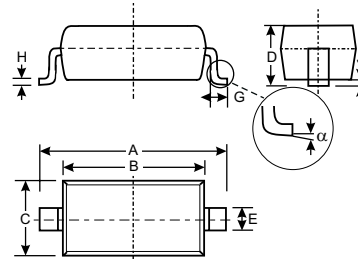


**Features**

- 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		

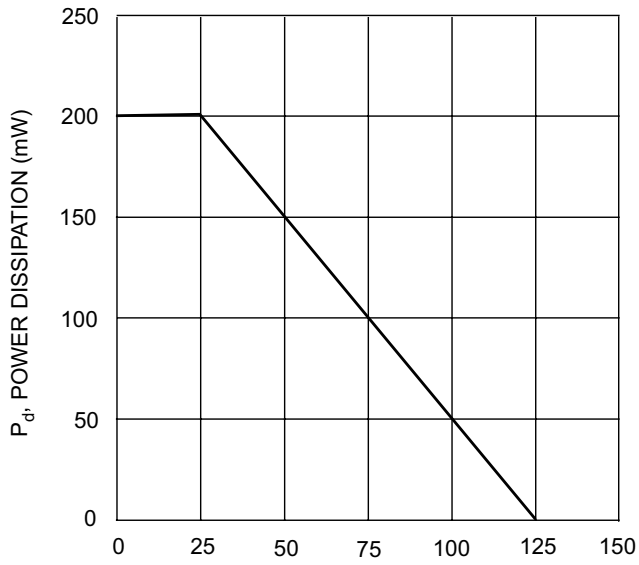
**Maximum Ratings** @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	BAT46W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	100	V
Average Rectified Forward Current	I <sub>O</sub>	75	mA
Forward Continuous Current (Note 1)	I <sub>F</sub>	150	mA
Repetitive Peak Forward Current (Note 1) @ t <sub>p</sub> < 1.0s, Duty Cycle < 50%	I <sub>FRM</sub>	350	mA
Forward Surge Forward Current (Note 1) @ t <sub>p</sub> = 10ms	I <sub>FSM</sub>	750	mA
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +125	°C

**Electrical Characteristics** @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	100	—	—	V	I <sub>R</sub> = 100μA
Forward Voltage (Note 2)	V <sub>F</sub>	—	—	0.25 0.45 1.00	V	I <sub>F</sub> = 0.1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 250mA
Peak Reverse Current (Note 2)	I <sub>R</sub>	—	—	0.5 5.0 0.8 7.5 2.0 15 5.0 20	μA	V <sub>R</sub> = 1.5V V <sub>R</sub> = 1.5V, T <sub>j</sub> = 60°C V <sub>R</sub> = 10V V <sub>R</sub> = 10V, T <sub>j</sub> = 60°C V <sub>R</sub> = 50V V <sub>R</sub> = 50V, T <sub>j</sub> = 60°C V <sub>R</sub> = 75V V <sub>R</sub> = 75V, T <sub>j</sub> = 60°C
Total Capacitance	C <sub>T</sub>	—	10 6.0	—	pF	V <sub>R</sub> = 0V, f = 1.0MHz V <sub>R</sub> = 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.



T<sub>A</sub>, AMBIENT TEMPERATURE (°C)

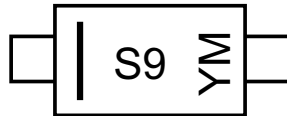
Fig.1 Power Derating Curve

### 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