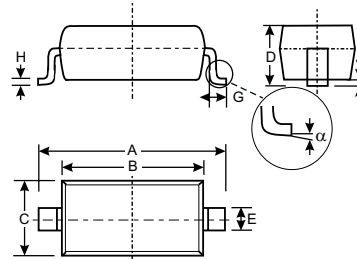


Features

- 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		

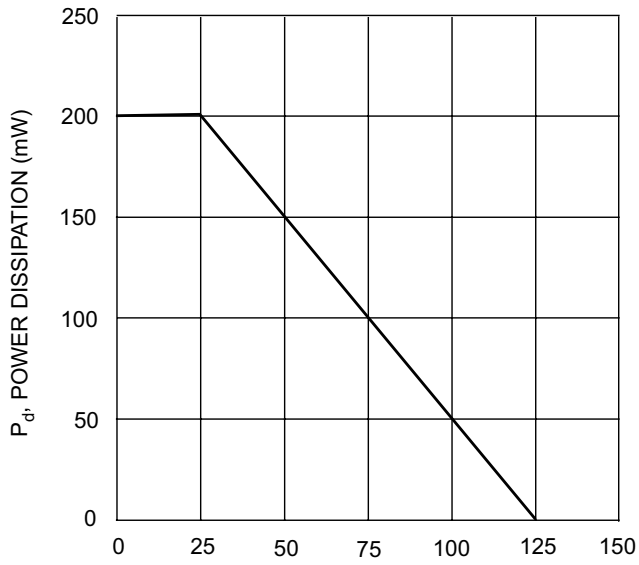
Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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) @ $t_p < 1.0\text{s}$, Duty Cycle < 50%	I_{FRM}	350	mA
Forward Surge Forward Current (Note 1) @ $t_p = 10\text{ms}$	I_{FSM}	750	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +125	$^\circ\text{C}$

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

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

- 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.



T_A, AMBIENT TEMPERATURE (°C)

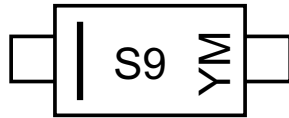
Fig.1 Power Derating Curve

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