

SBG1025L - SBG1030L

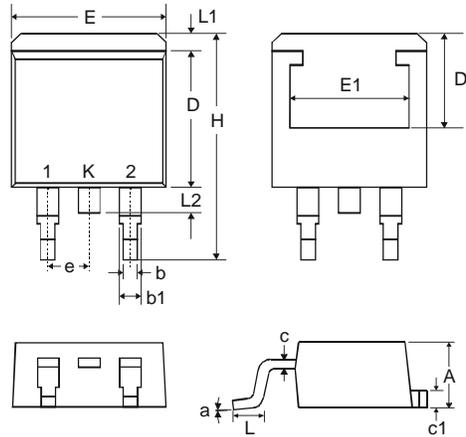
10A SCHOTTKY BARRIER RECTIFIER

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: 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	4.07	4.82
b	0.51	0.99
b1	1.15	1.77
c	0.356	0.58
c1	1.143	1.65
D	8.39	9.65
D1	6.55	—
E	9.66	10.66
E1	6.23	—
e	2.54 Typ	
H	14.61	15.87
L	1.78	2.79
L1	—	1.67
L2	—	1.77
a	0°	8°
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	V_{RRM}			
Working Peak Reverse Voltage	V_{RWM}	25	30	V
DC Blocking Voltage	V_R			
RMS Reverse Voltage	$V_{R(RMS)}$	18	21	V
Average Rectified Output Current @ $T_C = 120^\circ\text{C}$	I_O	10		A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	200		A
8.3ms Single half sine-wave Superimposed on Rated Load				
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	3.0		°C/W
Operating Temperature Range	T_i	-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)	$V_{(BR)R}$	25	—	—	V	$I_R = 1\text{mA}$
		30	—	—	V	
Forward Voltage	V_{FM}	—	0.34	0.45	V	@ $I_F = 10\text{A}, T_C = 25^\circ\text{C}$
		—	—	0.36		@ $I_F = 10\text{A}, T_C = 125^\circ\text{C}$
		—	—	0.55		@ $I_F = 20\text{A}, T_C = 25^\circ\text{C}$
		—	0.48	0.50		@ $I_F = 20\text{A}, T_C = 125^\circ\text{C}$
Peak Reverse Current at Rated DC Blocking Voltage (Note 3)	I_{RM}	—	—	1.0	mA	@ $T_C = 25^\circ\text{C}$
		—	150	260		@ $T_C = 125^\circ\text{C}$
Typical Total Capacitance	C_T	—	350	—	pF	$f = 1.0\text{MHz}, V_R = 4.0\text{V DC}$, 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.

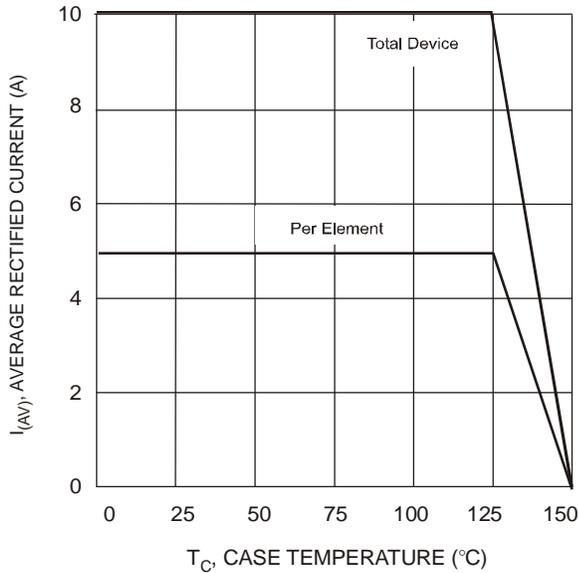


Fig. 1 Forward Derating Curve

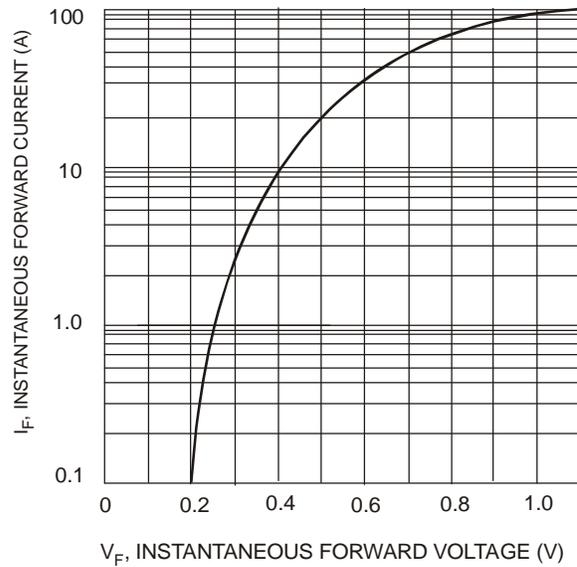


Fig. 2 Typical Forward Characteristics, Per Element

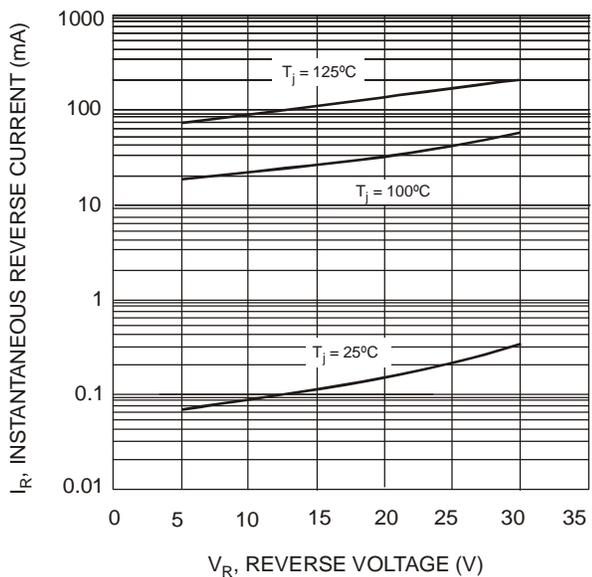


Fig. 3 Typical Reverse Characteristics, Per Element

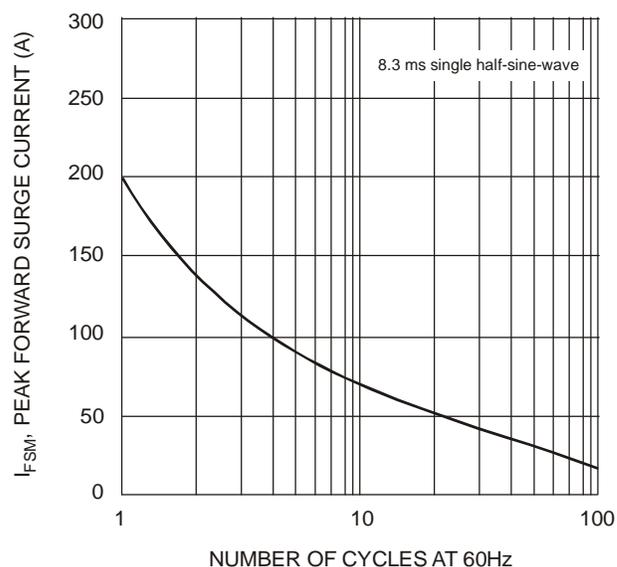


Fig. 4 Maximum Non-Repetitive Surge Current

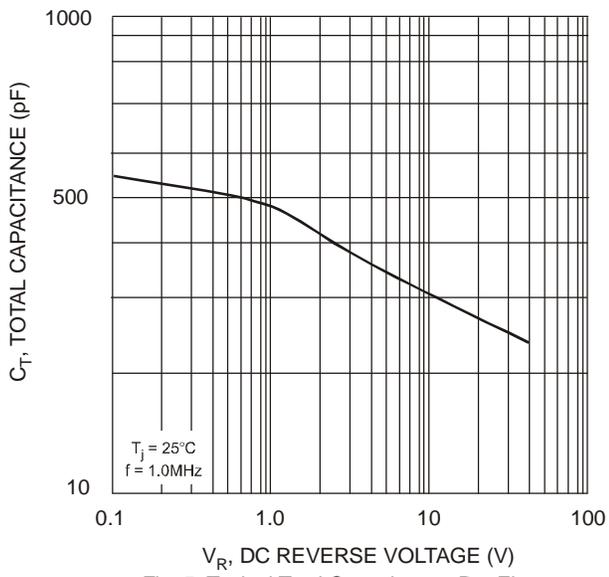


Fig. 5 Typical Total Capacitance, Per Element



Ordering Information (Note 4)

Device	Packaging	Shipping
SBG1025L-F	D 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, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



SBG10XXL = Product type marking code (SBG1025L or SBG1030L)
 D = 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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