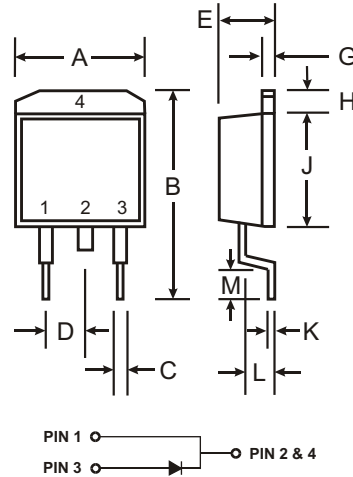


Features

- 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 - Tin. Solderable per MIL-STD-202, Method 208 (e3)
- 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

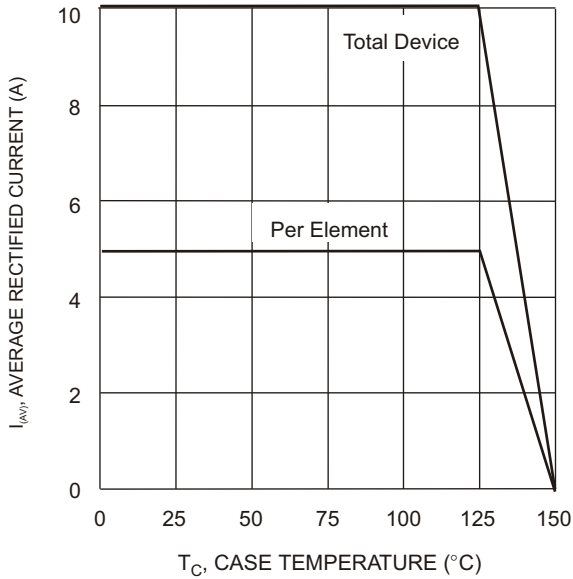
Single phase, half wave, 60Hz, resistive or inductive load.

Characteristic	Symbol	SBG1025L	SBG1030L	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	25	30	V
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	I _{FSM}	200		A
Typical Thermal Resistance Junction to Case (Note 1)	R _{JC}	3.0		C/W
Operating Temperature Range	T _j	-65 to +125		C
Storage Temperature Range	T _{STG}	-65 to +150		C

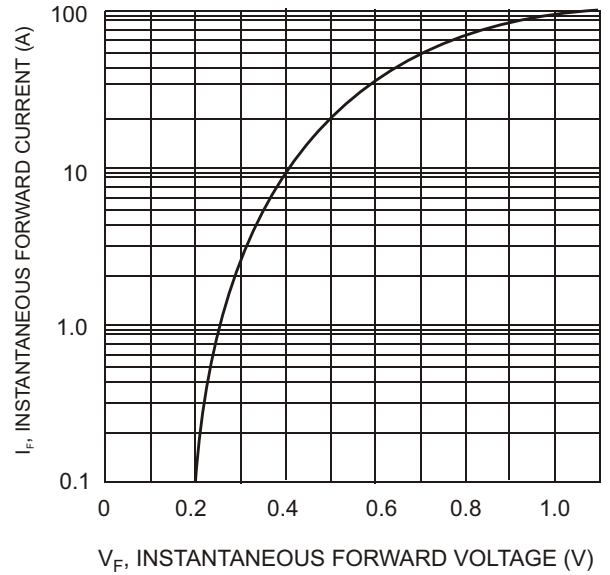
Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3) SBG1025L SBG1030L	V _{(BR)R}	25 30			V V	I _R = 1mA
Forward Voltage	V _{FM}		0.34 0.36 0.48	0.45 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 (Note 3)	I _{RM}		150	1.0 260	mA	@ T _C = 25 C @ T _C = 125 C
Typical Total Capacitance	C _T		350		pF	f = 1.0MHz, V _R = 4.0V DC, Per Element

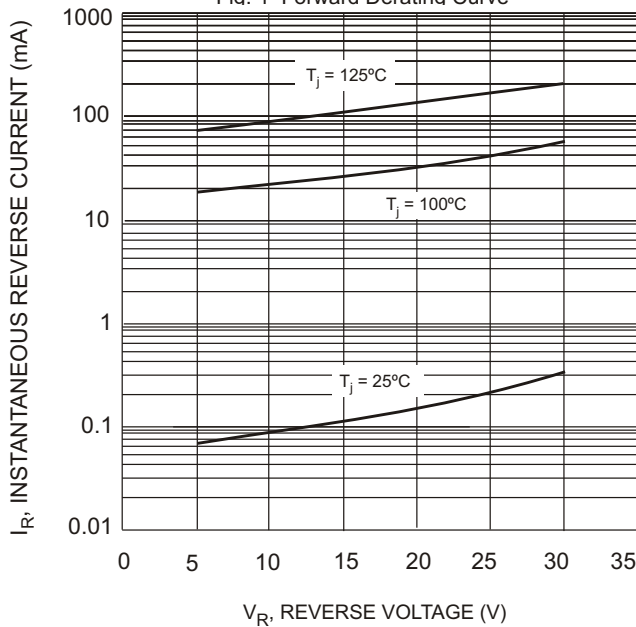
- Notes:
1. Thermal resistance: junction to case mounted on heat sink.
 2. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, See EU Directive Annex Note 7.
 3. Short duration pulse test used to minimize self-heating effect.



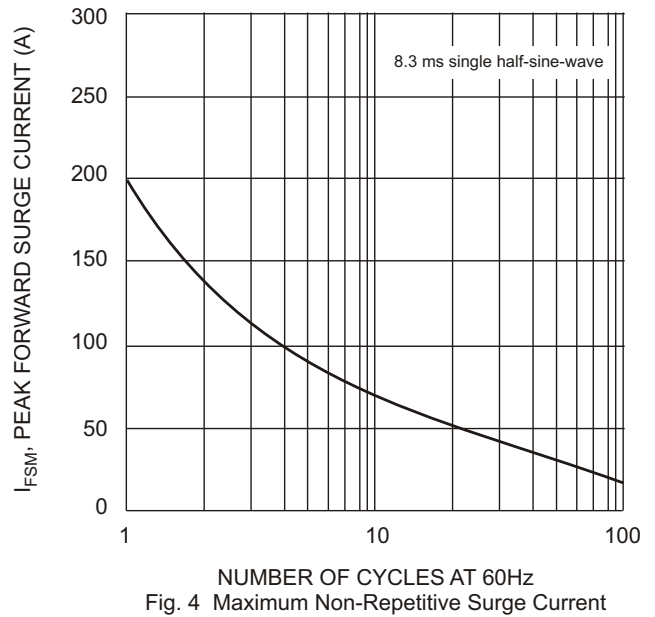
T_C , CASE TEMPERATURE (°C)
Fig. 1 Forward Derating Curve



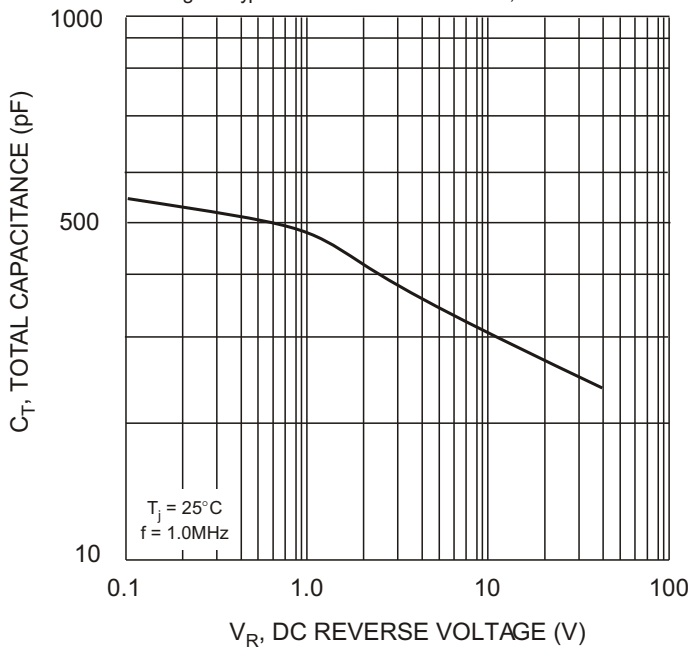
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics, Per Element



V_R , REVERSE VOLTAGE (V)
Fig. 3 Typical Reverse Characteristics, Per Element



NUMBER OF CYCLES AT 60Hz
Fig. 4 Maximum Non-Repetitive Surge Current



V_R , DC REVERSE VOLTAGE (V)
Fig. 5 Typical Total Capacitance, Per Element

Ordering Information (Note 4)

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

Notes: 4. 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

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