DATA

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.017 grams



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

Characteristic	Symbol	BAT42W / BAT43W	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Forward Continuous Current (Note 1)	I_F	200	mA
Repetitive Peak Forward Current (Note 1) @ $t < 1.0\text{s}$	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current @ $t < 10\text{ms}$	I_{FSM}	4.0	A
Power Dissipation	P_d	200	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	K/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +125	$^\circ\text{C}$

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	@ $I_{RS} = 100\mu\text{A}$
Forward Voltage	V_F	—	—	0.4	V	@ $I_F = 10\text{mA}$
				1.0		@ $I_F = 200\text{mA}$
				0.33		@ $I_F = 2\text{mA}$
				1.0		@ $I_F = 200\text{mA}$
Reverse Leakage Current	I_R	—	—	0.5	μA	@ $V_R = 25\text{V}$
Junction Capacitance	C_j	—	—	10	pF	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	5	nS	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1\text{mA}, R_L = 100\Omega$

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



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RATINGS AND CHARACTERISTIC CURVES

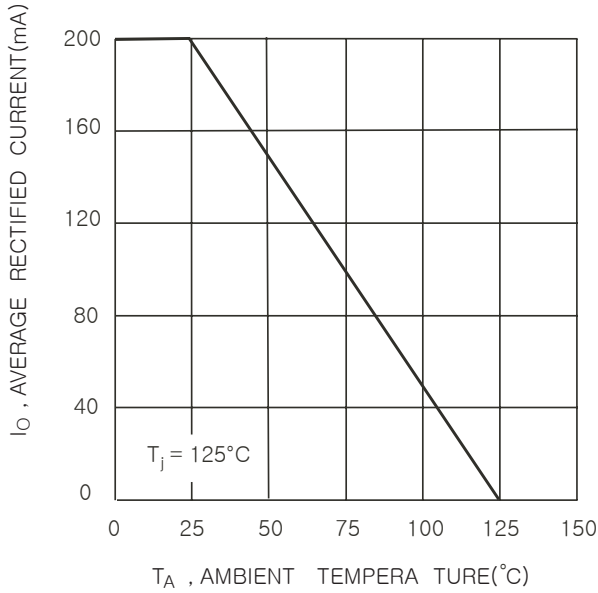


FIG. 1 Forward Current Derating Curve

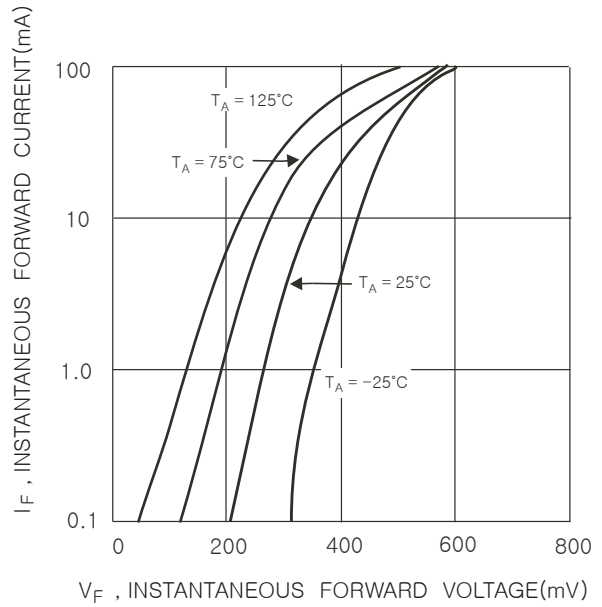


FIG. 2 Typical Forward Characteristics

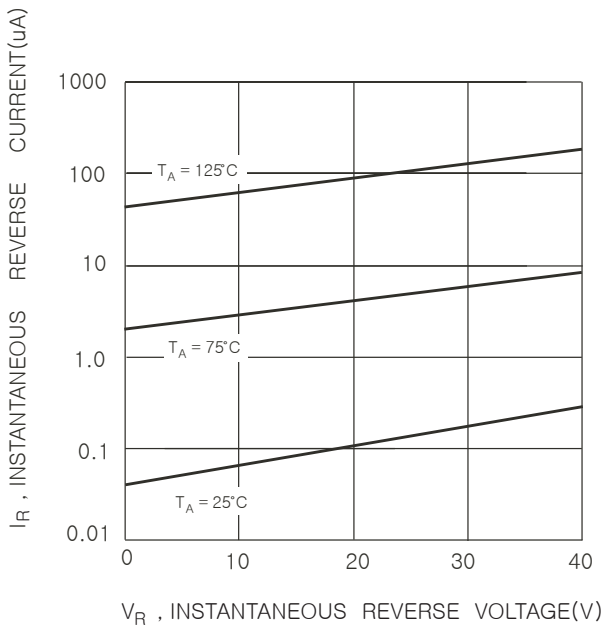


FIG. 3 Typical Reverse Characteristics

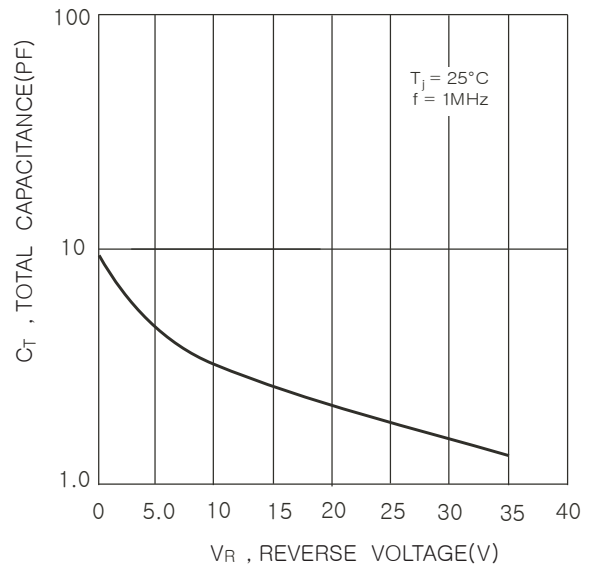


FIG. 4 Total Capacitance vs. Reverse Voltage