

0.5A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance

Mechanical Data

• Case: SOD-123, Plastic

 Case material - UL Flammability Rating Classification 94V-0

• Moisture sensitivity: Level 1 per J-STD-020A

Polarity: Cathode Band

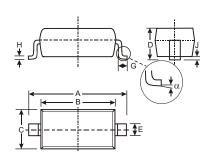
Leads: Solderable per MIL-STD-202,

Method 208

Marking: Date Code & Type Code, See Page 2

Type Code: Marking: SEWeight: 0.01 grams (approx.)

Ordering Information: See Page 2



SOD-123								
Dim	Min	Max						
Α	3.55	3.85						
В	2.55	2.85						
С	1.40 1.70							
D	_	1.35						
E	0.55 Typical							
G	0.25 —							
Н	0.11 T	ypical						
J	_	0.10						
α	0° 8°							
All Dimensions in mm								

Maximum Ratings @ T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	B0530W	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°C	Io	0.5	Α
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	5.5	А
Power Dissipation (Note 1)	Pd	410	mW
Typical Thermal Resistance Junction to Ambient	$R_{ heta JA}$	244	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +125	°C
Voltage Rate of Change (Note 3)	dv/dt	1000	V/μs

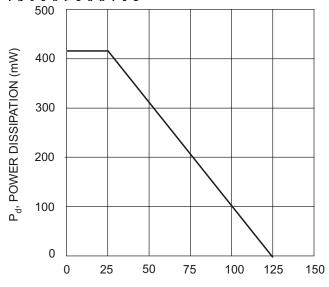
Electrical Characteristics @ TA = 25°C unless otherwise specified

Characteristic	Symbol	B0530W	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	30	V	I _R = 130μA
Maximum Forward Voltage Drop (Note 2)	V _{FM}	0.375 0.430	V	$I_F = 0.1A, T_j = 25^{\circ}C$ $I_F = 0.5A, T_j = 25^{\circ}C$
Maximum Leakage Current (Note 2)	I _{RM}	20 130	μА	$V_R = 15V, T_j = 25^{\circ}C$ $V_R = 30V, T_j = 25^{\circ}C$
Total Capacitance	C _T	170	pF	f = 1MHz, V _R = 0V DC

Notes: 1. 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".

- 2. Pulse Test: Pulse width = 300μs, Duty Cycle ≤ 2%.
- 3. dv/dt measured at rated V_R .





T_A, AMBIENT TEMPERATURE (°C) Fig. 1 Power Derating Curve

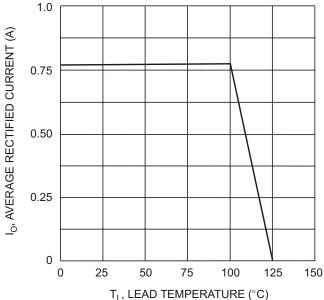
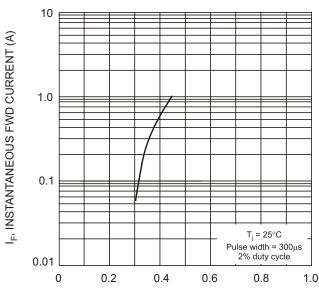


Fig. 2 Forward Current Derating Curve



V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 3 Typical Forward Characteristics

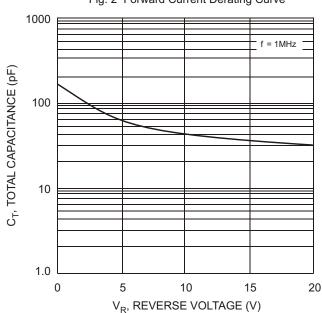


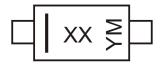
Fig. 4 Typ. Total Capacitance vs Reverse Voltage

Ordering Information (Note 4)

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

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

Marking Information



XX = Product Type Marking Code (See Sheet 1) 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
Code	J	K	L	М	N	Р	R	S	Т	U	V

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D