

Product Summary

V_{RRM} (V)	I_o (A)	$V_{F(MAX)}$ (V) @ +25°C	$I_{R(MAX)}$ (mA) @ +25°C
15	2	0.48	0.1

Features and Benefits

- Patented TrenchSBR technology provides superior avalanche capability versus Schottky diodes, ensuring more rugged and reliable end applications.
 - Reduced ultra-low forward voltage drop (V_F).
- Better efficiency and cooler operation.
 - Reduced high temperature reverse leakage.
- Increased reliability against thermal runaway failure in high temperature operation.
- 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-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability.**
 - <https://www.diodes.com/quality/product-definitions/>

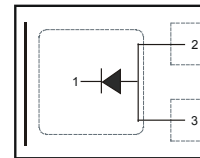
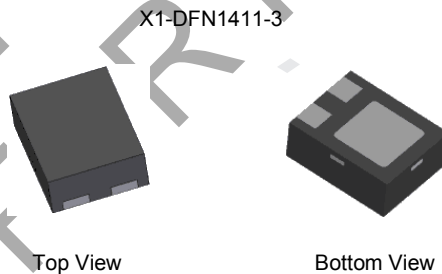
Description and Applications

The SBRT2U15LP provides very low V_F and excellent reverse leakage stability at high temperatures. It is ideal for use as bypass diode and rectifier, freewheel diode, or blocking diode in applications such as:

- Solar Panels
- Blocking Diodes
- Bypass Diodes
- Boost Diodes
- Recirculating Diode

Mechanical Data

- Case: X1-DFN1411-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Copper Lead-Frame. Solderable per MIL-STD-202, Method 208③
- Polarity: See Below
- Weight: 2.35 mg (Approximate)



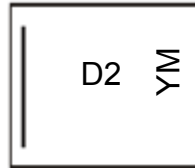
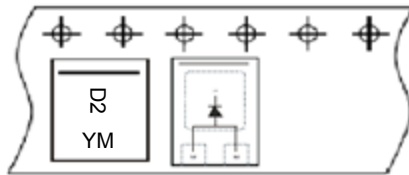
Top View
Internal Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
SBRT2U15LP-7	X1-DFN1411-3	3,000/Tape & Reel

- Notes:
- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) 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



D2 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: B = 2014)
 M = Month (ex: 6 = June)
 Bar = Cathode

Date Code Key

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Code	B	C	D	E	F	G	H	I	J

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 capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	15	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current	I _O	2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	25	A

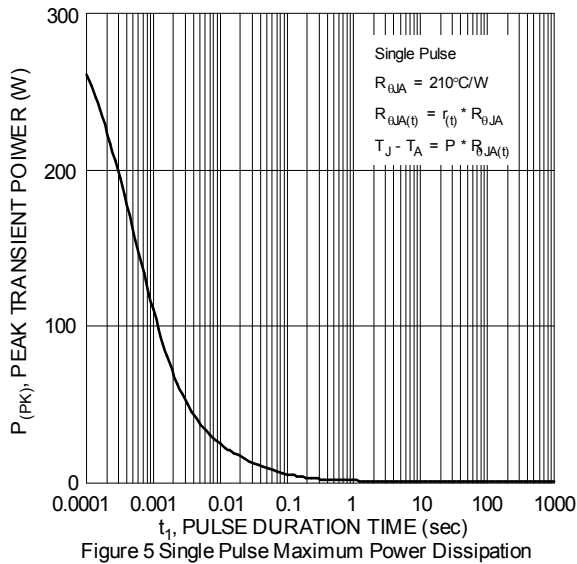
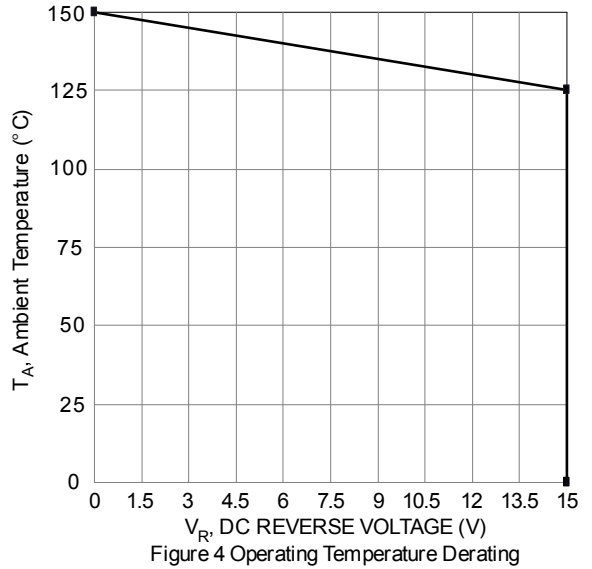
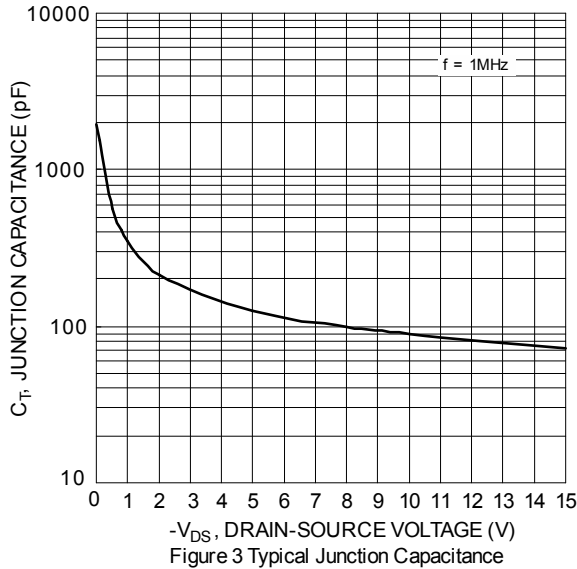
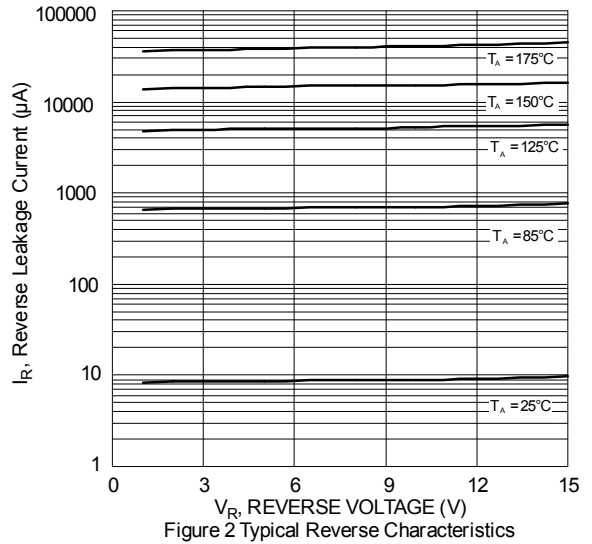
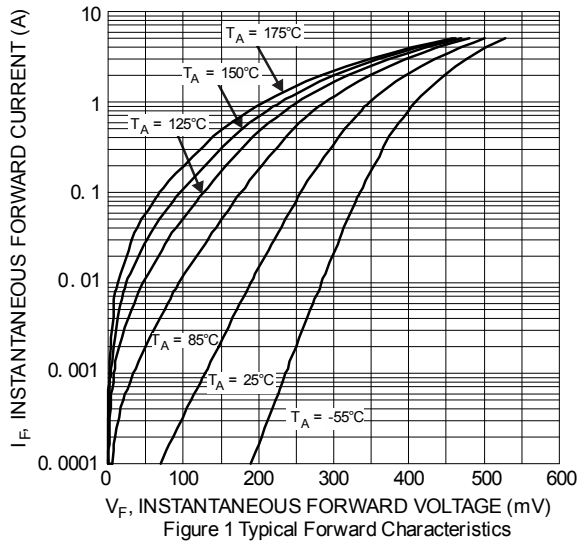
Thermal Characteristics

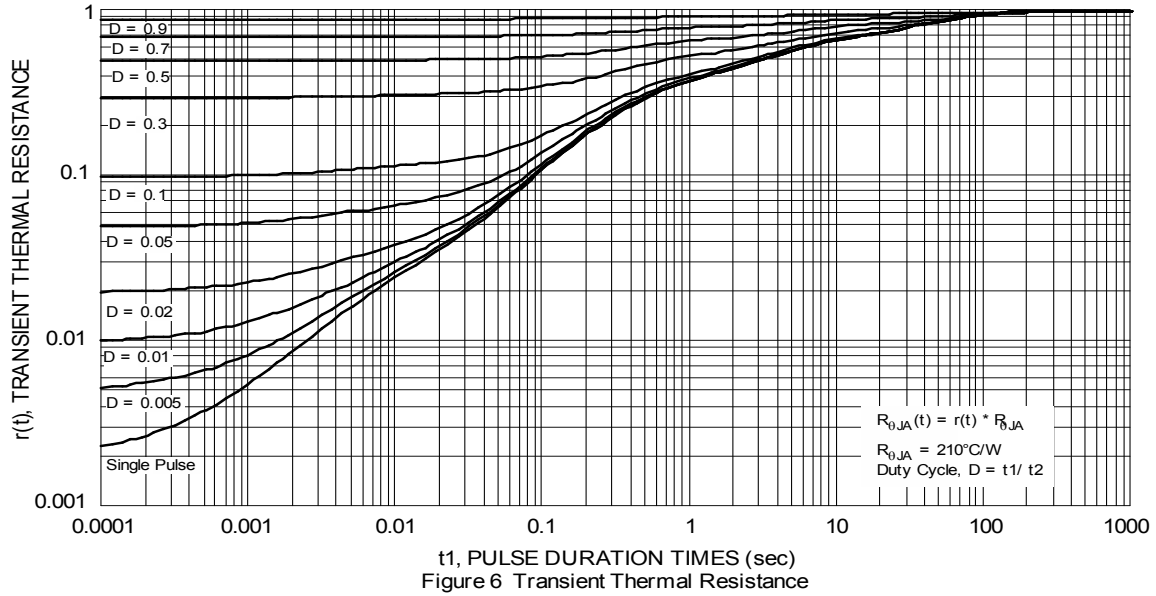
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	25	°C/W
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	100	°C/W
Operating Temperature Range V _R ≤ 80% V _{RRM} V _R ≤ 50% V _{RRM} DC Forward Mode (Note 7)	T _J	-55 to +150 ≤ +175 ≤ +200	°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
Forward Voltage Drop (Note 6)	V _F	—	—	0.48	V	I _F = 2A, T _J = +25°C
Leakage Current (Note 6)	I _R	—	—	100	μA	V _R = 15V, T _J = +25°C
		—	5.7	—	mA	V _R = 15V, T _J = +125°C

Notes: 5. Device mounted on FR-4 PCB pad layout 1-inch 2oz copper.
 6. Short duration pulse test used to minimize self-heating effect.
 7. Max junction temperature guaranteed for two hours.

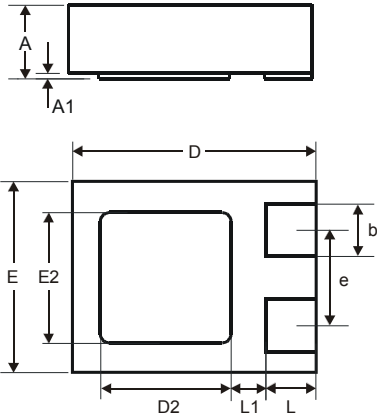




Package Outline Dimensions

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

X1-DFN1411-3

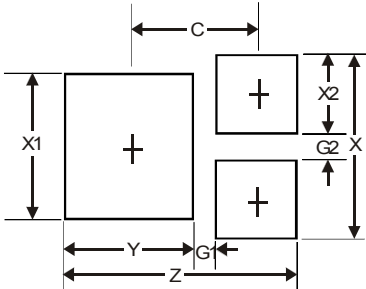


X1-DFN1411-3			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.02
b	0.25	0.35	0.30
D	1.35	1.475	1.40
D2	0.65	0.85	0.75
E	1.05	1.175	1.10
E2	0.65	0.85	0.75
e	-	-	0.55
L	0.225	0.325	0.275
L1	-	-	0.20
All Dimensions in mm			

Suggested Pad Layout

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

X1-DFN1411-3



Dimensions	Value (in mm)
Z	1.38
G1	0.15
G2	0.15
X	0.95
X1	0.75
X2	0.40
Y	0.75
C	0.76

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