

## Features

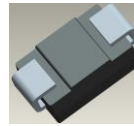
- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative.**  
<https://www.diodes.com/quality/product-definitions/>

## Mechanical Data

- Package: SMA
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 ③
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.064 grams (Approximate)



Top View



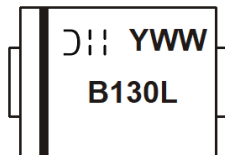
Bottom View

## Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
B130L-13-F	SMA	5000	Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



B130L = Product Type Marking Code  
 DII = Manufacturers' Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 2 for 2022)  
 WW = Week Code (01 to 52)

**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	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage @ I <sub>R</sub> = 1mA	V <sub>RWM</sub>		
Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Average Rectified Output Current @ T <sub>T</sub> = +105°C	I <sub>O</sub>	1.0	A
Peak Repetitive Forward Current (Note 5)	I <sub>FRM</sub>	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	25	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal	R <sub>θJT</sub>	27	°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @T<sub>A</sub> = +25°C, unless otherwise specified.

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	—	—	0.41	V	I <sub>F</sub> = 1.0A, T <sub>J</sub> = +25°C
		—	—	0.35		I <sub>F</sub> = 1.0A, T <sub>J</sub> = +100°C
		—	—	0.47		I <sub>F</sub> = 2.0A, T <sub>J</sub> = +25°C
		—	—	0.43		I <sub>F</sub> = 2.0A, T <sub>J</sub> = +100°C
Leakage Current (Note 6)	I <sub>R</sub>	—	—	0.4	mA	V <sub>R</sub> = 15V, T <sub>A</sub> = +25°C
		—	—	12		V <sub>R</sub> = 15V, T <sub>A</sub> = +100°C
		—	—	1.0		V <sub>R</sub> = 30V, T <sub>A</sub> = +25°C
		—	—	25		V <sub>R</sub> = 30V, T <sub>A</sub> = +100°C
Total Capacitance	C <sub>T</sub>	—	110	—	pF	V <sub>R</sub> = 4V, f = 1MHz

Notes: 5. At rated V<sub>R</sub>, square wave, 25kHz, T<sub>C</sub> = +40°C.  
6. Short duration pulse test used to minimize self-heating effect.

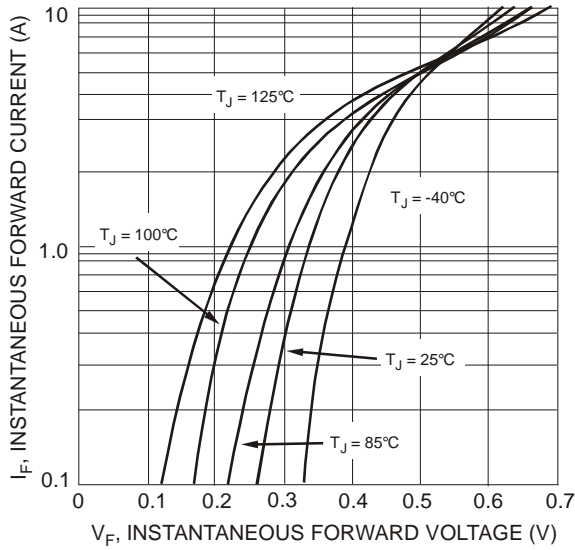


Fig. 1 Typical Forward Characteristics

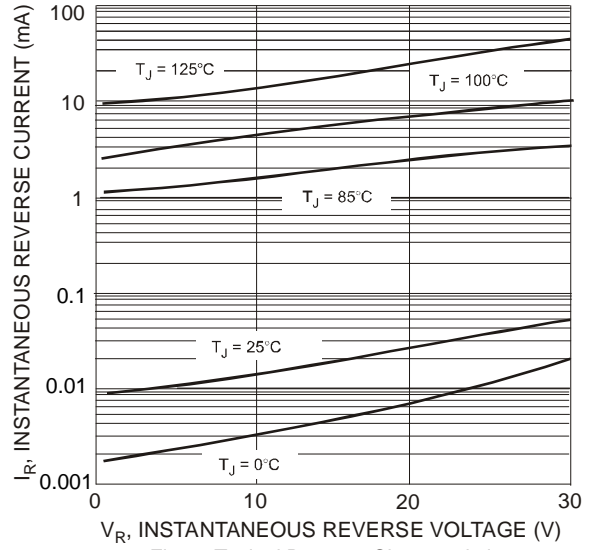


Fig. 2 Typical Reverse Characteristics

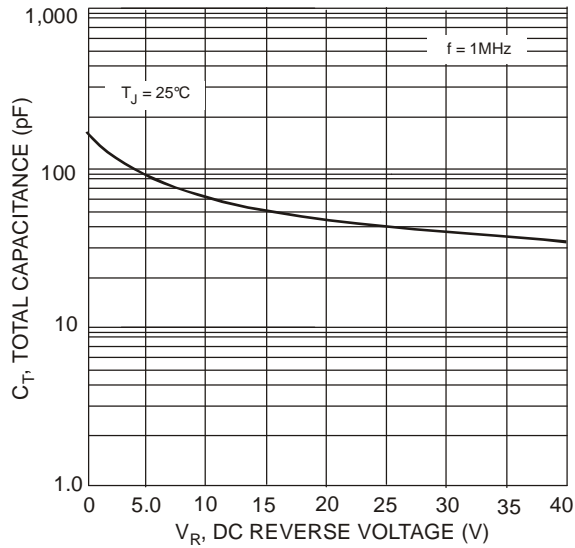


Fig. 3 Total Capacitance vs. Reverse Voltage

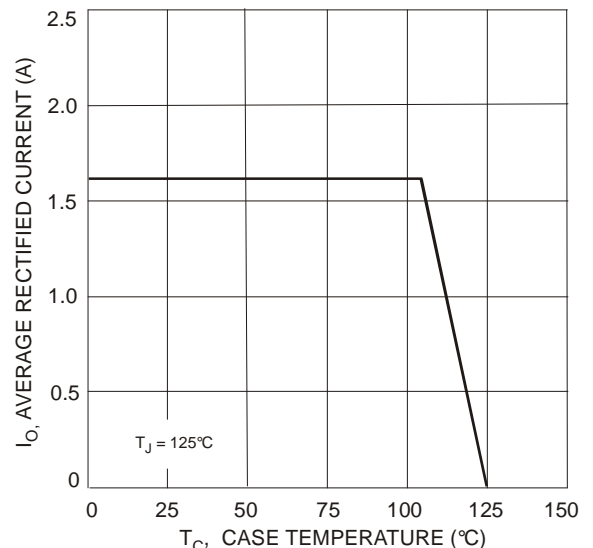


Fig. 4 Forward Current Derating Curve

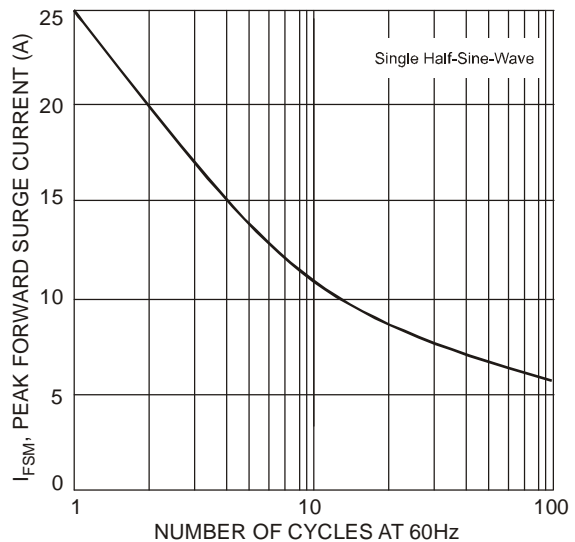
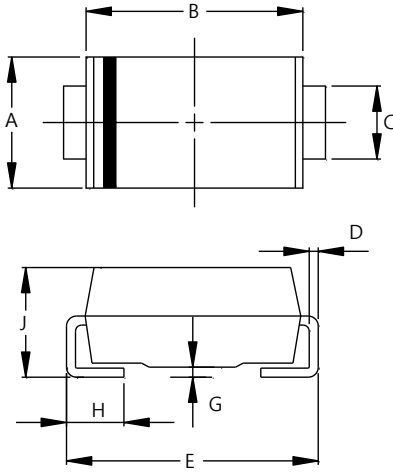


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMA**

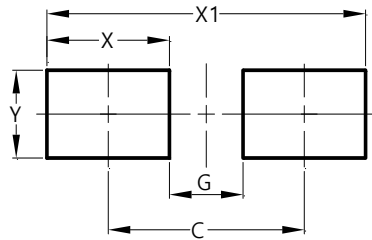


SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	1.96	2.40
All Dimensions in mm		

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMA**



Dimensions	Value (in mm)
C	4.00
G	1.50
X	2.50
X1	6.50
Y	1.70

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