



SUPER BARRIER RECTIFIER

20A SBR

Product Summary

V _{RRM} (V)	l _o (A)	V _F Max (V)	I _R Max (mA)
65	20	0.63	0.4

Description

Packaged in the robust industry-standard TO252 package, the SBR2065D1 provides low V_F and excellent reverse leakage stability at high temperatures.

Features and Benefits

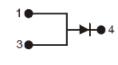
- Patented Super Barrier Rectifier SBR[®] Technology.
- Reduced Low Forward Voltage Drop (V_F). Better Efficiency and Cooler Operation.
- Reduced High Temperature Reverse Leakage. Increased Reliability Against Thermal Runaway Failure in High Temperature Operation.
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: TO252 (DPAK)
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish. Solderable per MIL-STD-202, Method 208 @3
- Weight: 0.4 grams (Approximate)



Top View



Package Pin-Out Configuration

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR2065D1-13	TO252 (DPAK)	2500 Piece/Reel

1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.

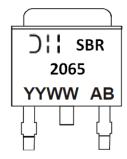
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

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 http://www.diodes.com/products/packages.html.

Marking Information

Notes:



SBR2065 = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last Two Digits of Year (ex: 16 = 2016) WW = Week (01 to 53)

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Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	65	V
Average Rectified Output Current	Ιο	20	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	140	А

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	11	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	$R_{ extsf{ heta}JC}$	1.7	°C/W
Operating and Storage Temperature Range	T _{J,} T _{STG}	-55 to +150	°C

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

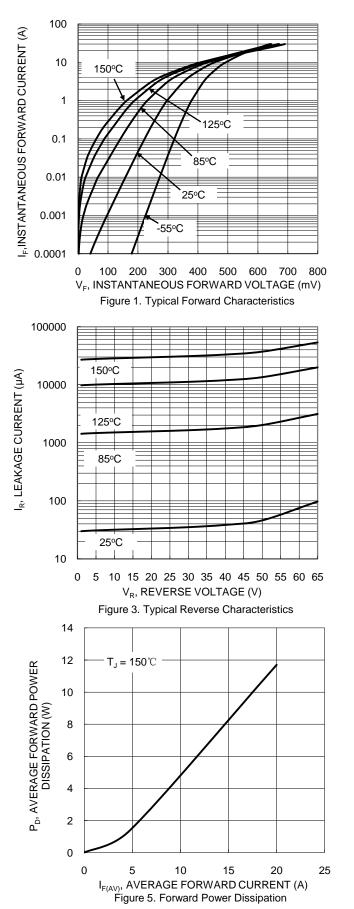
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	VF	_	0.46	0.52	V	$I_F = 10A, T_J = +25^{\circ}C$
			_	0.63		$I_F = 20A, T_J = +25^{\circ}C$
Leakage Current (Note 6)	I _R	_	0.1	0.4	mA	$V_R = 65V, T_J = +25^{\circ}C$
		_	_	60	mA	$V_R = 65V, T_J = +125^{\circ}C$

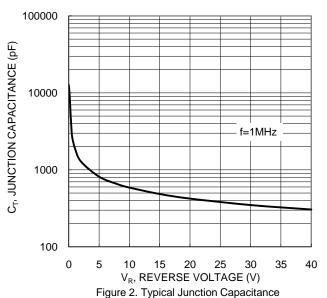
Notes: 5. With 2inch*2inch Al board + 50mm*50mm*23mm Al heatsink.

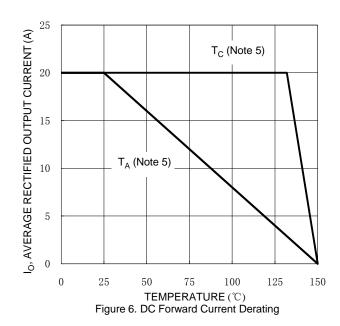
6. Short duration pulse test used to minimize self-heating effect.



SBR2065D1







NEW PRODUCT

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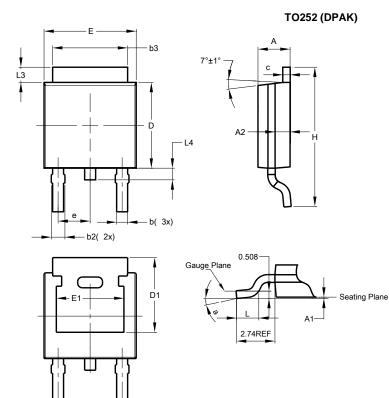
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Package Outline Dimensions

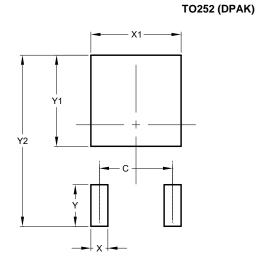
Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



TO252 (DPAK)					
Dim	Min	Max	Тур		
Α	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		
С	0.45	0.58	0.531		
D	6.00	6.20	6.10		
D1	5.21	-	-		
е	-	-	2.286		
Е	6.45	6.70	6.58		
E1	4.32	-	-		
Н	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		
а	0°	10°	-		
All Dimensions in mm					

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



Dimensions Value (in mm) C 4.572 X 1.060 X1 5.632 Y 2.600 Y1 5.700 Y2 10.700

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