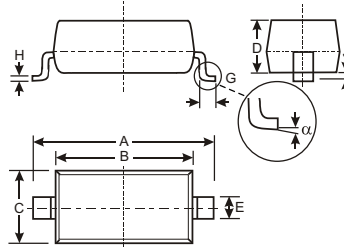


### Features

- High Breakdown Voltage
- Low Turn-on Voltage
- Guard Ring Construction for Transient Protection
- Lead Free/RoHS Compliant Version (Note 4)

### Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Marking: Date Code & Type Code, See Page 3
- Type Code: L6
- Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



SOD-123		
Dim	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.45	0.65
	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
	0	8
All Dimensions in mm		

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

Characteristic	Symbol	Value	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
Forward Continuous Current (See figure 4)	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	P <sub>d</sub>	200	mW

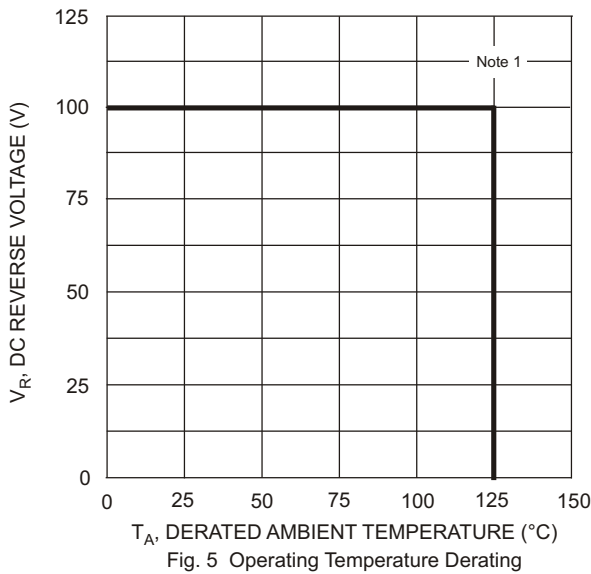
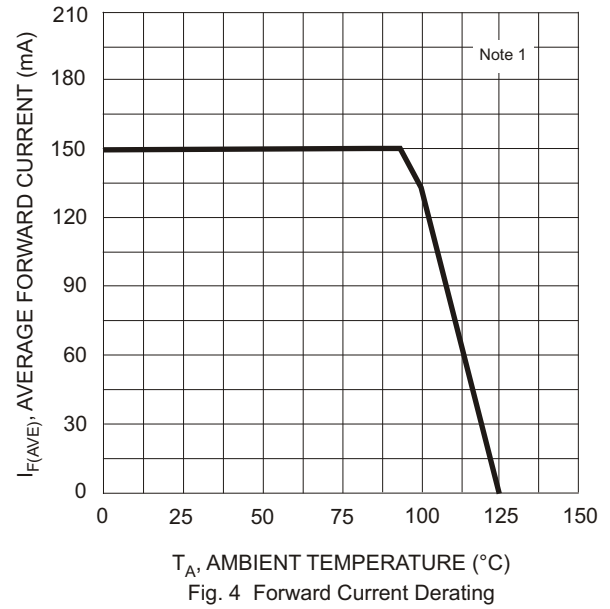
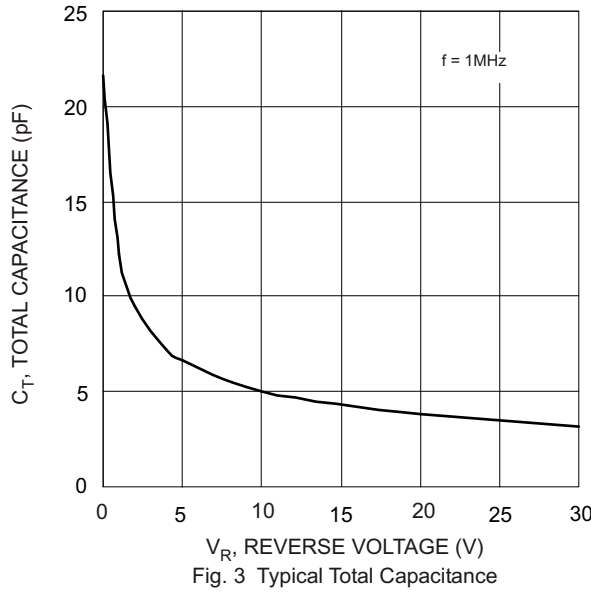
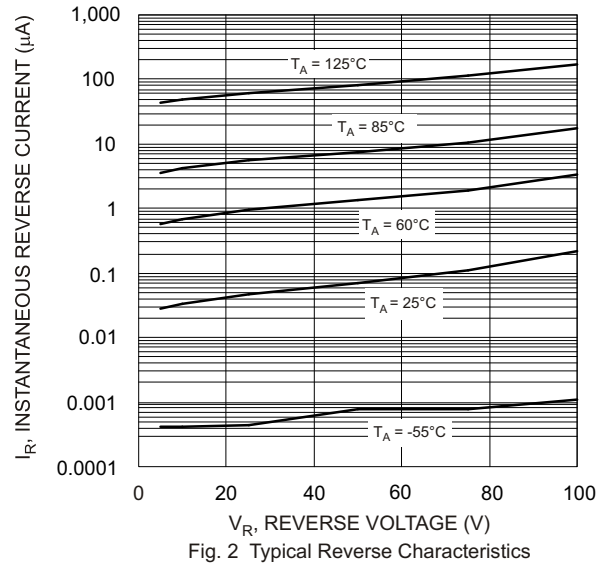
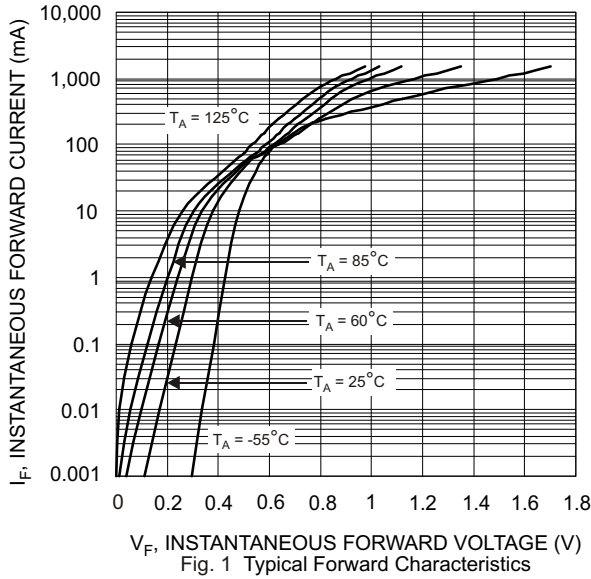
### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient Air (Note 1) Thermal Resistance, Junction to Ambient Air (Note 2)	R <sub>JA</sub>	420 370	C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	V <sub>(BR)R</sub>	100	—	—	V	I <sub>R</sub> = 100 A
Forward Voltage	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 3)	I <sub>R</sub>	—	—	0.3 5.0 0.5 7.5 1.0 15 2.0 20	A	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>	—	20 12	—	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. Part mounted on Polyimide board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.  
 3. Short duration test pulse used to minimize self-heating effect.  
 4. No purposefully added lead.



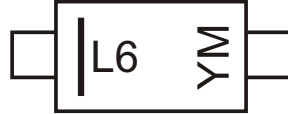
Note 1: Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

**Ordering Information** (Note 5)

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

Note: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



L6 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: S = 2005)  
 M = Month (ex: 9 = September)

Date Code Key

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	R	S	T	U	V	W	X	Y	Z

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

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