



# B130LAW

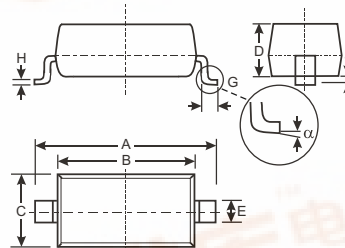
## 1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### Features

- Guard Ring Die Construction for Transient Protection
- Very Low Forward Voltage Drop
- 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
- 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 4
- Type Code: SX
- Ordering Information: See Page 4
- 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%.

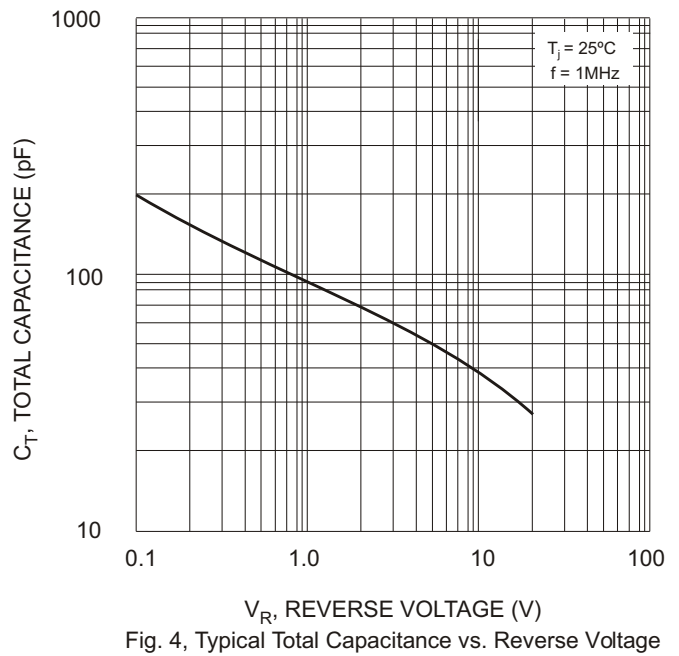
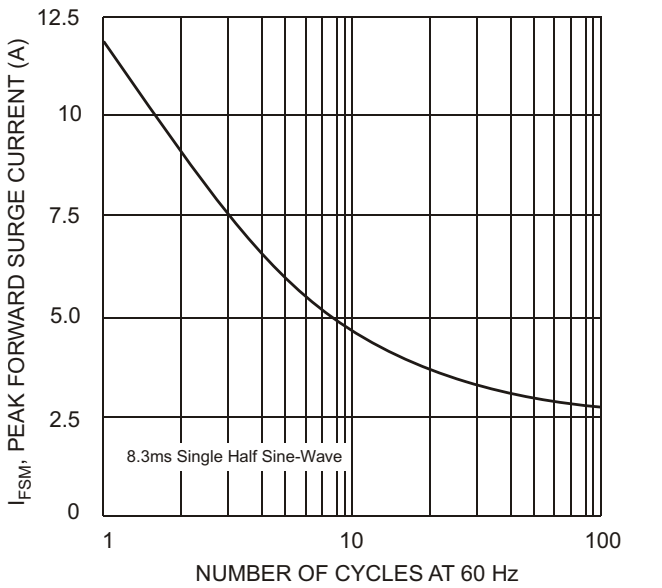
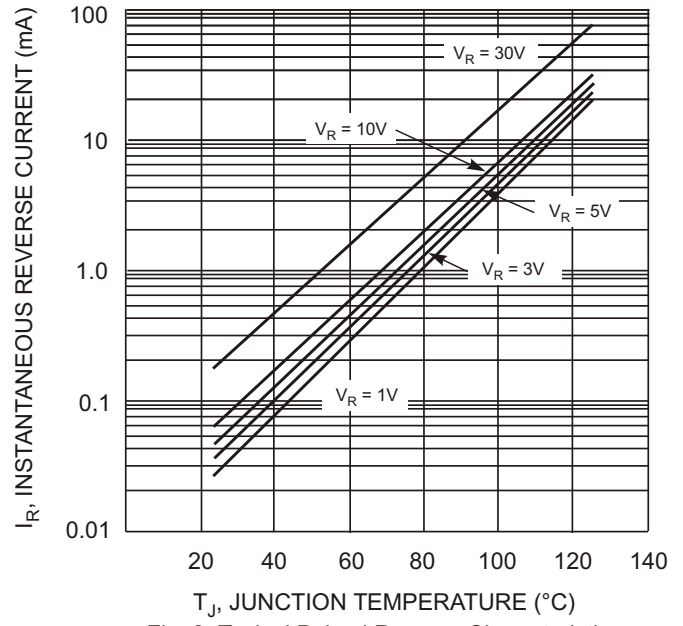
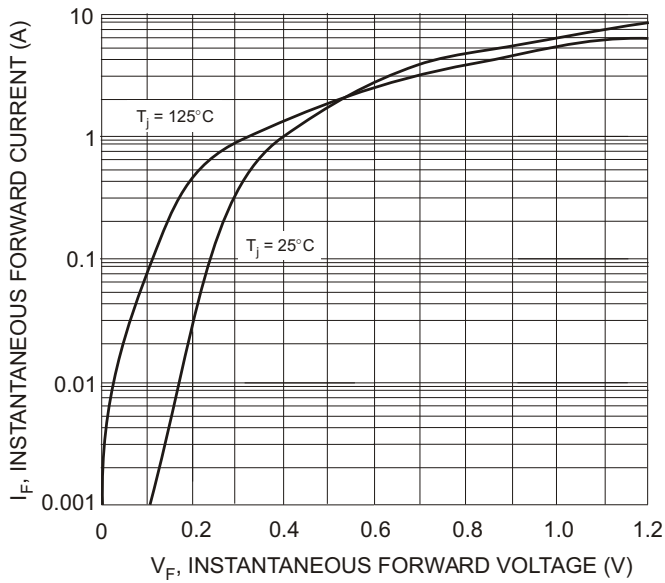
Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Forward Current (See Figure 6)	$I_{F(AV)}$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	12	A
Power Dissipation (Note 2)	$P_d$	450	mW
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{JA}$	222	C/W
Operating Temperature Range (See Figure 7)	$T_j$	-55 to +125	C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

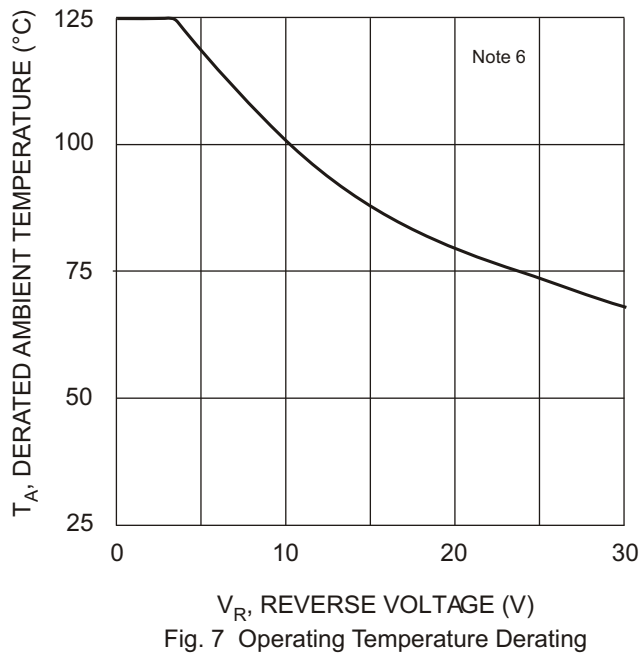
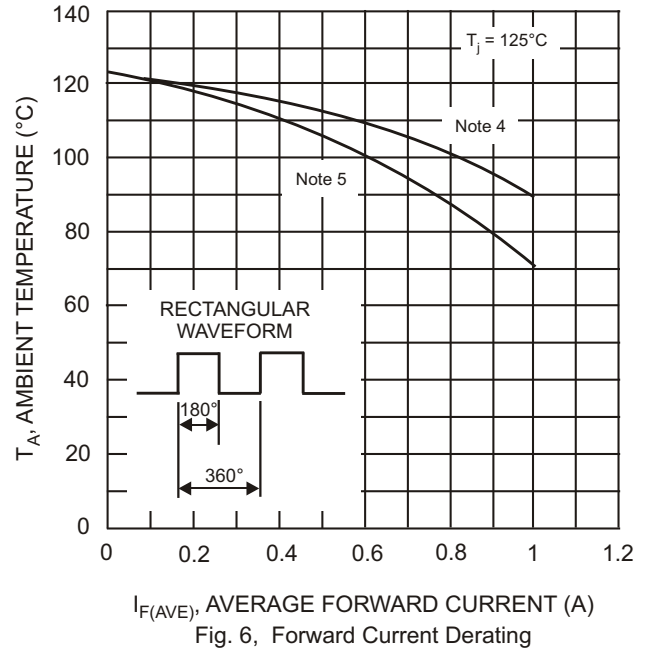
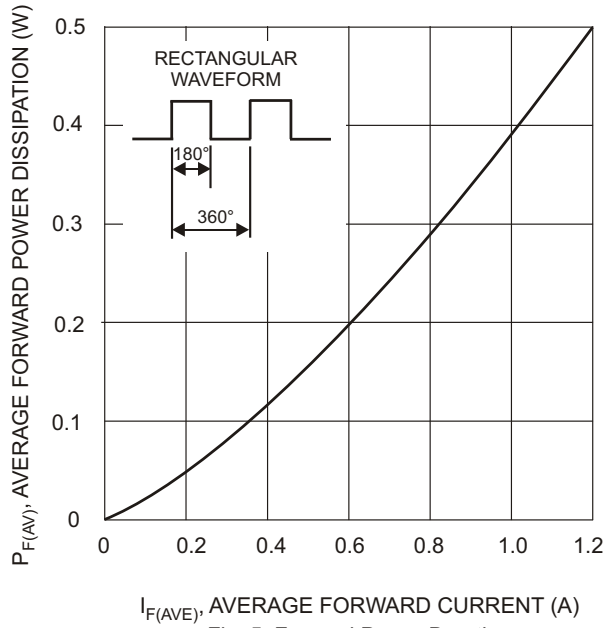
### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	30			V	$I_R = 1.5\text{mA}$
Forward Voltage	$V_F$		0.25 0.35 0.38	0.37 0.42	V	$I_F = 0.1\text{A}$ $I_F = 0.7\text{A}$ $I_F = 1.0\text{A}$
Leakage Current (Note 1)	$I_R$		0.15	1.0	mA	$V_R = 30\text{V}$ , $T_A = 25^\circ\text{C}$
Total Capacitance	$C_T$		40		pF	$V_R = 10\text{V}$ , $f = 1.0\text{MHz}$

- Notes:
- Short duration pulse test used to minimize self-heating effect.
  - 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>.
  - No purposefully added lead.







- Notes:
- Device mounted on GETEK substrate, 2"x2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0".
  - Device mounted on FR-4 substrate, 2"x2", 2 oz. copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  - $R_{JA}$  estimated to be approximately 220 °C/W.

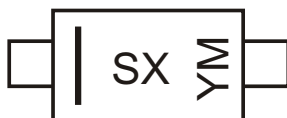


## Ordering Information (Note 7)

Device	Packaging	Shipping
B130LAW-7-F	SOD-123	3000/Tape & Reel

Notes: 7. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



SX = Product Type Marking Code  
YM = Date Code Marking  
Y = Year (ex: T = 2006)  
M = Month (ex: 9 = September)

### Date Code Key

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

Month	Jan	Feb	Mar	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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