

# BAT54WS

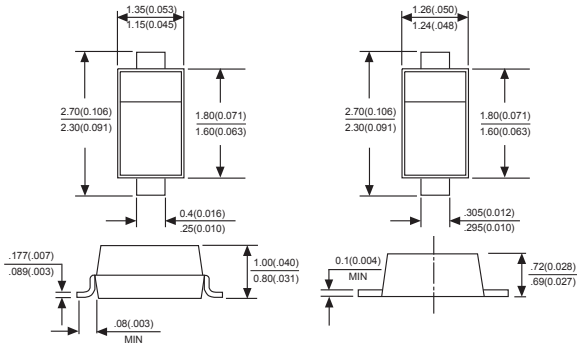
## SCHOTTKY DIODE

SOD-323

### FEATURES

- ◆ Low forward voltage drop
- ◆ Fast switching time
- ◆ Surface mount package ideally suited for automatic insertion

### MECHANICAL DATA



Dimensions in millimeters and (inches)

**Case:** Molded plastic body

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Polarity:** Polarity symbols marked on case

**Marking:** L9

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum ratings and electrical characteristics, Single diode @ $T_A=25^\circ\text{C}$

PARAMETER	SYMBOLS	LIMITS	UNITS
DC Blocking voltage	$V_R$	21	V
Average rectified output current	$I_o$	100	mA
Forward continuous current	$I_{FM}$	200	mA
Repetitive peak forward current	$I_{FRM}$	300	mA
Forward surge current	$I_{FSM}$	600	mA
Power dissipation	$P_d$	200	mW
Thermal resistance, junction to ambient air	$R_{\theta JA}$	625	K/W
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-65 to +150	$^\circ\text{C}$
Non-Repetitive peak reverse voltage	$V_{RM}$	30	V

Electrical ratings @ $T_A=25^\circ\text{C}$

PARAMETER	SYMBOLS	Min.	Typ.	Max.	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)R}$	30			V	$I_R=100\mu\text{A}$
Forward voltage	$V_{F1}$			240	mV	$I_F=0.1\text{mA}$
	$V_{F2}$			320	mV	$I_F=1.0\text{mA}$
	$V_{F3}$			400	mV	$I_F=10\text{mA}$
	$V_{F4}$			500	mV	$I_F=30\text{mA}$
	$V_{F5}$			1000	mV	$I_F=100\text{mA}$
Reverse current	$I_R$			2.0	$\mu\text{A}$	$V_R=25\text{V}$
Capacitance between terminals	$C_T$			10	pF	$V_R=0, f=1.0\text{MHz}$
Reverse recovery time	$t_{rr}$			5.0	ns	$I_F=10\text{mA}, I_R=10\text{mA}$ to 1mA $R_L=100\Omega$

# RATINGS AND CHARACTERISTIC CURVES BAT54WS

INSTANTANEOUS FORWARD CURRENT- $I_F$ (A)

FIG. 1- MAX FORWARD VOLTAGE DROP CHARACTERISTICS(PER LEG)

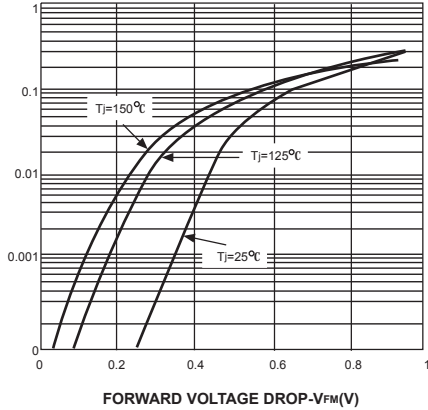
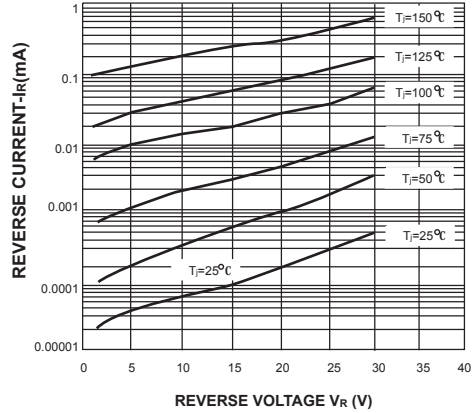
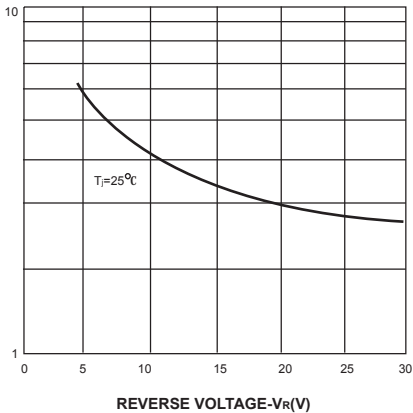


FIG. 2-TYPICAL VALUES OF REVERSE CURRENT VS REVERSE VOLTAGE (PER LEG)



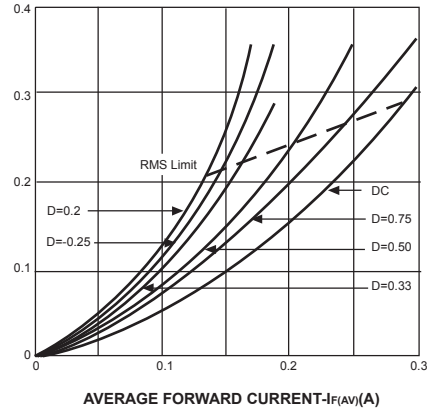
JUNCTION CAPACITANCE- $C_T$ (pF)

FIG. 3- TYPICAL JUNCTION CAPACITANCE



AVERAGE POWER LOSS (Watts)

FIG. 4- FORWARD POWER CHARACTERISTICS



NON-REPETITIVE SURGE CURRENT- $I_{FSM}$ (A)

FIG. 5- MAX NON-REPETITIVE SURGE CURRENT

