



# BAT42 / BAT43W

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

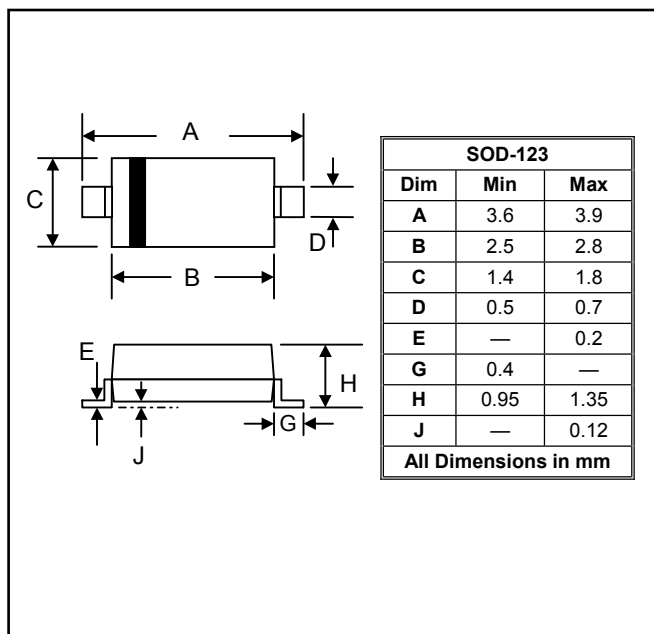
Reverse Voltage - 30 Volts    Forward Current - 1.0 Ampere

### 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

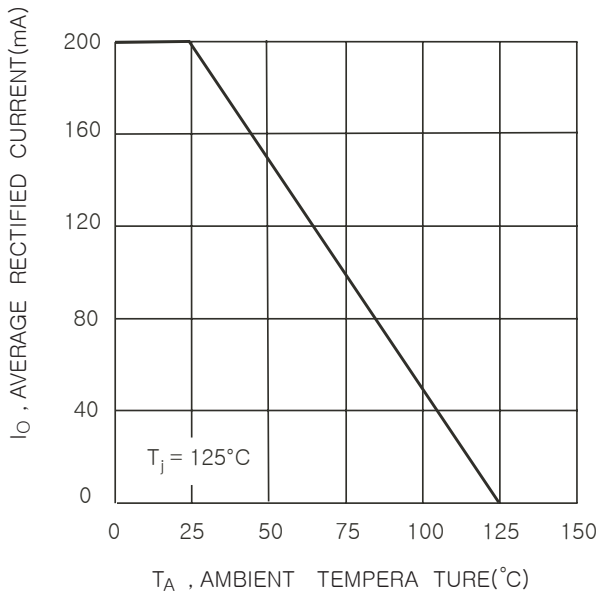
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	30	—	—	V	@ $I_{RS} = 100\mu\text{A}$
Forward Voltage	$V_F$	—	—	0.4	V	@ $I_F = 10\text{mA}$
				1.0		@ $I_F = 200\text{mA}$
				0.33		@ $I_F = 2\text{mA}$
				1.0		@ $I_F = 200\text{mA}$
Reverse Leakage Current	$I_R$	—	—	0.5	$\mu\text{A}$	@ $V_R = 25\text{V}$
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.

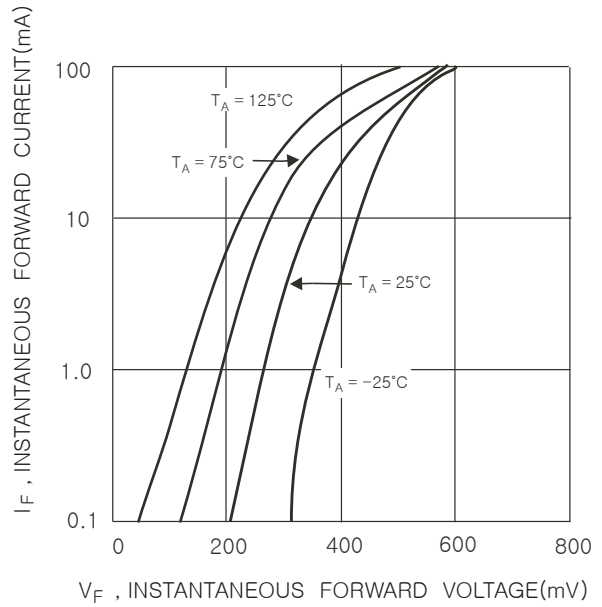


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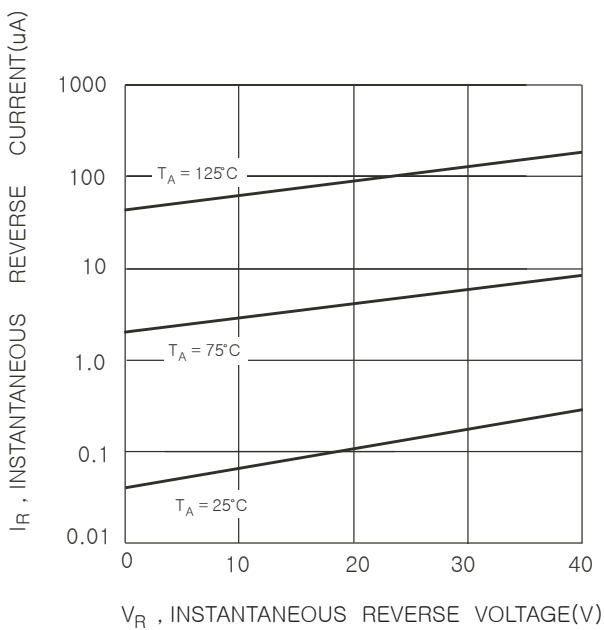
## RATINGS AND CHARACTERISTIC CURVES



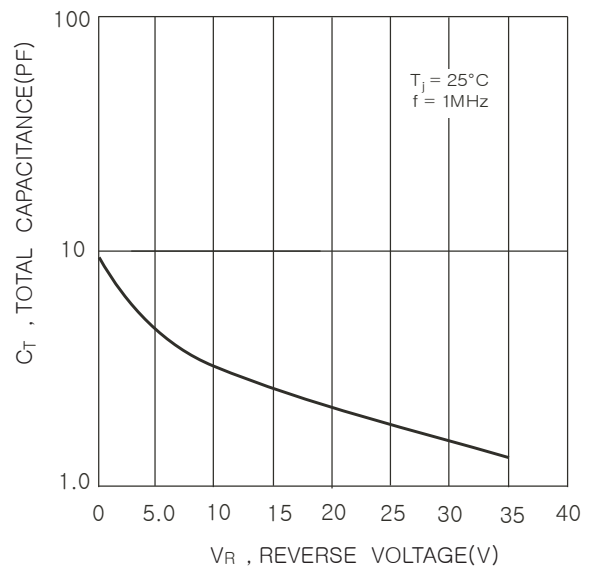
**FIG. 1 Forward Current Derating Curve**



**FIG. 2 Typical Forward Characteristics**



**FIG. 3 Typical Reverse Characteristics**



**FIG. 4 Total Capacitance vs. Reverse Voltage**