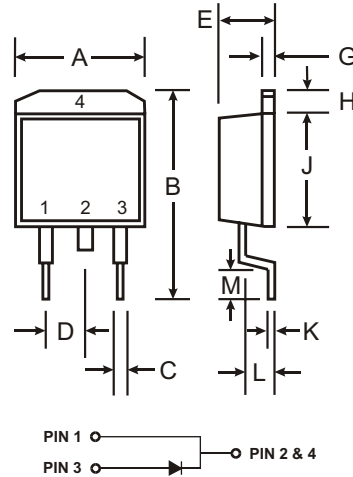


Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- Very Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 2)**

Mechanical Data

- Case: D²PAK
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Type Number
- Ordering Information: See Page 2
- Weight: 1.7 grams (approximate)



D ² PAK		
Dim	Min	Max
A	9.65	10.69
B	14.60	15.88
C	0.51	1.14
D	2.29	2.79
E	4.37	4.83
G	1.14	1.40
H	1.14	1.40
J	8.25	9.25
K	0.30	0.64
L	2.03	2.92
M	2.29	2.79
All Dimensions in mm		

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	SBG1025L	SBG1030L	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	25	30	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
RMS Reverse Voltage	V _{R(RMS)}	18	21	V
Average Rectified Output Current @ T _C = 120°C	I _O	10		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	200		A
Typical Thermal Resistance Junction to Case (Note 1)	R _{θJC}	3.0		°C/W
Operating Temperature Range	T _j	-65 to +125		°C
Storage Temperature Range	T _{STG}	-65 to +150		°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	25 30	—	—	V V	I _R = 1mA
Forward Voltage	V _{FM}	—	0.34	0.45 0.36 0.55 0.50	V	@ I _F = 10A, T _C = 25°C @ I _F = 10A, T _C = 125°C @ I _F = 20A, T _C = 25°C @ I _F = 20A, T _C = 125°C
Peak Reverse Current at Rated DC Blocking Voltage	I _{RM}	—	150	1.0 260	mA	@ T _C = 25°C @ T _C = 125°C
Typical Junction Capacitance	C _j	—	350	—	pF	f = 1.0MHz, V _R = 4.0V DC

Notes: 1. Thermal resistance: junction to case mounted on heat sink.
2. RoHS revision 13.2.2003. Glass and Temperature Solder Exemptions Applied, See EU Directive Annex Notes 5 and 7.

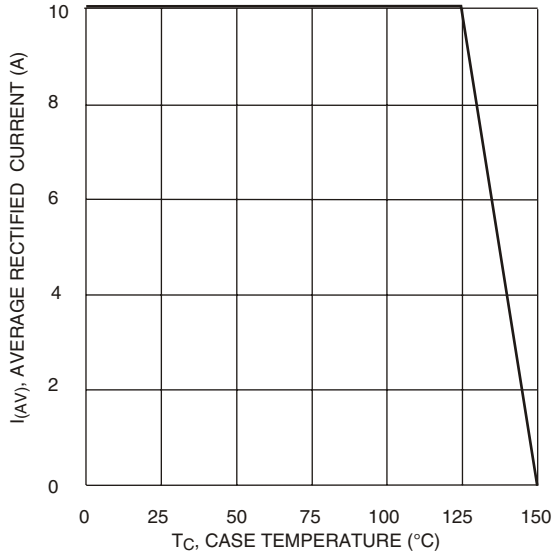


Fig. 1 Forward Derating Curve

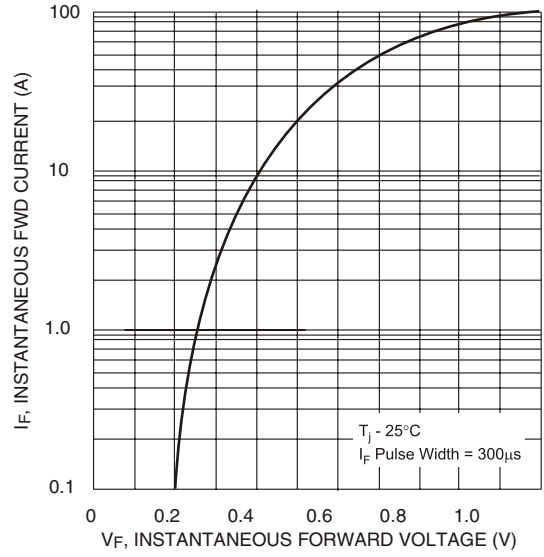


Fig. 2 Typical Forward Characteristics

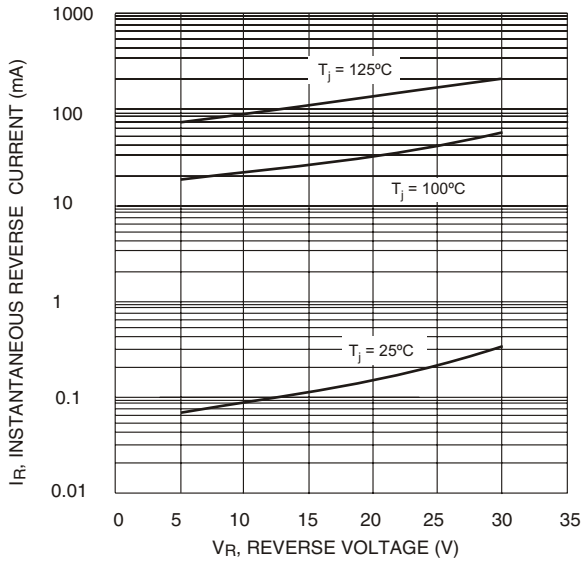


Fig. 3 Typical Reverse Characteristics

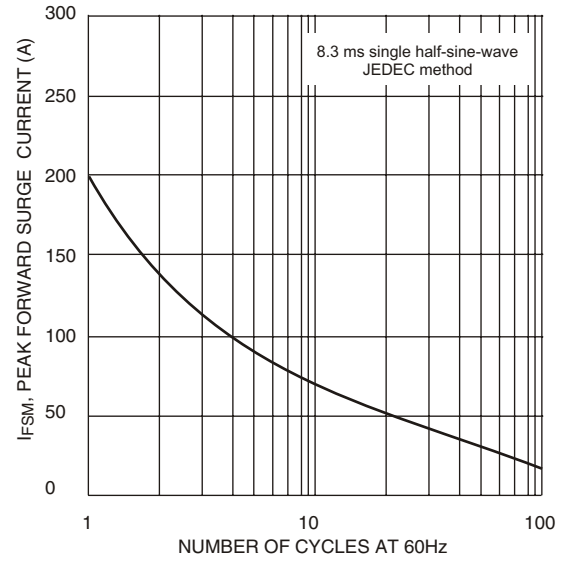


Fig. 4 Maximum Non-Repetitive Surge Current

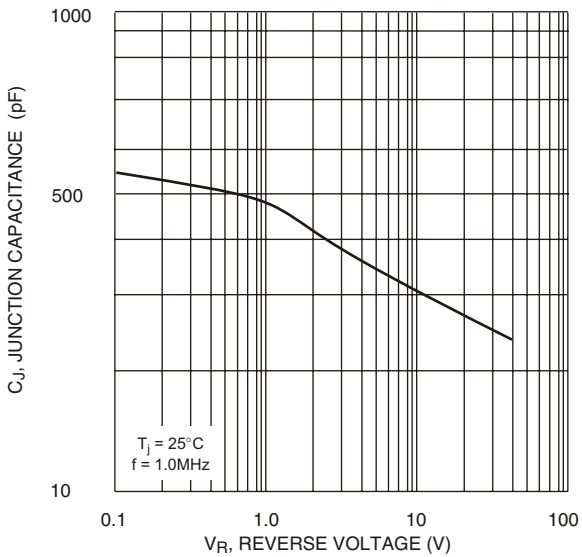


Fig. 5 Typical Junction Capacitance

Ordering Information (Note 3)

Device	Packaging	Shipping
SBG1025L	D ² PAK	50/Tube
SBG1025L-T	D ² PAK	800/Tape & Reel
SBG1030L	D ² PAK	50/Tube
SBG1030L-T	D ² PAK	800/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



SBG10XXL = Product type marking code (SBG1025L or SBG1030L)
 DII = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year ex: 2 for 2002
 WW = Week code 01 to 52