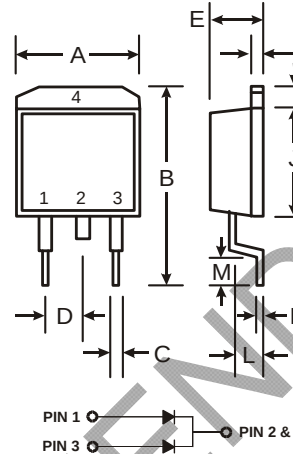


Features

- 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 175A 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: See 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 @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	SBG 1630CT	SBG 1635CT	SBG 1640CT	SBG 1645CT	Unit
Peak Repetitive Reverse Voltage	V _{RRM}					
Working Peak Reverse Voltage	V _{RWM}	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°C	I _O			16		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}			175		A
Forward Voltage, per Element @ I _F = 8.0A	V _{FM}			0.55		V
Peak Reverse Current @ T _J = 25°C	I _{RM}			1.0		mA
at Rated DC Blocking Voltage (Note 4) @ T _J = 125°C				50		
Typical Total Capacitance (Note 2)	C _T			275		pF
Typical Thermal Resistance Junction to Case (Note 1)	R _{θJC}			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 and per element.
 3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Note 7.
 4. Short duration pulse test used to minimize self-heating effect.

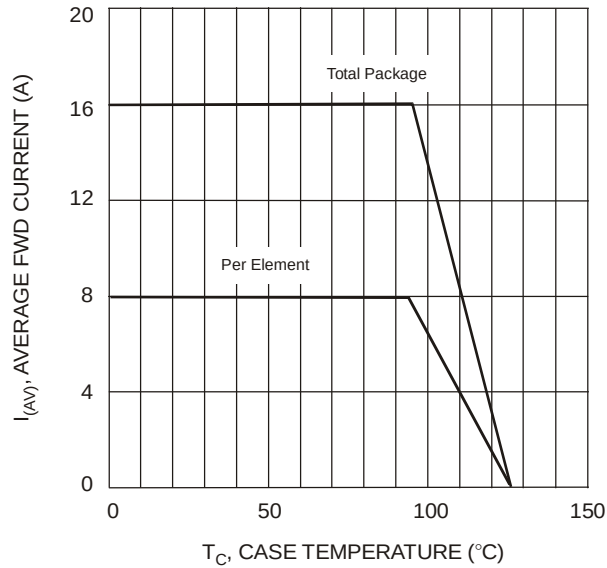


Fig. 1 Forward Current Derating Curve

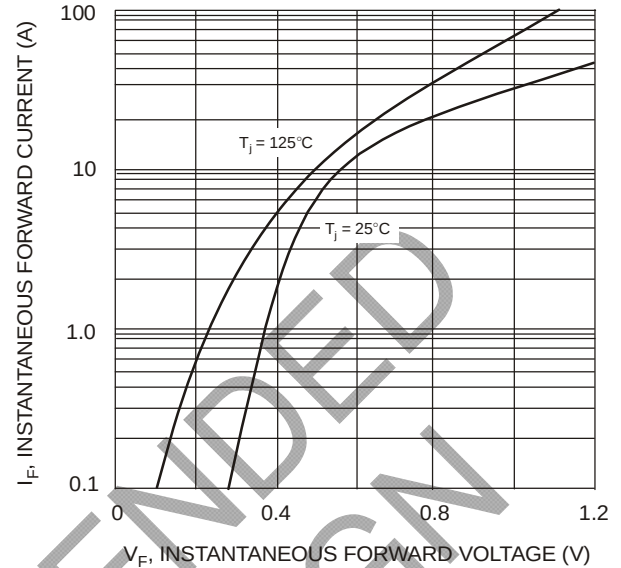


Fig. 2 Typical Forward Characteristics, Per Element

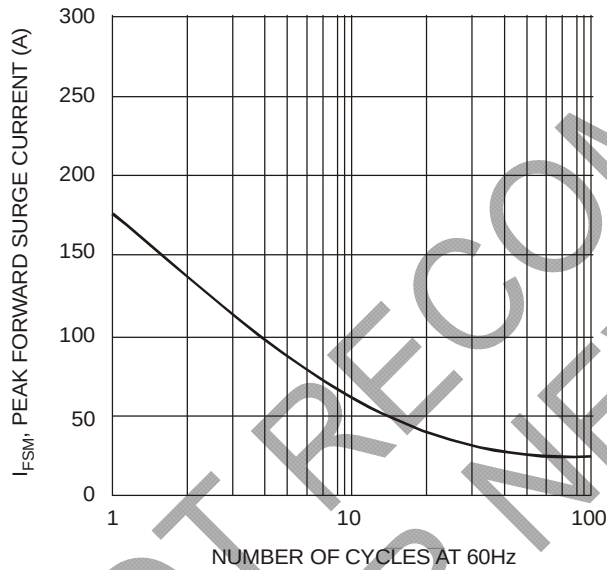


Fig. 3 Max Non-Repetitive Surge Current

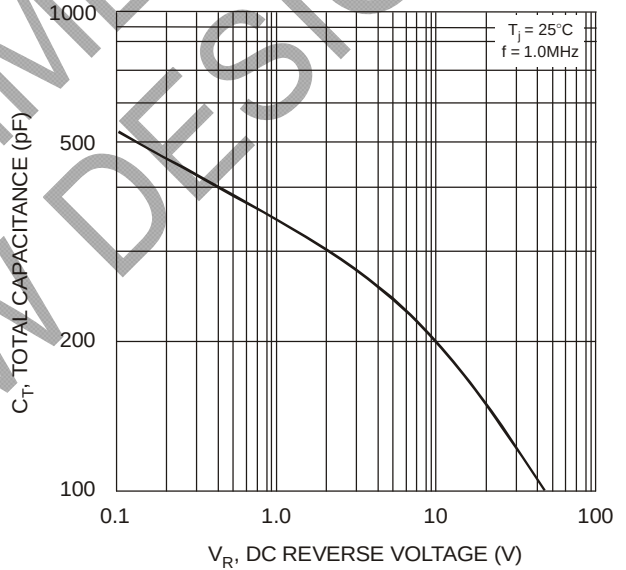


Fig. 4 Typical Total Capacitance, Per Element

Ordering Information (Note 5)

Device	Packaging	Shipping
SBG1630CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1635CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1640CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG1645CT-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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