

OBSOLETE - PART DISCONTINUED

Product Summary

V _{RRM} (V)	I _o (A)	V _F Max (V) @ +25°C	I _R Max (mA) @ +25°C
40	2	0.5	0.1

Description

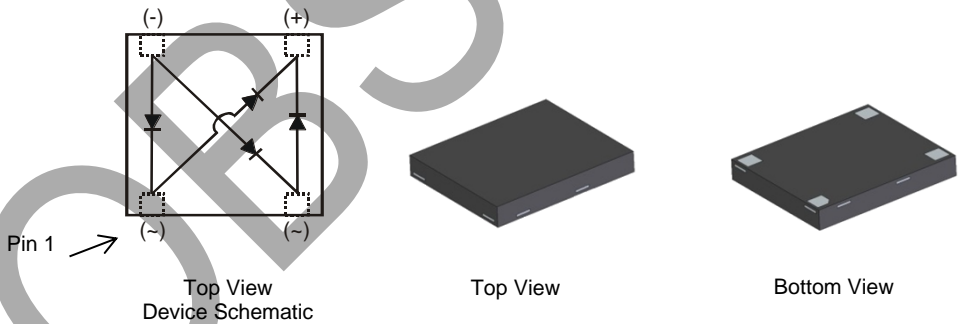
Packaged in the compact V-DFN5060-4, the SBR2A40BLP is designed with low forward voltage and low reverse leakage to meet the needs of LED lighting applications and wireless charging applications.

Features and Benefits

- Low-Profile Package, Ideal for Thin Portable Applications
- Low Reverse Leakage Ensures Greater Stability at Higher Temperatures
- Low Forward Voltage (V_F) Minimizes Conduction Losses and Improves Efficiency
- Patented Super Barrier Rectifier SBR[®] Technology
- **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 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/>

Mechanical Data

- Package: V-DFN5060-4
- Package 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 Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: See Diagram
- Weight: 0.0715 grams (Approximate)

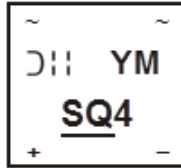


Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
SBR2A40BLP-13	V-DFN5060-4	3000	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



SQ4= Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: K =2023)
 M = Month (ex: 9 = September)

Year	2011	-	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Code	Y	-	K	L	M	N	P	R	S	T	U	V
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}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current	I _O	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Diode)	I _{FSM}	70	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	15	°C/W
Operating and Storage Temperature Range	T _J , 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 (Per Diode)	V _F	—	—	0.50	V	I _F = 2.0A, T _J = +25°C
			0.42	0.47		I _F = 2.0A, T _J = +125°C
Reverse Current (Note 6) (Per Diode)	I _R	—	—	0.1	mA	V _R = 40V, T _J = +25°C
			—	10		V _R = 40V, T _J = +125°C
Total Capacitance (Per Diode)	C _T	—	90	—	pF	V _R = 40V, f = 1.0MHz, T _J = +25°C

Notes: 5. Device mounted on FR-4 substrate PCB, with minimum recommended pad layout per <https://www.diodes.com/package-outlines.html>.
 6. Short duration pulse test used to minimize self-heating effect.

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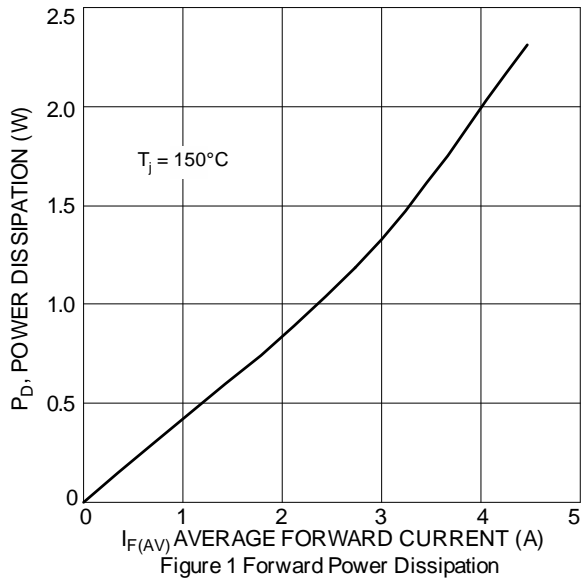


Figure 1 Forward Power Dissipation

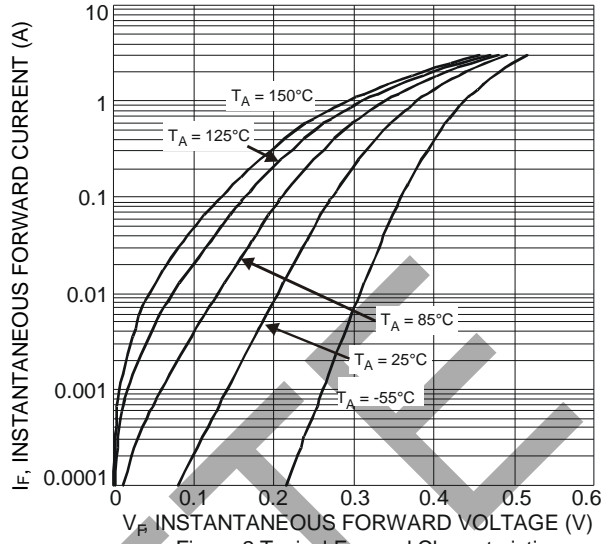


Figure 2 Typical Forward Characteristics

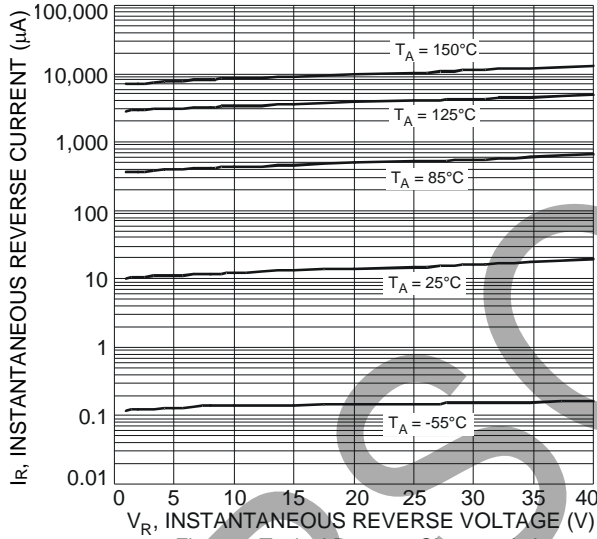


Figure 3 Typical Reverse Characteristics

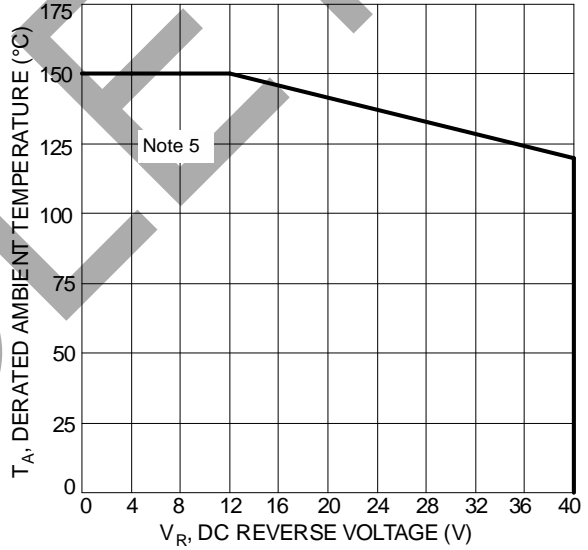


Figure 4 Operating Temperature Derating

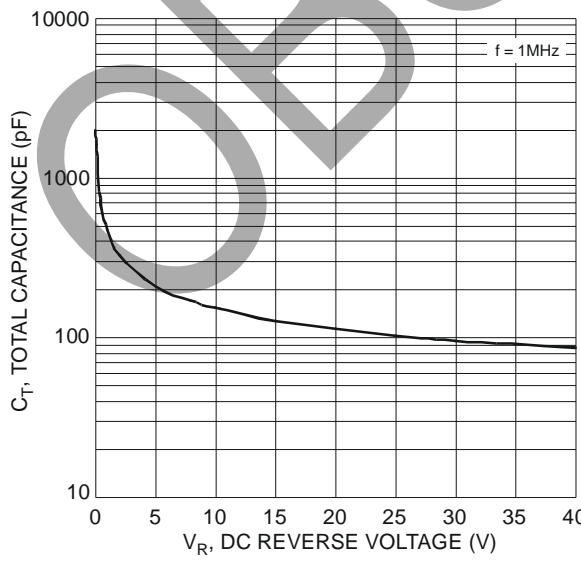


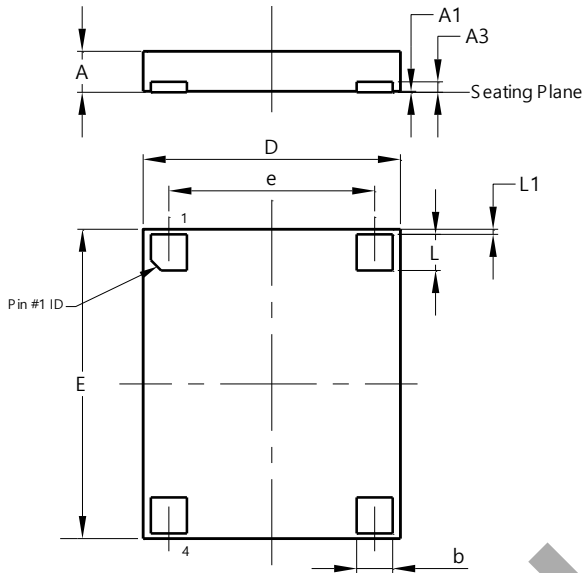
Figure 5 Total Capacitance vs. Reverse Voltage

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Package Outline Dimensions

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

V-DFN5060-4

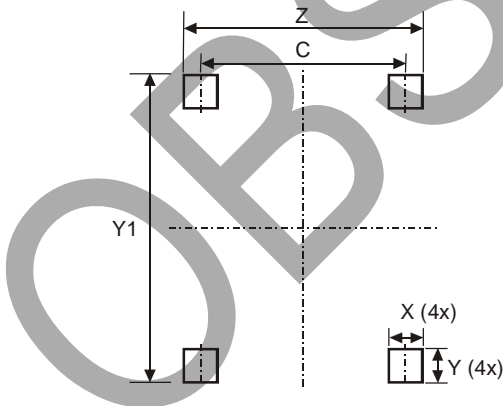


V-DFN5060-4			
Dim	Min	Max	Typ
A	0.75	0.85	0.80
A1	0	0.05	0.02
A3	-	-	0.203
b	0.65	0.75	0.70
D	4.95	5.05	5.00
e	-	-	4.00
E	5.95	6.05	6.00
L	0.65	0.75	0.70
L1	0.05	0.15	0.10
All Dimensions in mm			

Suggested Pad Layout

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

V-DFN5060-4



Dimensions	Value (in mm)
C	4.00
X	0.75
Y	0.95
Y1	6.20
Z	4.75

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