RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

# BAT54WS

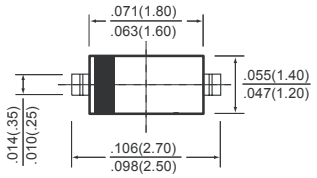
## *Small-Signal Schottky Diodes*

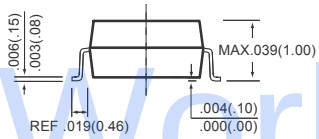
***VOLTAGE RANGE 30 Volts CURRENT 100 mAmpere***

### FEATURES
* Low Tum-on Voltage
* Fast Switching Speed
* Ultre-small Surface Mount Package
* PN Junction Guard Ring for Transient and ESD Protection

### MECHANICAL DATA
* Case: Molded plastic
* Epoxy: UL 94V-O rate flame retardant
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.004 grams

**SOD-323**




Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



**MAXIMUM RATINGS (@$T_A$=25°C unless otherwise noted)**

| RATINGS | SYMBOL | BAT54WS | UNITS |
|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | $V_{RM}$ | 30 | Volts |
| Reverse Breakdown Voltage @$I_R$=100mA | $V_{(BR)R}$ | 30 | Volts |
| Maximum DC Blocking Voltage | $V_R$ | 21 | Volts |
| Maximum Forward Comtinuous Current | $I_{FM}$ | 200 | mAmps |
| Maximum Average Forward Rectified Current | $I_O$ | 100 | mAmps |
| Repetitive Peak Forward Current | $I_{FRM}$ | 300 | mAmps |
| Forward Surge Current | $I_{FSM}$ | 600 | mAmps |
| Typical Reverse Recovery Time (Note 1) | $T_{rr}$ | 5.0 | nS |
| Typical Junction Capacitance (Note 2) | $C_T$ | 10 | pF |
| Maximum Power Dissipation (Note 3) | $P_D$ | 200 | mW |
| Typical Thermal Resistance | $R_{\theta JA}$ | 625 | K/W |
| Junction Temperature | $T_J$ | 125 | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to + 150 | °C |

ELECTRICAL CHARACTERISTICS (@$T_A$=25°C unless otherwise noted)

| CHARACTERISTICS | | SYMBOL | BAT54WS | UNITS |
|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage | @IF=0.1mA<br>@IF=1.0mA<br>@IF=10mA<br>@IF=30mA<br>@IF=100mA | $V_F$ | 240<br>320<br>400<br>500<br>1000 | mVolts |
| Maximum Instantaneous Peverse Current | @VR=25V | $I_R$ | 2.0 | uAmps |

NOTES : 1. Measured at $I_F$=$I_R$=10mA,$I_{RR}$=0.1X$I_R$ And $R_L$=100W.
2. Measured at 1MHz and applied reverse voltage of 0 volts.
3. Part mounted on FR-4 PC board with minimunm recommended pad layout.

2008-12
REV: A

# RATING AND CHARACTERISTICS CURVES ( BAT54WS )

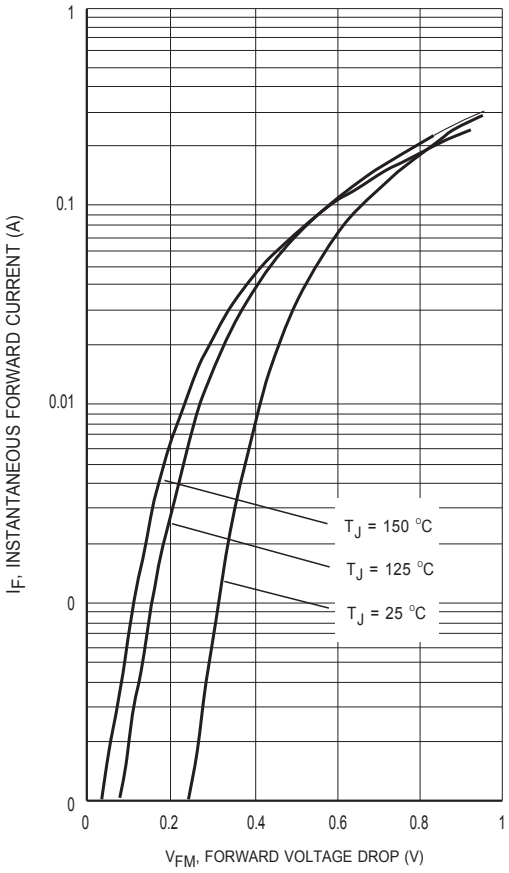



Figure1 Max. Forward Voltage Drop Characteristics

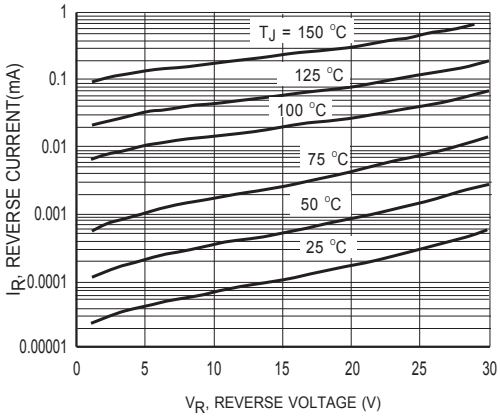



Figure2 Typical Foward Characteristics

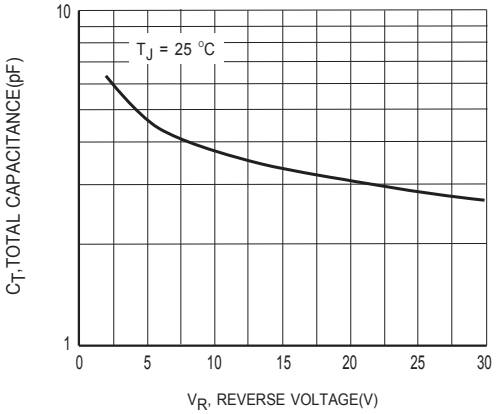



Figure3 Typical Capacitance vs Reverse Voltage

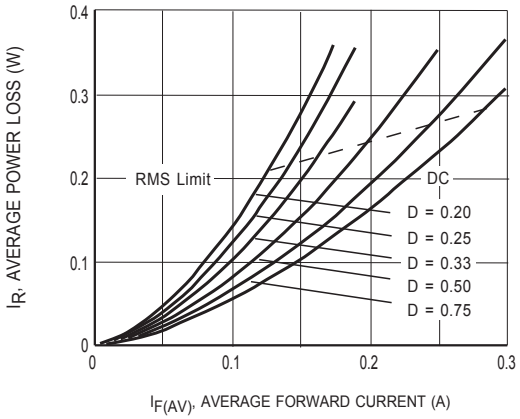



Figure4 Forward Power Loss Characteristics

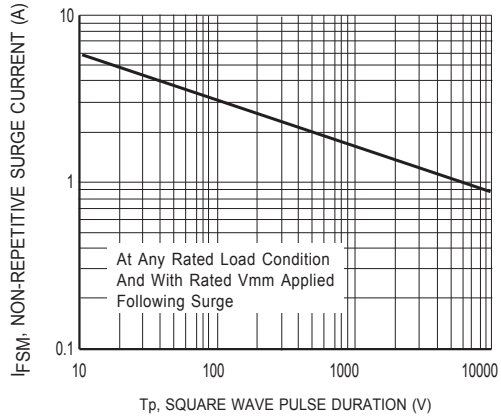



Figure5 Max. Non-Repetitive Surge Current

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