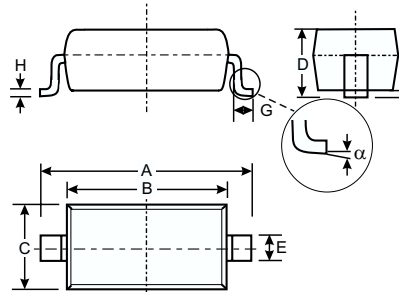


### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop

### Mechanical Data

- Case: SOD-123, Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: Cathode Band
- Terminals: Solderable per MIL-STD-202, Method 208
- Marking: Date Code & Type Code, See Page 3
- Type Code: SX
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 3



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

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

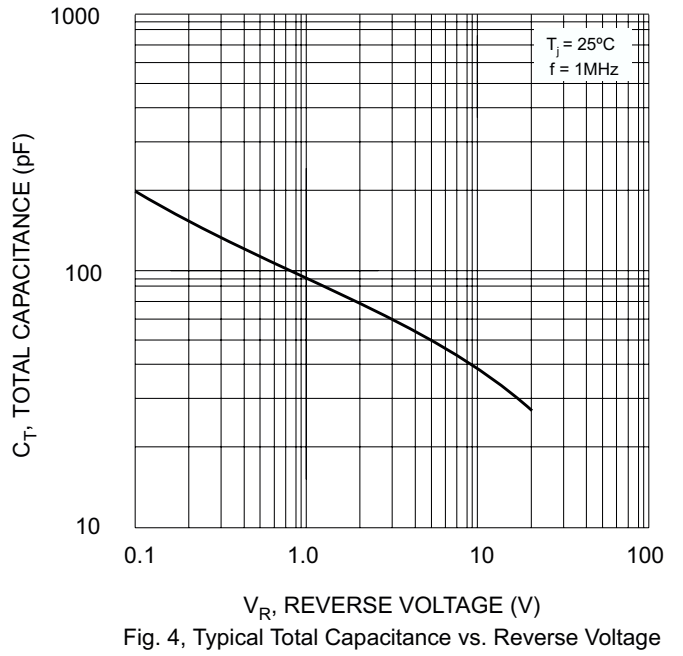
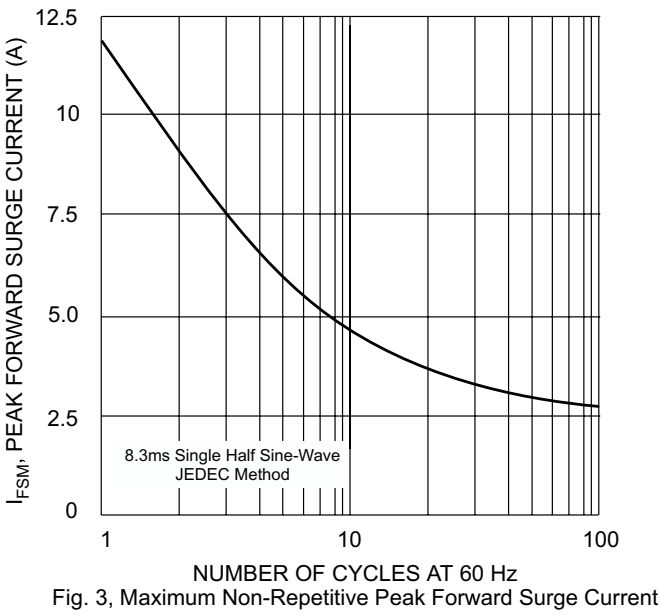
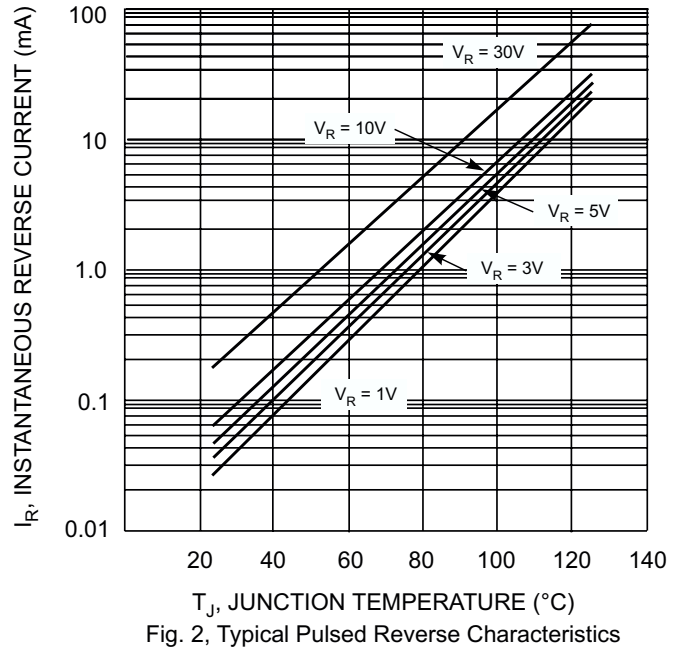
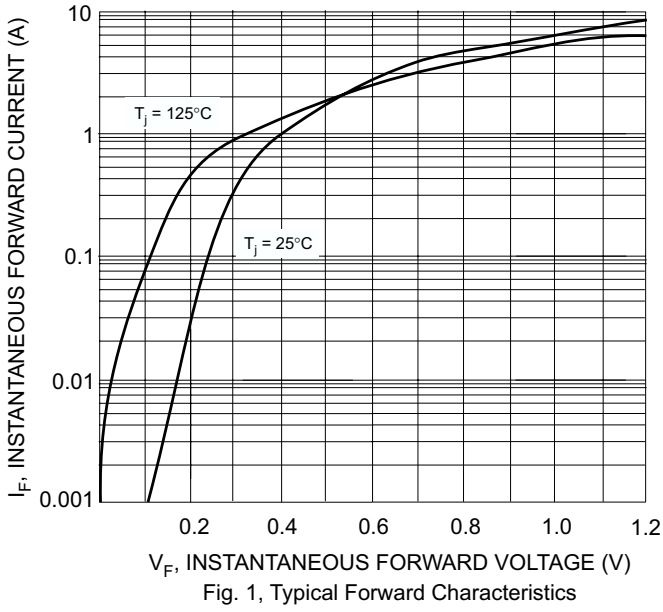
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

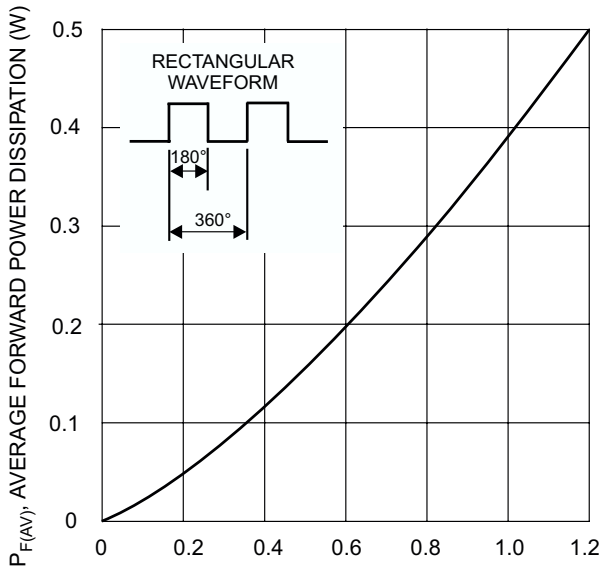
Characteristic	Symbol	B130LAW	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Forward Current (See Figure 6)	$I_{F(AV)}$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	12	A
Power Dissipation (Note 2)	$P_d$	450	mW
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	222	$^\circ\text{C/W}$
Operating Temperature Range	$T_j$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

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

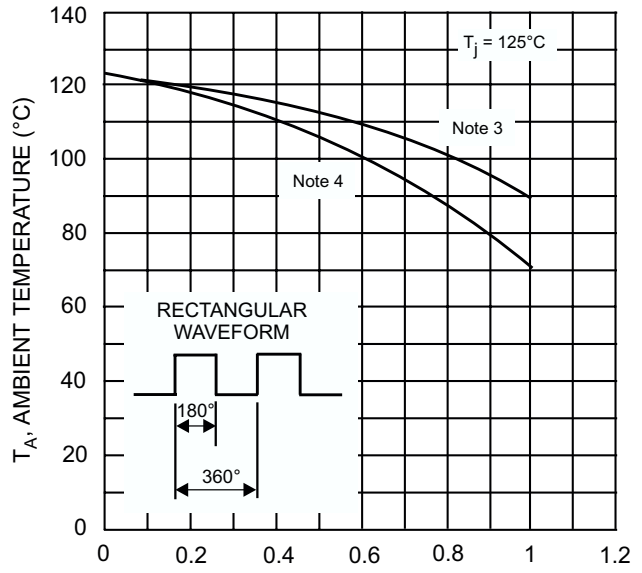
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	30	—	—	V	$I_R = 1.5\text{mA}$
Forward Voltage (Note 1)	$V_F$	—	0.25 0.35 0.38	— 0.37 0.42	V	$I_F = 0.1\text{A}$ $I_F = 0.7\text{A}$ $I_F = 1.0\text{A}$
Leakage Current (Note 1)	$I_R$	—	0.15	1.0	mA	$V_R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

- Notes:
1. Short duration pulse test to minimize self-heating effect.
  2. 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>.





$I_{F(AVE)}$ , AVERAGE FORWARD CURRENT (A)  
Fig. 5, Forward Power Derating



$I_{F(AVE)}$ , AVERAGE FORWARD CURRENT (A)  
Fig. 6, Forward Current Derating

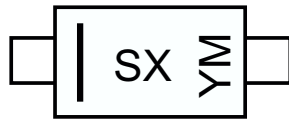
- Notes:
- 3. Device mounted on GETEK substrate, 2"x2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0".
  - 4. Device mounted on FR-4 substrate, 2"x2", 2 oz. Copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

**Ordering Information** (Note 5)

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

- Notes:
- 5. 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: N = 2002)  
 M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008
Code	N	P	R	S	T	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	O	N	D