



**THE DATASHEET OF
SBG2040CT-T-F**



SBG2030CT - SBG2045CT

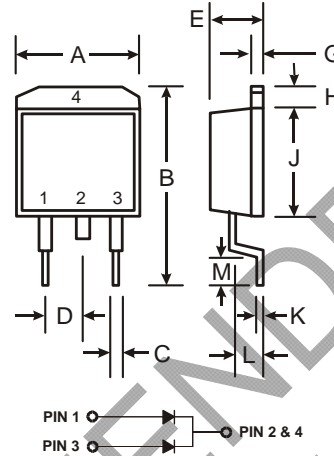
16A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

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 225A 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, 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 2030CT	SBG 2035CT	SBG 2040CT	SBG 2045CT	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	I _O	20				A
Non-Repetitive Peak Forward Surge Current	I _{FSM}	225				A
8.3ms Single Half Sine-Wave Superimposed on Rated Load						
Forward Voltage, per Element	V _{FM}	0.55				V
Peak Reverse Current	I _{RM}	1.0				mA
at Rated DC Blocking Voltage (Note 4)		50				
Typical Total Capacitance (Note 2)	C _T	650				pF
Typical Thermal Resistance Junction to Case (Note 1)	R _{θJC}	2.0				°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150				°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 Note 7*.
 4. Short duration pulse test used to minimize self-heating effect.

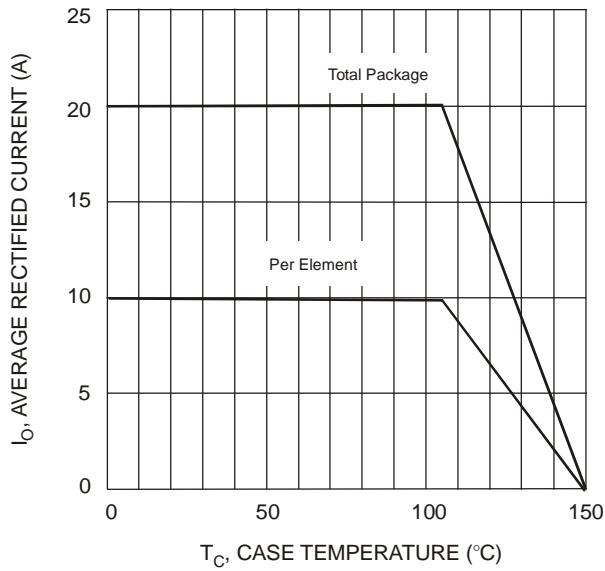


Fig. 1 Forward Current Derating Curve

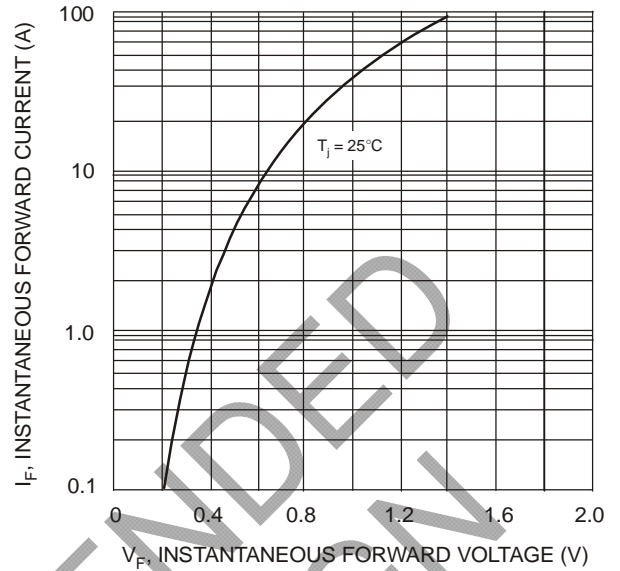


Fig. 2 Typical Forward Characteristics, Per Element

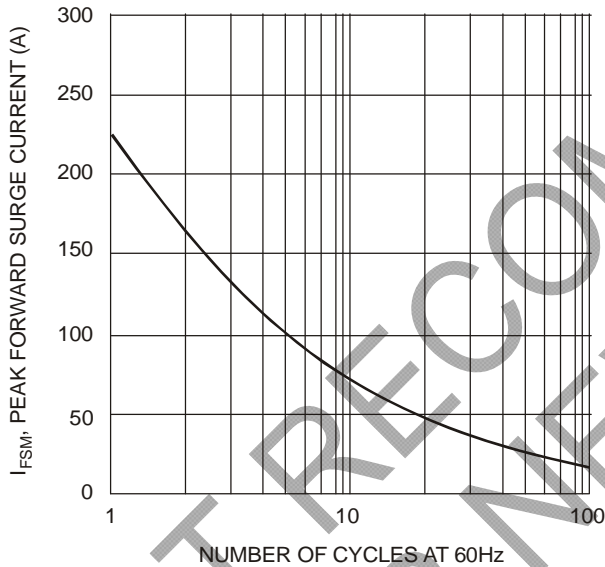


Fig. 3 Max Non-Repetitive Surge Current

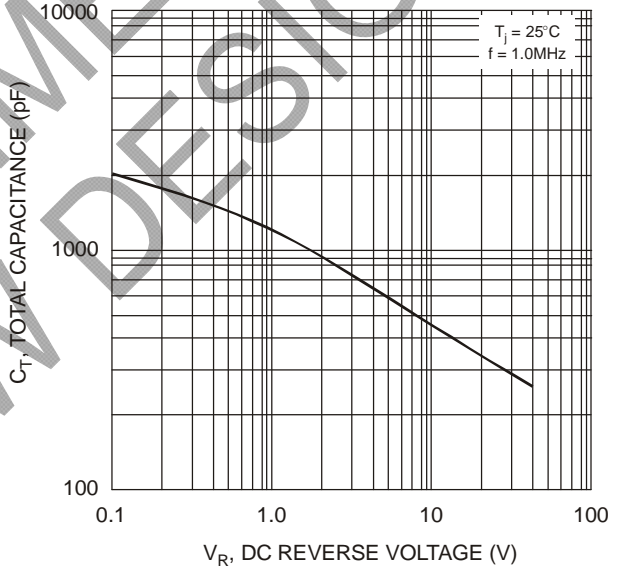


Fig. 4 Typical Total Capacitance, Per Element

Ordering Information (Note 5)

Device	Packaging	Shipping
SBG2030CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG2035CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG2040CT-T-F	D ² PAK	800/Tape & Reel, 13-inch
SBG2045CT-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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