

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: B130LAW-7-F
Manufacturer: Diodes Incorporated
Package: SOD-123
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/diodes-incorporated/b130law-7-f.html>

Request a Quote:

[Submit RFQ for this part](#)



Scan for product page

Contact Information

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WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Features

- Guard Ring Die Construction for Transient Protection
- Very Low Forward Voltage Drop
- Totally Lead-Free & Fully 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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Package: SOD123
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Lead-Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe) Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Weight: 0.01 grams (Approximate)

SOD123



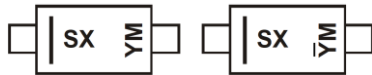
Top View

Ordering Information (Note 4)

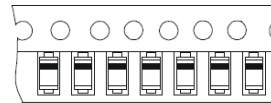
Part Number	Package	Packing	
		Qty.	Carrier
B130LAW-7-F	SOD123	3000	Tape & Reel

- Notes:
- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 - 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.
 - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



SX = Product Type Marking Code
YM & YM = Date Code Marking
Y & Y = Year (ex: L = 2024)
M = Month (ex: 9 = September)



Date Code Key

Year	2002	-	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Code	N	-	L	M	N	P	R	S	T	U	V	W

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

Maximum Ratings (@T_A = +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 _{RRM} V _{RWM} V _R	30	V
RMS Reverse Voltage	V _{R(RMS)}	21	V
Average Forward Current	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

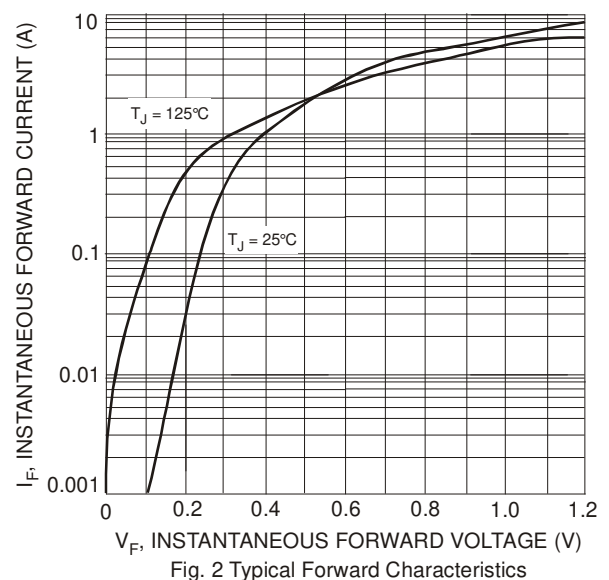
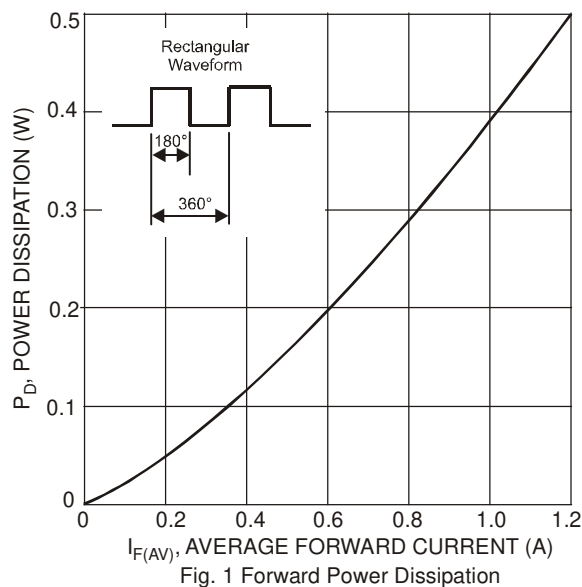
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	450	mW
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	222	°C/W
Typical Thermal Resistance Junction to Case (Note 6)	R _{θJC}	65.71	°C/W
Operating Temperature Range (See Figure 5)	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	30	—	—	V	I _R = 1.5mA
Forward Voltage	V _F	—	0.25 0.35 0.38	— 0.37 0.42	V	I _F = 0.1A I _F = 0.7A I _F = 1.0A
Leakage Current (Note 7)	I _R	—	0.15	1.0	mA	V _R = 30V, T _A = +25°C
Total Capacitance	C _T	—	40	—	pF	V _R = 10V, f = 1.0MHz

Notes: 5. Device mounted on FR-4 substrate, 2" x 2", 2oz. copper, single-sided, pad layout as per Diodes Incorporated, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 6. Device mounted on 1"MRP FR-4 PC board 2oz.
 7. Short duration pulse test used to minimize self-heating effect.



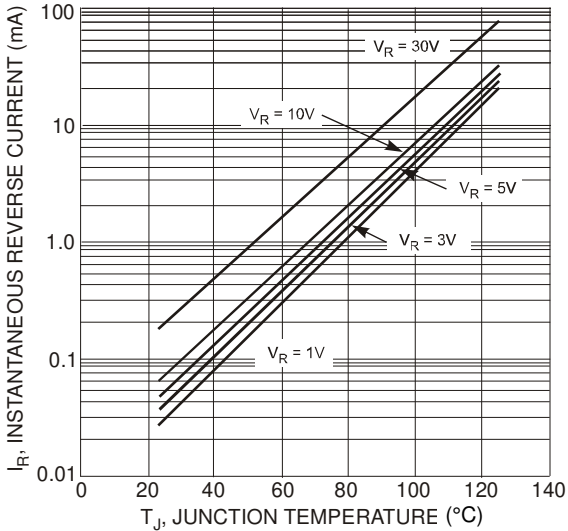


Fig. 3 Typical Pulsed Reverse Characteristics

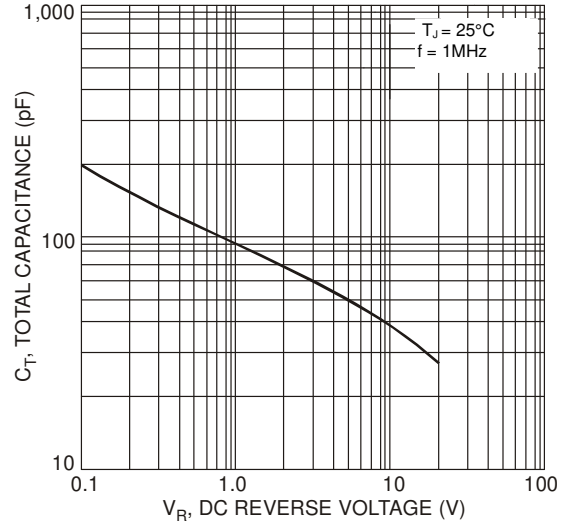


Fig. 4 Total Capacitance vs. Reverse Voltage

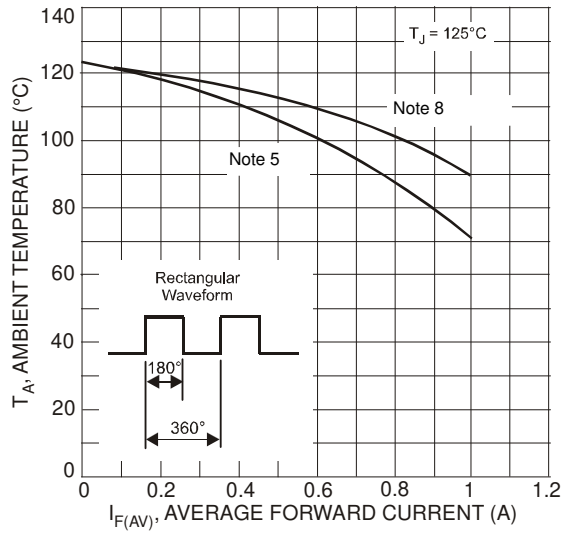


Fig. 5 Forward Current Derating Curve

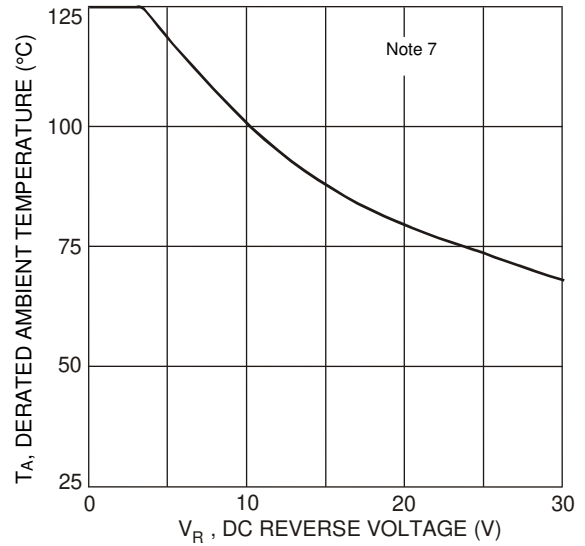


Fig. 6 Operating Temperature Derating

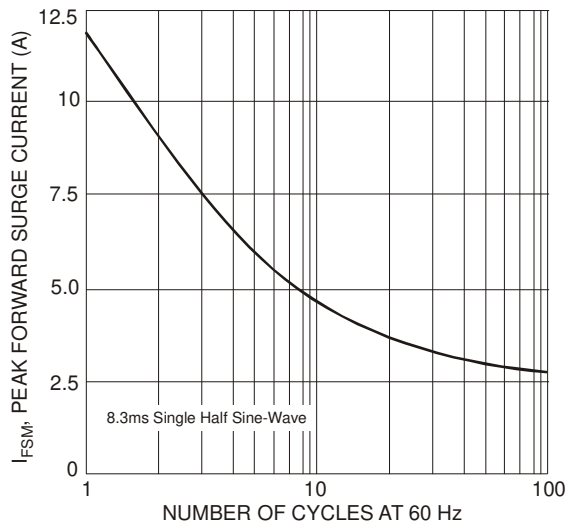


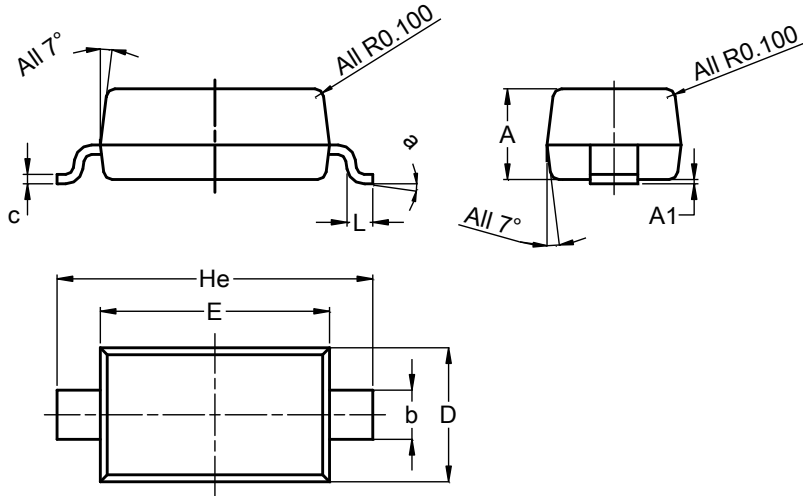
Fig. 7 Maximum Non-Repetitive Peak Forward Surge Current

Note: 8. Device mounted on GETEK substrate, 2" x 2", 2oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0".

Package Outline Dimensions

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

SOD123

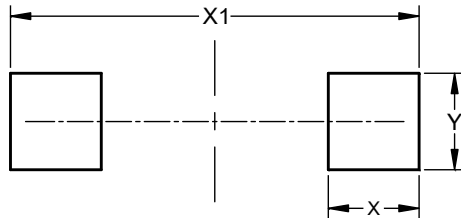


SOD123			
Dim	Min	Max	Typ
A	1.00	1.35	1.05
A1	0.00	0.10	0.05
b	0.52	0.62	0.57
c	0.10	0.15	0.11
D	1.40	1.70	1.55
E	2.55	2.85	2.65
He	3.55	3.85	3.65
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOD123



Dimensions	Value (in mm)
X	0.900
X1	4.050
Y	0.950

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