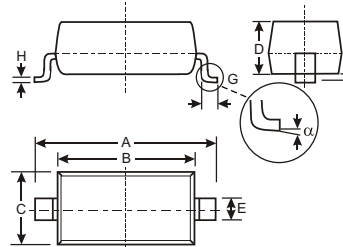


Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Lead Free by Design/RoHS Compliant (Note 3)**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Leads: 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: Marking: SE
- Ordering Information: See Page 2
- 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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	I_O	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	5.5	A
Power Dissipation (Note 1)	P_d	410	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	R_{JA}	244	C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125	C

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

Characteristic	Symbol	Value	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	V	$I_R = 130\text{ A}$
Maximum Forward Voltage Drop	V_{FM}	0.375 0.430	V	$I_F = 0.1\text{ A}, T_J = 25^\circ\text{C}$ $I_F = 0.5\text{ A}, T_J = 25^\circ\text{C}$
Maximum Leakage Current (Note 2)	I_{RM}	20 130	A	$V_R = 15\text{ V}, T_J = 25^\circ\text{C}$ $V_R = 30\text{ V}, T_J = 25^\circ\text{C}$
Total Capacitance	C_T	170	pF	$f = 1\text{ MHz}, V_R = 0\text{ V DC}$

- Notes:
- Device mounted on FR-4 PC board, 2"x2", 2 oz. Copper, single sided, Cathode pad dimensions 0.75"x1.0", Anode pad dimensions 0.25"x1.0".
 - Pulse Test: Pulse width = 300 μs , Duty Cycle 2%.
 - No purposefully added lead.

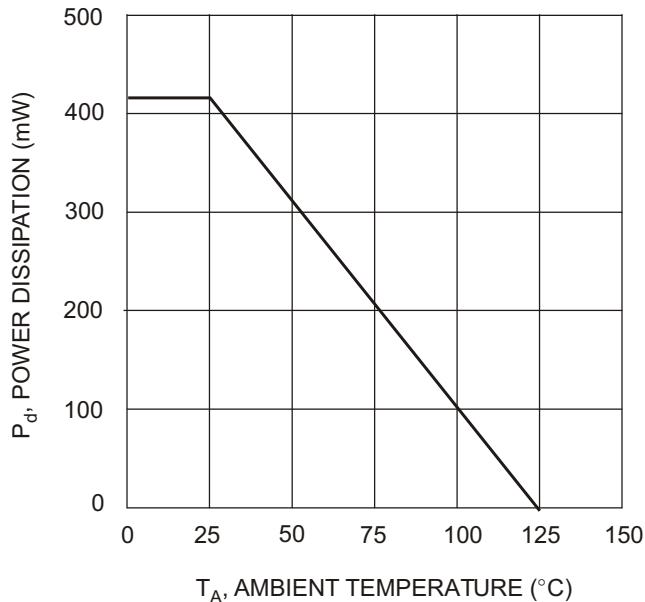


Fig. 1 Power Derating

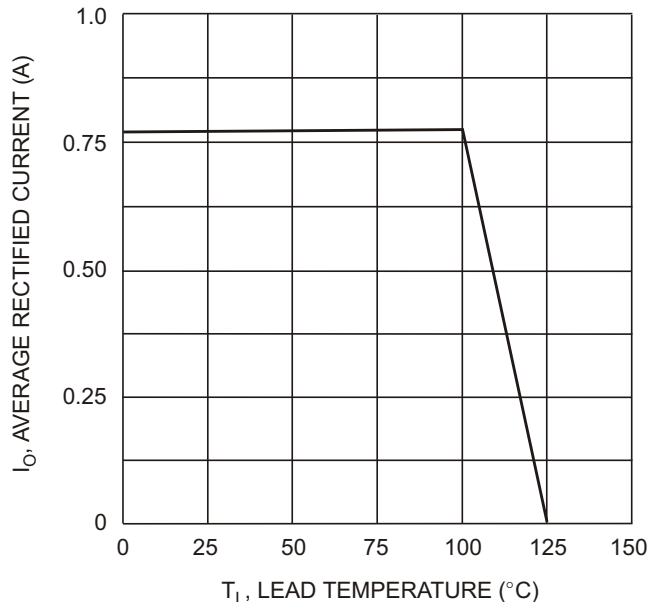


Fig. 2 Forward Current Derating

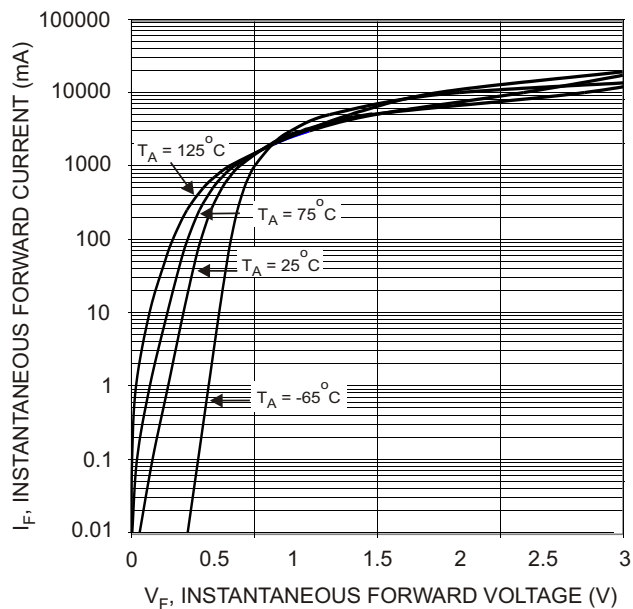


Fig. 3 Typical Forward Characteristics

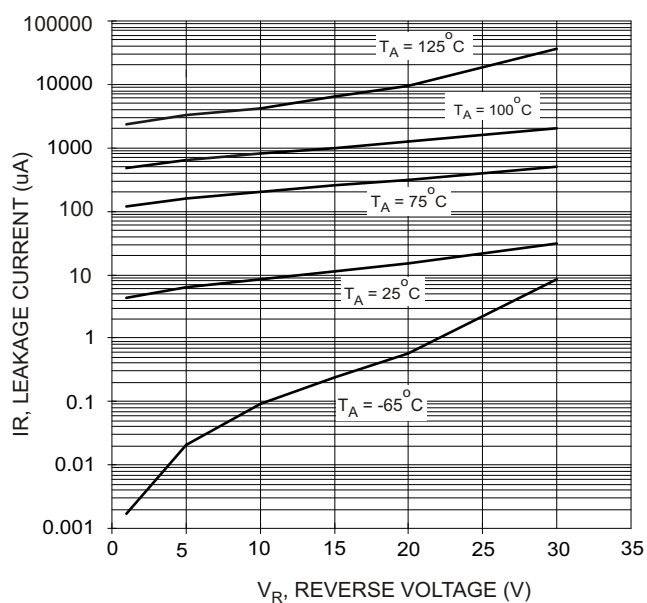


Fig. 4 Typical Reverse Characteristics

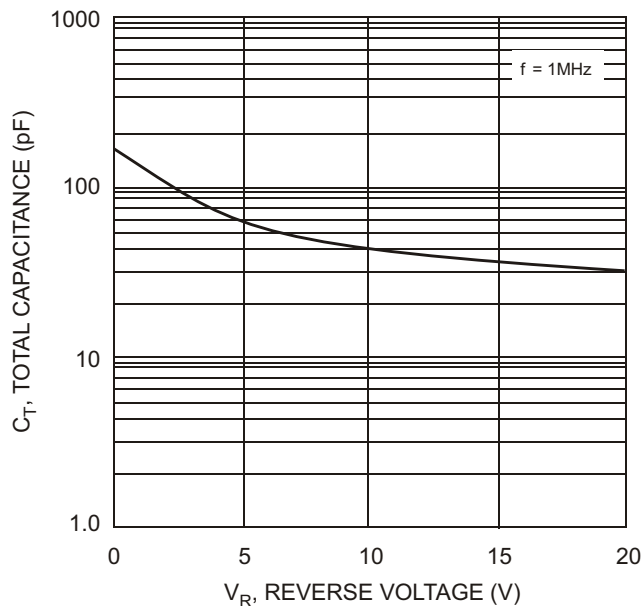
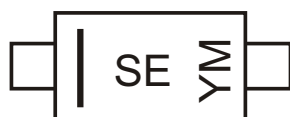


Fig. 5 Typ. Total Capacitance vs Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
B0530W-7-F	SOD-123	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

SE = 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	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	M	N	P	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

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.