Excellent Integrated System Limited

Stocking Distributor

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Diodes Incorporated
SBR10120CTL-13

For any questions, you can email us directly:
sales@integrated-circuit.com

NEW PRODUCT

SBR10120CTL

10A SBR®
SUPER BARRIER RECTIFIER

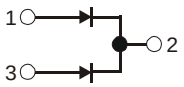
Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**

Mechanical Data

- Case: TO252
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.317 grams (approximate)

Top View



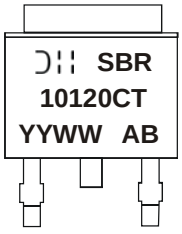
Package Pin-Out Configuration

Ordering Information (Note 2)

Part Number	Case	Packaging
SBR10120CTL-13	TO252	2500 pieces/reel

Notes: 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2). All applicable RoHS exemptions applied.
2. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR10120CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 09 = 2009)
WW = Week (01 - 53)

NEW PRODUCT

Maximum Ratings (Per Leg) @T_A = 25°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_{RM}	120	V
Average Rectified Output Current Per Device (Per Leg) (Total)	I_O	5 10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	110	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance(Note 4)	$R_{\theta JC}$	20	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

Electrical Characteristics (Per Leg) @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	- -	0.81 -	0.88 0.74	V	I_F = 5A, T_J = 25°C I_F = 5A, T_J = 125°C
Leakage Current (Note 3)	I_R	- -	- -	0.1 20	mA	V_R = 120V, T_J = 25°C V_R = 120V, T_J = 125°C

Notes: 3. Short duration pulse test used to minimize self-heating effect.
4. Device mounted on Polymide substrate, 125mm2 copper pad, double-sided, PC boards.

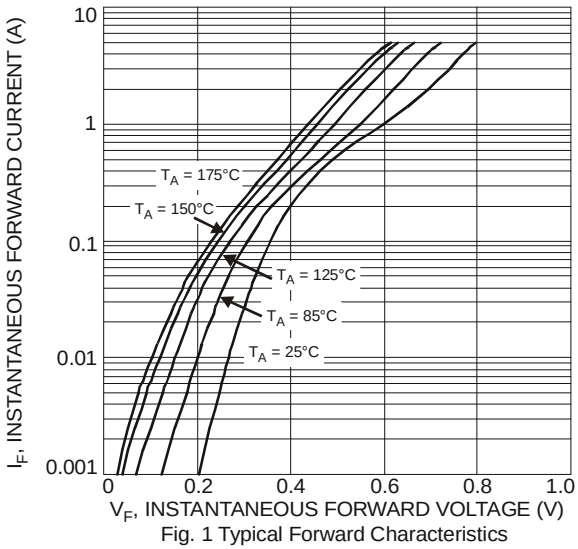


Fig. 1 Typical Forward Characteristics

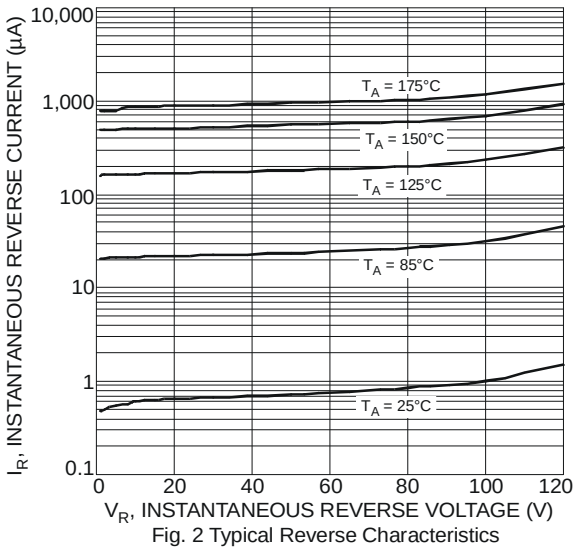


Fig. 2 Typical Reverse Characteristics

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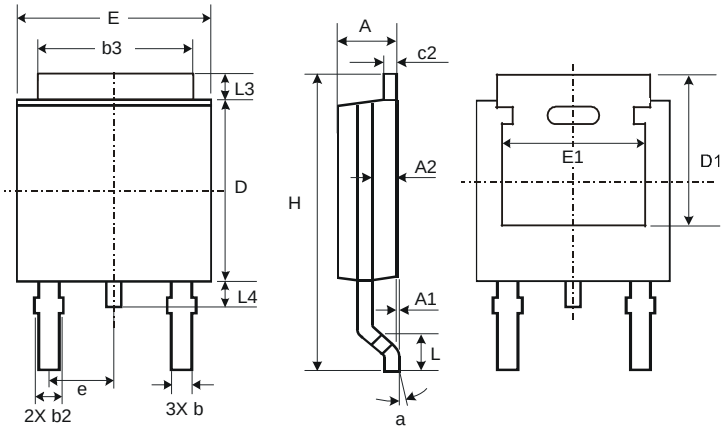
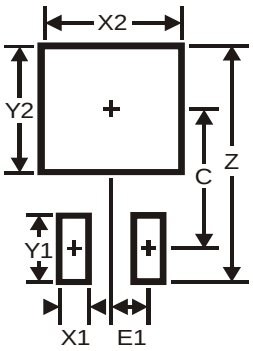
Package Outline Dimensions



TO252			
Dim	Min	Max	Typ
A	2.19	2.39	2.29
A1	0.00	0.13	0.08
A2	0.97	1.17	1.07
b	0.64	0.88	0.783
b2	0.76	1.14	0.95
b3	5.21	5.46	5.33
c2	0.45	0.58	0.531
D	6.00	6.20	6.10
D1	5.21	–	–
e	–	–	2.286
E	6.45	6.70	6.58
E1	4.32	–	–
H	9.40	10.41	9.91
L	1.40	1.78	1.59
L3	0.88	1.27	1.08
L4	0.64	1.02	0.83
a	0°	10°	–
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	11.6
X1	1.5
X2	7.0
Y1	2.5
Y2	7.0
C	6.9
E1	2.3

NEW PRODUCT

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