BAT46W

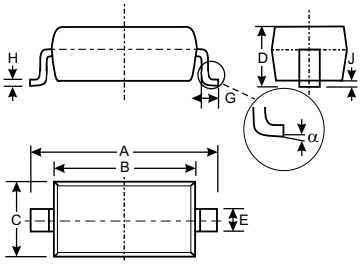
SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- High Breakdown Voltage
- Low Turn-on Voltage
- Guard Ring Construction for Transient Protection

Mechanical Data

- Case: SOD-123, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Date Code & Type Code, See Page 2
- Type Code: S9
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 2



SOD-123		
Dim	**Min**	**Max**
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	BAT46W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
Average Rectified Forward Current	I_O	75	mA
Forward Continuous Current (Note 1)	I_F	150	mA
Repetitive Peak Forward Current (Note 1) @ t_p < 1.0s, Duty Cycle < 50%	I_{FRM}	350	mA
Forward Surge Forward Current (Note 1) @ t_p = 10ms	I_{FSM}	750	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +125	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	100	—	—	V	I_R = 100μA
Forward Voltage (Note 2)	V_F	—	—	0.25 0.45 1.00	V	I_F = 0.1mA I_F = 10mA I_F = 250mA
Peak Reverse Current (Note 2)	I_R	—	—	0.5 5.0 0.8 7.5 2.0 15 5.0 20	μA	V_R = 1.5V V_R = 1.5V, Tj = 60°C V_R = 10V V_R = 10V, Tj = 60°C V_R = 50V V_R = 50V, Tj = 60°C V_R = 75V V_R = 75V, Tj = 60°C
Total Capacitance	C_T	—	10 6.0	——	pF	V_R = 0V, f = 1.0MHz V_R = 1.0V, f = 1.0MHz

Note: 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration test pulse used to minimize self-heating effect.

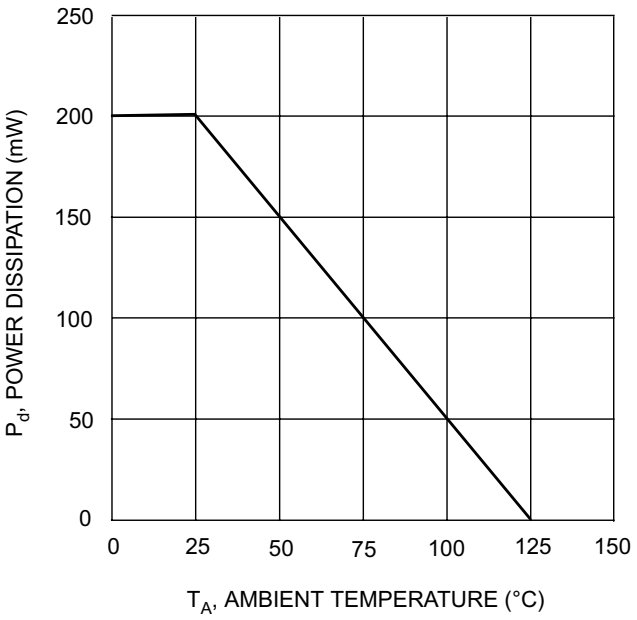


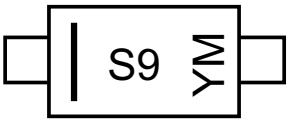
Fig.1 Power Derating Curve

Ordering Information (Note 3)

Device	Packaging	Shipping
BAT46W-7	SOD-123	3000/Tape and Reel

Note: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



S9 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005
Code	J	K	L	M	N	P	R	S

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D