



# B0530W

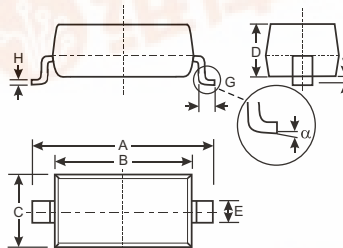
## 0.5A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### 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<sub>A</sub> = 25 C unless otherwise specified

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

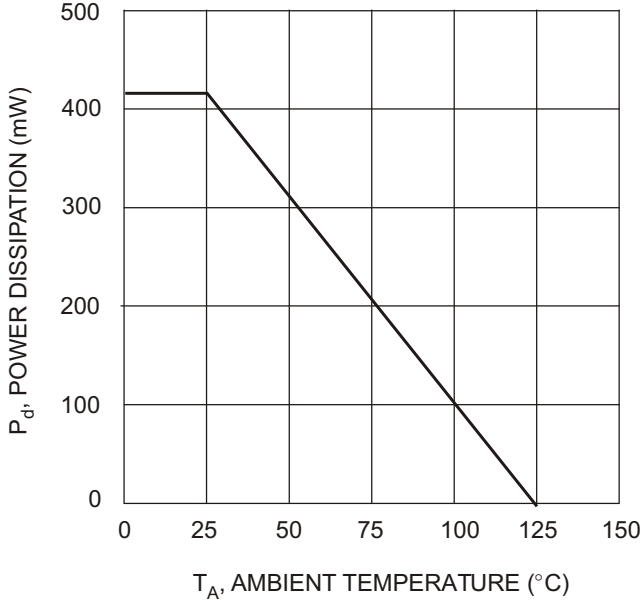
Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Average Rectified Output Current @ T <sub>L</sub> = 100 C	I <sub>O</sub>	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	5.5	A
Power Dissipation (Note 1)	P <sub>d</sub>	410	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	R <sub>JA</sub>	244	C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +125	C

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

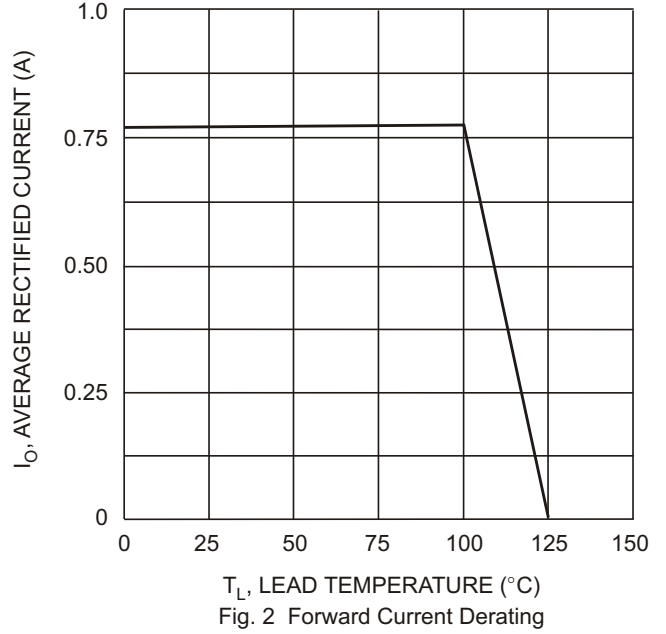
Characteristic	Symbol	Value	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	30	V	I <sub>R</sub> = 130 A
Maximum Forward Voltage Drop	V <sub>FM</sub>	0.375 0.430	V	I <sub>F</sub> = 0.1A, T <sub>j</sub> = 25 C I <sub>F</sub> = 0.5A, T <sub>j</sub> = 25 C
Maximum Leakage Current (Note 2)	I <sub>RM</sub>	20 130	A	V <sub>R</sub> = 15V, T <sub>j</sub> = 25 C V <sub>R</sub> = 30V, T <sub>j</sub> = 25 C
Total Capacitance	C <sub>T</sub>	170	pF	f = 1MHz, V <sub>R</sub> = 0V 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.





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



$T_L$ , LEAD TEMPERATURE (°C)  
Fig. 2 Forward Current Derating

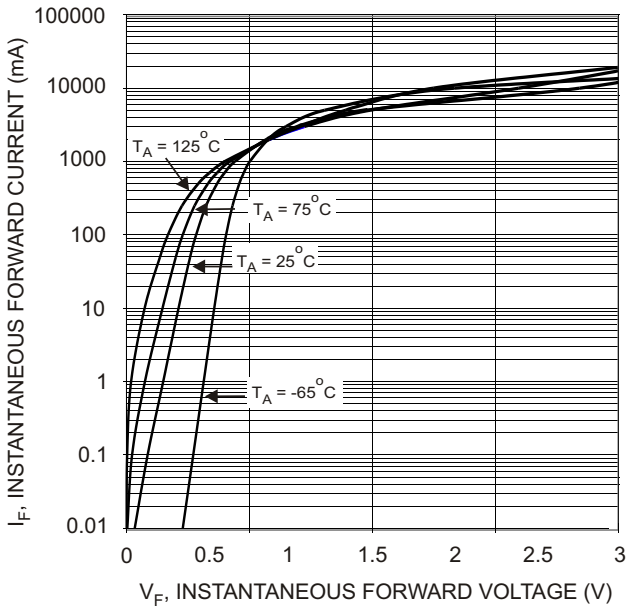


Fig. 3 Typical Forward Characteristics

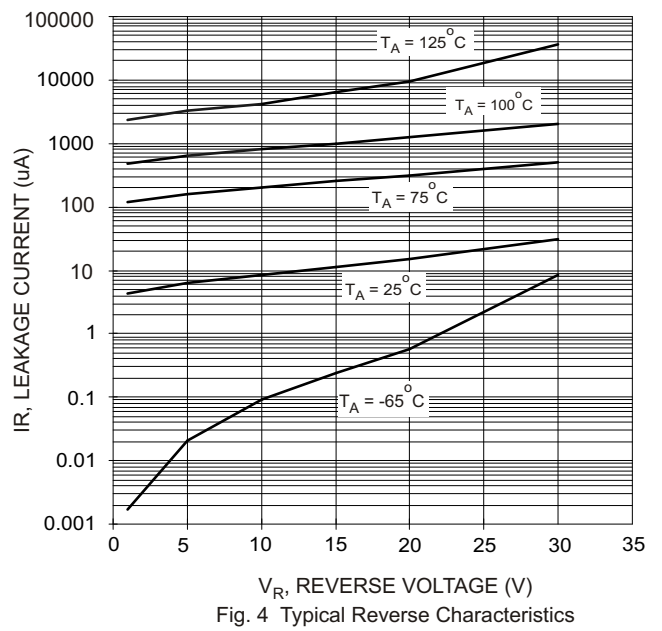


Fig. 4 Typical Reverse Characteristics

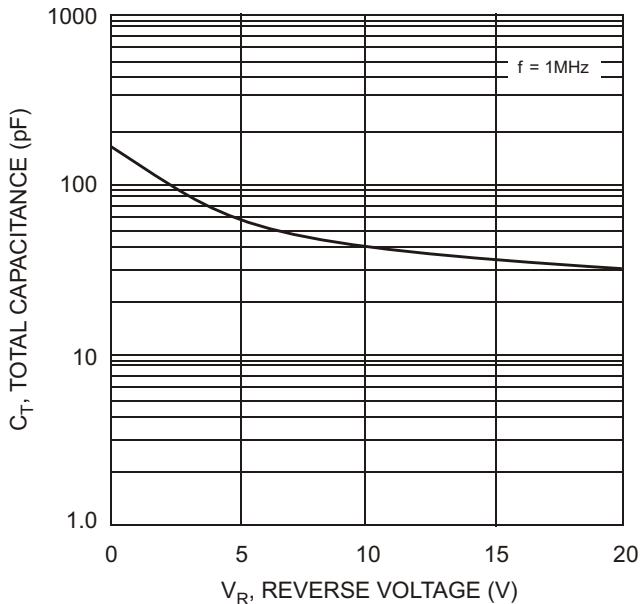


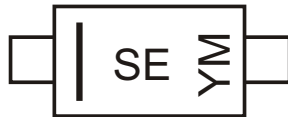
Fig. 5 Typ. Total Capacitance vs Reverse Voltage

## 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

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