SBG1025L - SBG1030L

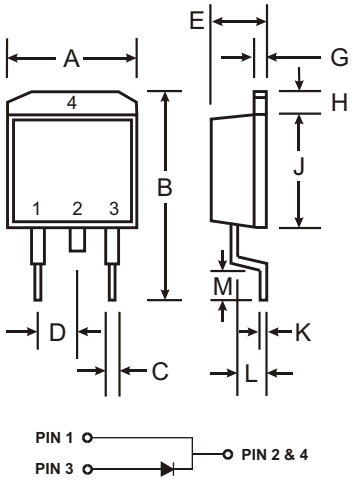
10A SCHOTTKY BARRIER RECTIFIER

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: D^2PAK
- 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^2PAK		
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 0.48	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 (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.

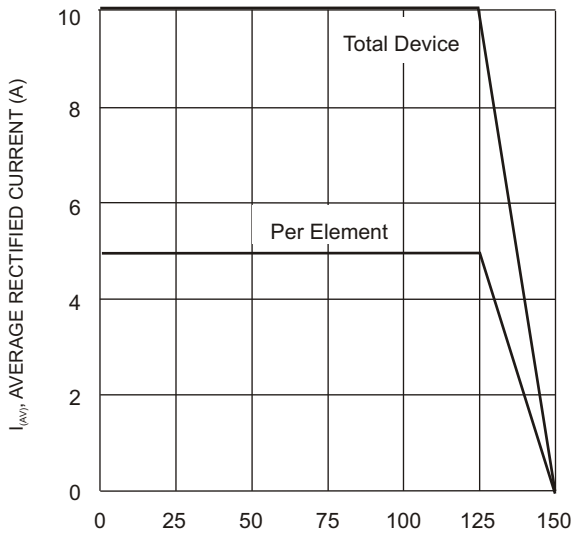


Fig. 1 Forward Derating Curve

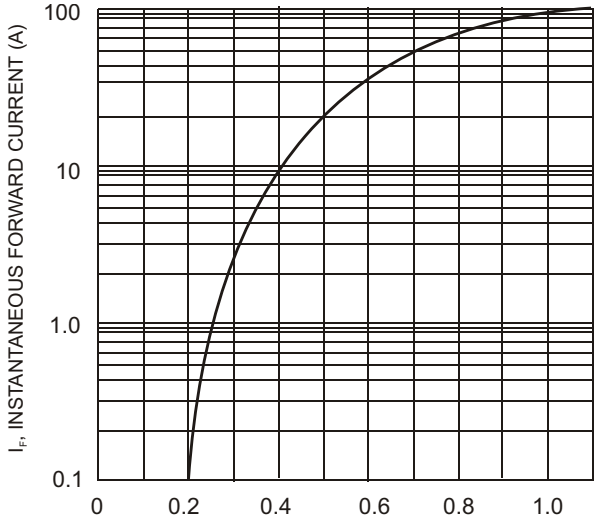


Fig. 2 Typical Forward Characteristics, Per Element

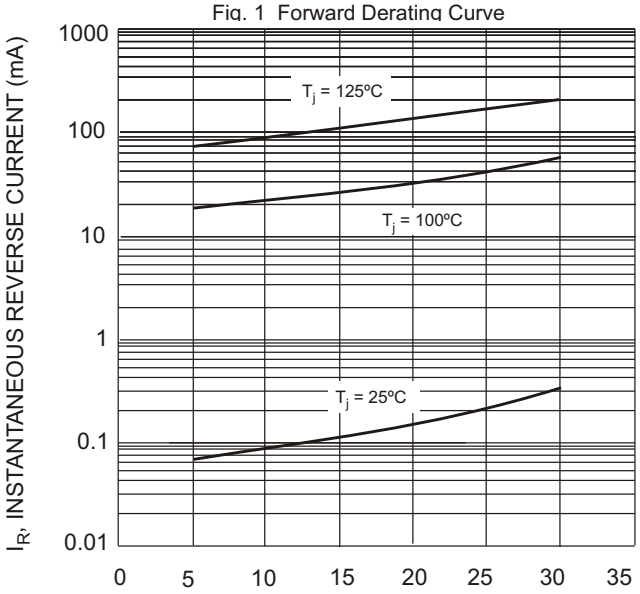


Fig. 3 Typical Reverse Characteristics, Per Element

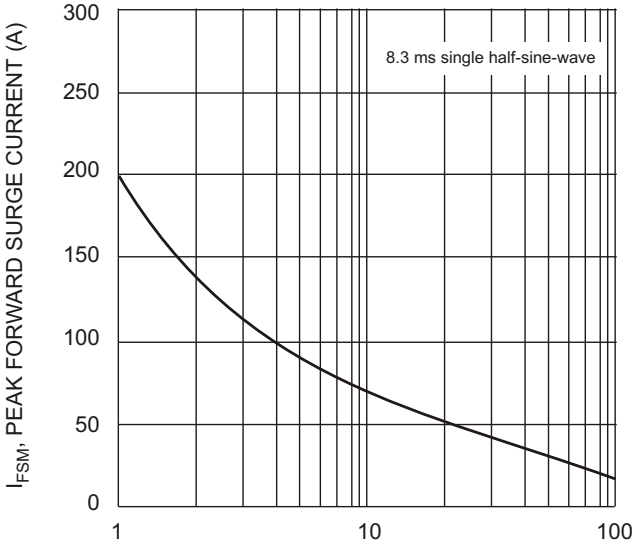


Fig. 4 Maximum Non-Repetitive Surge Current

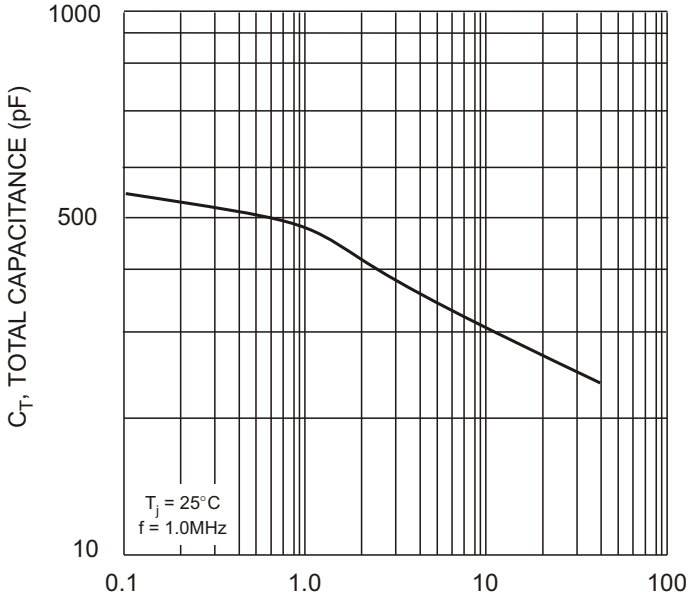


Fig. 5 Typical Total Capacitance, Per Element

Ordering Information (Note 4)

Device	Packaging	Shipping
SBG1025L-F	D^2PAK	50/Tube
SBG1025L-T-F	D^2PAK	800/Tape & Reel
SBG1030L-F	D^2PAK	50/Tube
SBG1030L-T-F	D^2PAK	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)
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52