

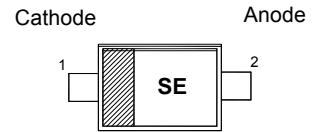


## B130W SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER




### Features

Low Forward Voltage Drop  
Guard Ring Construction for Transient Protection  
High Conductance  
**Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**  
**Halogen and Antimony Free. "Green" Device (Note 3)**



### Mechanical Data

Case: SOD123  
Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Rating Classification 94V-0  
Moisture Sensitivity: Level 1 per J-STD-020  
Polarity: Cathode Band  
Terminals: Finish - Matte Tin Annealed Over Alloy 42 leadframe.  
Solderable per MIL-STD-202, Method 208   
Weight: 0.004 grams (approximate)

**SOD-123**

### Marking Information

Marking code: SE



### Maximum Ratings (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance 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	$V_{R(RMS)}$	25	V
Average Rectified Output Current	$I_O$	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	3	A

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_D$	235	mW
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	426	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-40 to +125	$^\circ\text{C}$

### Electrical Characteristics (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	30	—	—	V	$I_R = 1\text{mA}$
Forward Voltage	$V_F$	—	0.54	0.65	V	$I_F = 1\text{A}$
Reverse Current (Note 6)	$I_R$	—	2.0	50	$\mu\text{A}$	$V_R = 30\text{V}$
Total Capacitance	$C_T$	—	125 20	—	pF pF	$V_R = 0\text{V}, f = 1.0\text{MHz}$ $V_R = 10\text{V}, f = 1.0\text{MHz}$

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.  
6. Short duration pulse test used to minimize self-heating effect.  
7.  $d P_{TDT} / d T_J < 1/R_{\theta JA}$

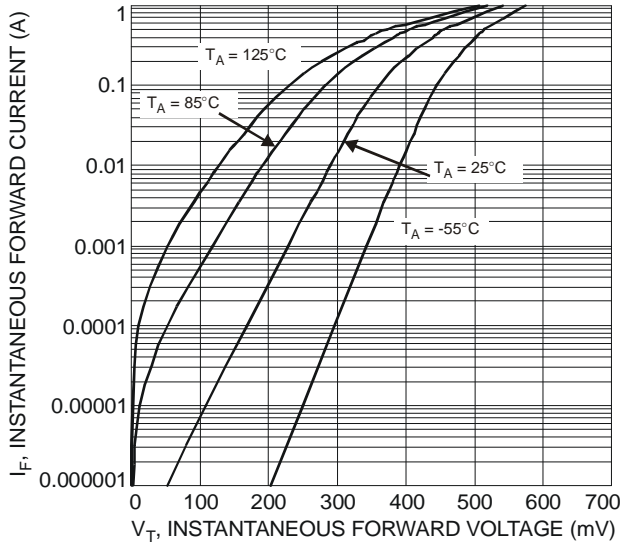


Figure 1 Typical Forward Characteristics

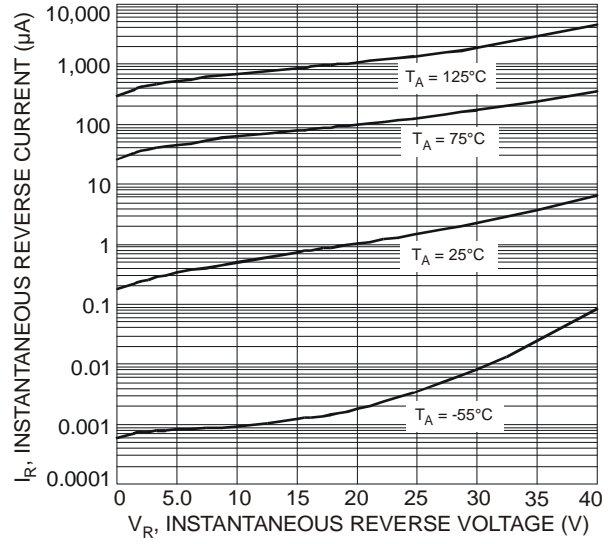


Figure 2 Typical Reverse Characteristics

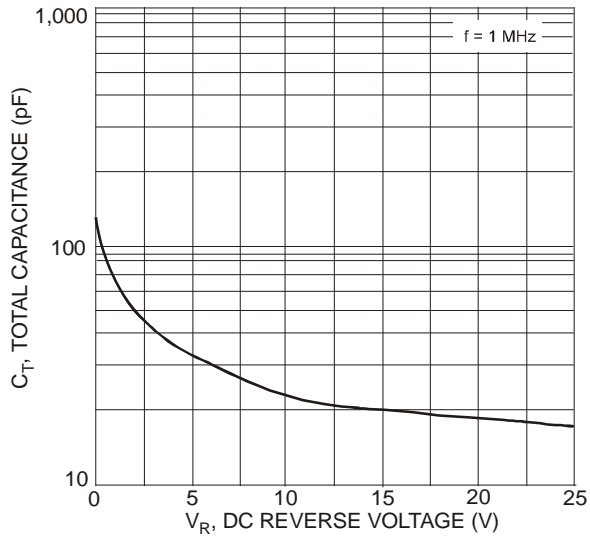


Figure 3 Total Capacitance vs. Reverse Voltage

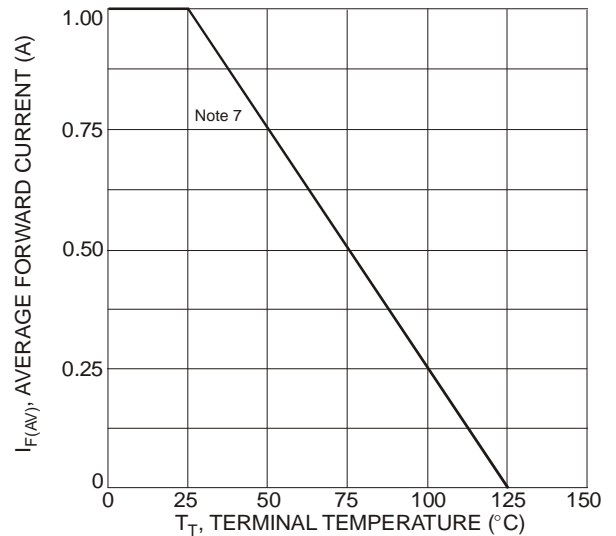


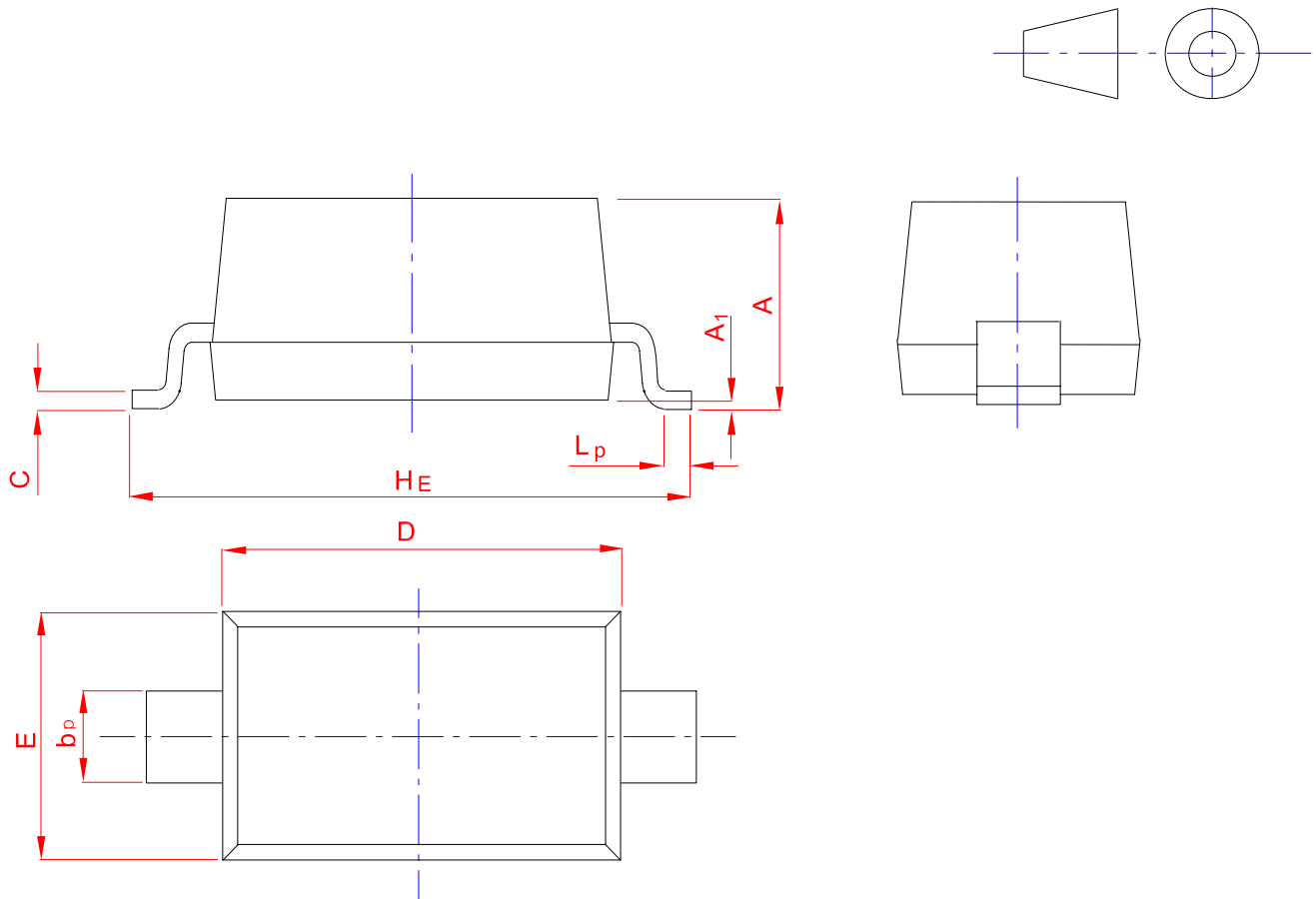
Figure 4 Forward Current Derating Curve



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20	0.60	0.135	2.75	1.65	3.85	0.10	0.50
	0.90	0.50	0.100	2.55	1.55	3.55	0.01	0.20