



# BAT54WS

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

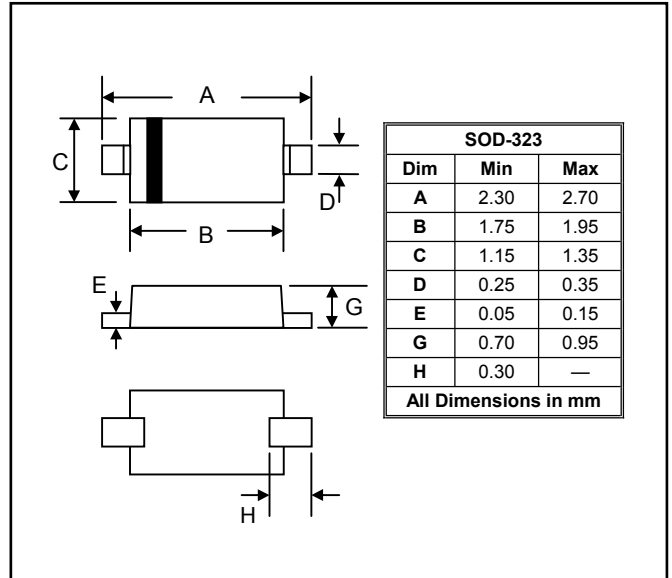
Reverse Voltage - 30 Volts    Forward Current - 200 mAmpere

### 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	Value	Unit
Peak Repetitive Reverse Voltage	VRRM	30	V
Working Peak Reverse Voltage	VRWM		
DC Blocking Voltage	VR		
Forward Continuous Current (Note 1)	IF	200	mA
Repetitive Peak Forward Current (Note 1)	IFRM	300	mA
Non-Repetitive Peak Forward Surge Current @ $t < 1.0\text{s}$	IFSM	600	mA
Power Dissipation (Note 1)	Pd	200	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	R $\theta$ JA	625	K/W
Operating and Storage Temperature Range	Tj, TSTG	-55 to +125	°C

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

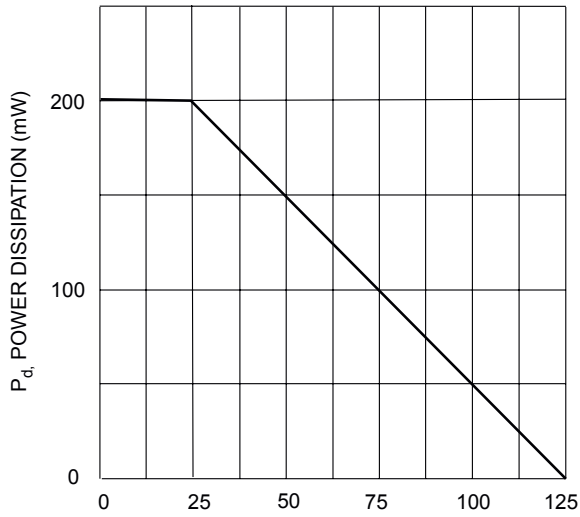
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V(BR)R	30	—	—	V	@ I <sub>RS</sub> = 100 $\mu$ A
Forward Voltage (Note 2)	V <sub>F</sub>	—	—	0.32 1.0	V	@ I <sub>F</sub> = 1.0mA @ I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 2)	I <sub>R</sub>	—	—	2.0	$\mu$ A	@ V <sub>R</sub> = 25V
Junction Capacitance	C <sub>j</sub>	—	—	10	pF	V <sub>R</sub> = 1.0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	5.0	nS	I <sub>F</sub> = 10mA through I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100 $\Omega$

Note: 1. Valid provided that terminals are kept at ambient temperature.  
 2.  $t < 300\mu\text{s}$ , duty cycle  $< 2\%$ .

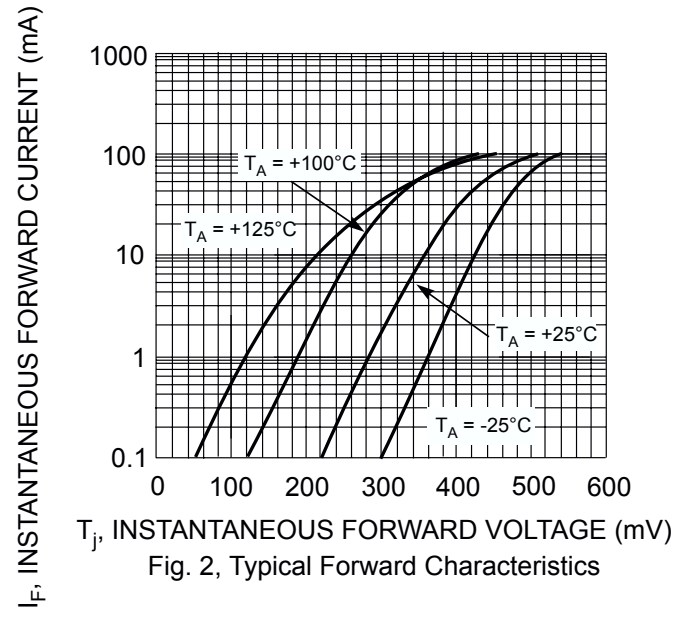


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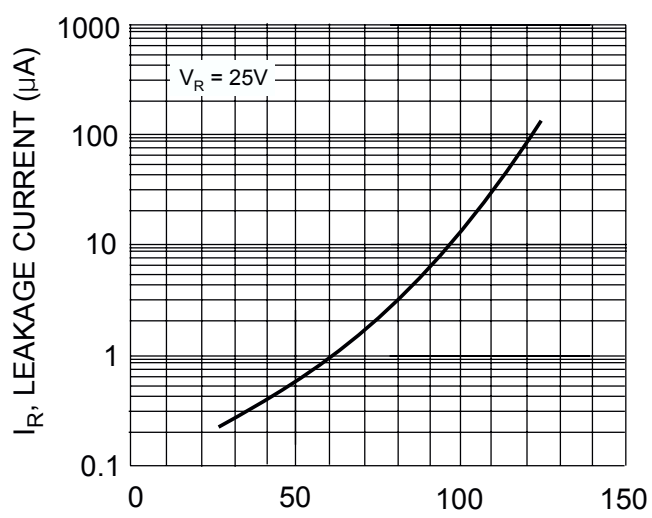
## RATINGS AND CHARACTERISTIC CURVES



$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1 Power Derating Curve



$T_j$ , INSTANTANEOUS FORWARD VOLTAGE (mV)  
Fig. 2, Typical Forward Characteristics



$T_j$ , JUNCTION TEMPERATURE (°C)  
Fig. 3, Typical Reverse Characteristics