

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

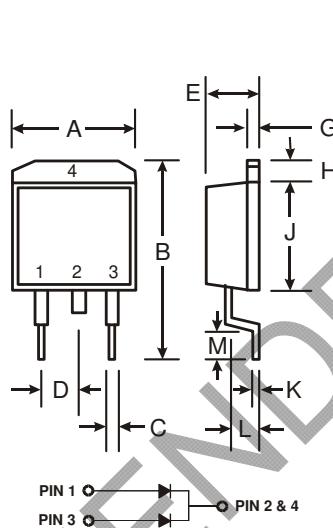
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 125A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Lead Free Finish/RoHS Compliant (Note 3)**

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)
- Ordering Information, Note 5, on Page 2
- Polarity: See Diagram
- Marking: Type Number
- 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 and Electrical Characteristics

$\text{@ } T_A = 25^\circ\text{C}$ unless otherwise specified

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

For capacitive load, derate current by 20%.

Characteristic	Symbol	SBG 1030CT	SBG 1035CT	SBG 1040CT	SBG 1045CT	Unit
Peak Repetitive Reverse Voltage	V_{RRM}					
Working Peak Reverse Voltage	$V_{RW M}$	30	35	40	45	V
DC Blocking Voltage (Note 4)	V_R					
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	V
Average Rectified Output Current @ $T_C = 95^\circ\text{C}$	I_O			10		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}			125		A
Forward Voltage, per Element @ $I_F = 5.0\text{A}$	V_{FM}			0.55		V
Peak Reverse Current @ $T_j = 25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 4)	I_{RM}			1.0 50		mA
Typical Total Capacitance (Note 2)	C_T			275		pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$			3.0		°C/W
Operating and Storage Temperature Range	T_j, T_{STG}			-65 to +125		°C

Notes:

1. Thermal resistance junction to case mounted on heatsink.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.
4. Short duration pulse test used to minimize self-heating effect.

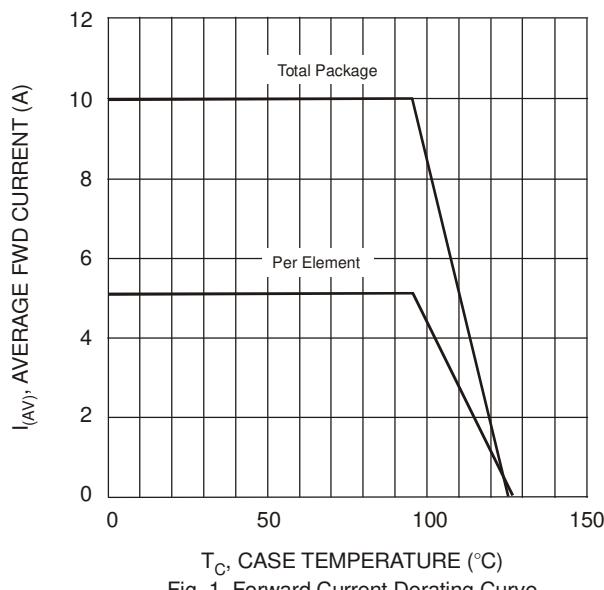


Fig. 1 Forward Current Derating Curve

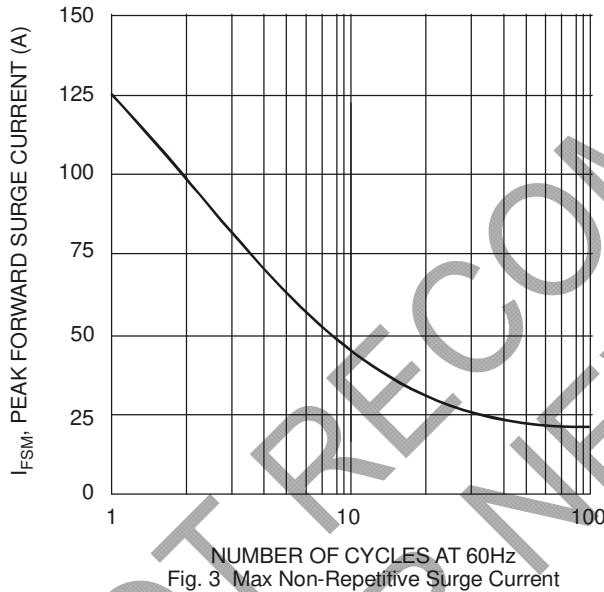


Fig. 3 Max Non-Repetitive Surge Current

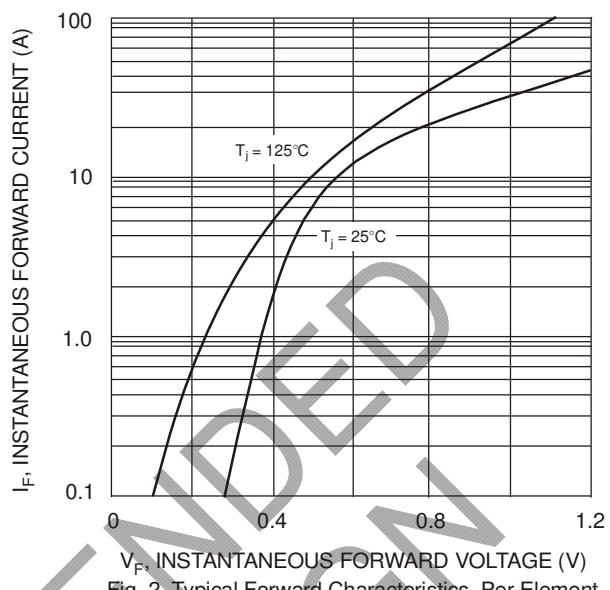


Fig. 2 Typical Forward Characteristics, Per Element

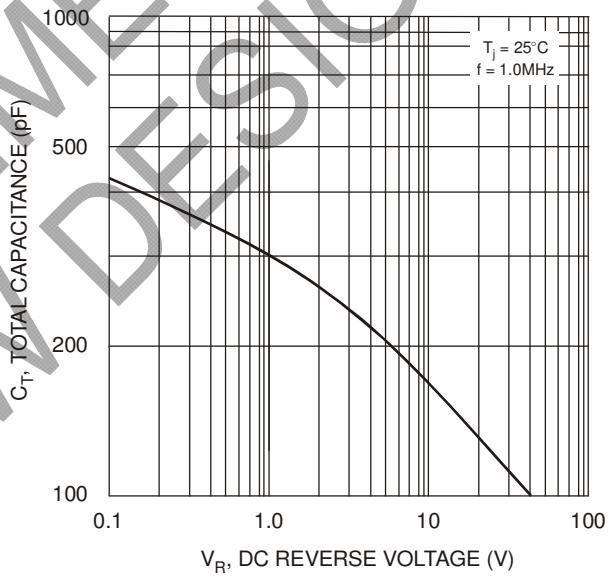


Fig. 4 Typical Total Capacitance, Per Element

Ordering Information (Note 5)

Device	Packaging	Shipping
SBG1030CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1035CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1040CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1045CT-T-F	D ² PAK	800/Tape & Reel, 13-inch

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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