

SOD-323

Dimensions in inches and (millimeters)

Features

- RoHS Compliant Product
- High Current Capability
- Extremely Low Thermal Resistance
- For Surface Mount Application
- Higher Temp Soldering : 250°C for 10 Seconds at Terminals
- Low Forward Voltage

Mechanical Data

- Case: Molded Plastic
- Epoxy: UL 94V-0 Rate Flame Retardant
- Lead: Axial Leads, Solderable per MIL-STD-202, Method 208 Guaranteed
- Weight: approx. 0.0045g
- Mounting Position: Any

MAXIMUM RATINGS (TA = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current (Note 1)	I_{FM}	200	mA
Repetitive Peak Forward Current (Note 1) @ t < 1.0s	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current @ t < 10ms	I_{FSM}	4	A
Power Dissipation	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R_{thJA}	625	°C / w
Operating and Storage Temperature Range	T_j, T_{STG}	-55~125	°C
Marking Codes		BAT42WS=S7 BAT43WS=S8	

Schottky Barrier Rectifiers

Electrical Characteristics @ TA = 25°C unless otherwise specified					
Characteristic	Test Condition	Symbol	Min	Max	Unit
Reverse Breakdown Voltage (Note 2)	$I_R = 100\mu\text{A}$	$V_{(BR)R}$	30	-	V
Forward Voltage Drop (Note 2) All Types	$I_F = 200\text{mA}$	V_{FM}	-	1.0	V
BAT42WS	$I_F = 10\text{mA}$		-	0.40	
BAT42WS	$I_F = 50\text{mA}$		-	0.65	
BAT43WS	$I_F = 2.0\text{mA}$		0.26	0.33	
BAT43WS	$I_F = 15\text{mA}$		-	0.45	
Peak Reverse Current (Note 2)	$V_R = 25\text{V}$ $V_R = 25\text{V}, T_j = 100^\circ\text{C}$	I_{RM}	-	500 100	nA uA
Total Capacitance	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$	C_T	-	10	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	t_{rr}	-	5	ns
Rectification Efficiency	$R_L = 15\Omega, C_L = 300\text{pF}$, $f = 45\text{MHz}, V_{RF} = 2.0\text{V}$	η_V	80	-	%

Notes:

1. Part mounted on FR -4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

Schottky Barrier Rectifiers

Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature

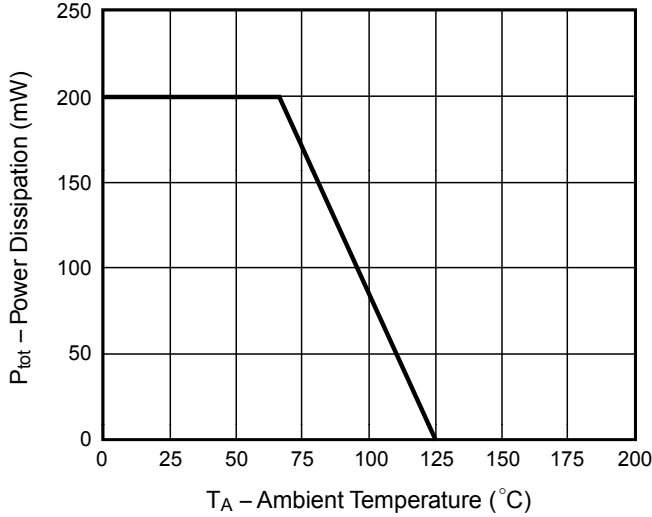


Fig. 2 – Typical Reverse Characteristics

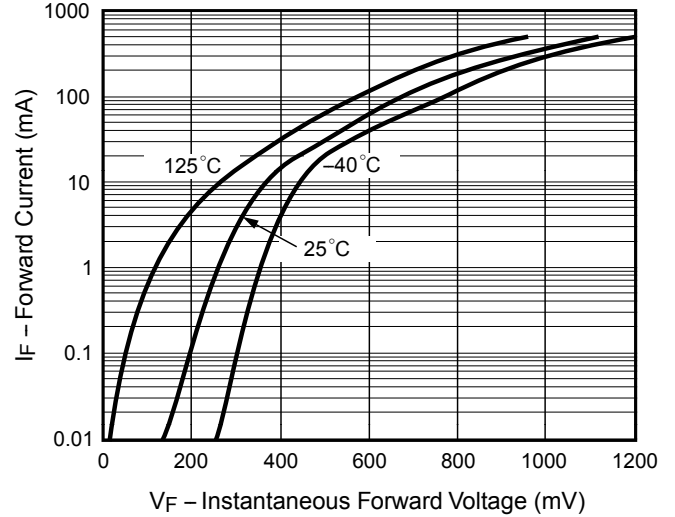


Fig. 3 – Typical Reverse Characteristics

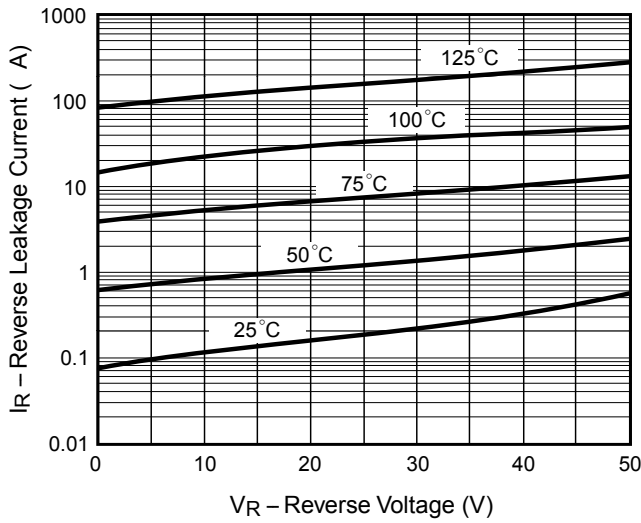


Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage

