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Diodes Incorporated
SBG1040CT

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SBG1030CT - SBG1045CT

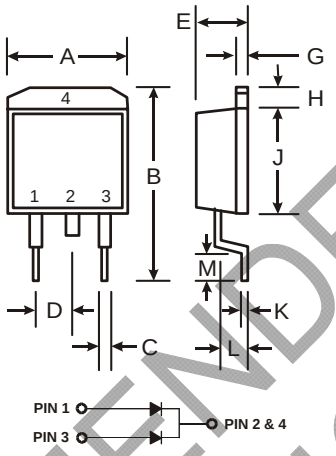
16A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

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 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: 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
- Ordering Information, Note 5, on Page 2
- Polarity: See Diagram
- Marking: Type Number
- 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 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 1030CT	SBG 1035CT	SBG 1040CT	SBG 1045CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 4)	V_{RRM} V_{RWM} V_R	30	35	40	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	V
Average Rectified Output Current @ T_C = 95°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 = 5.0A	V_{FM}	0.55				V
Peak Reverse Current @ T_j = 25°C at Rated DC Blocking Voltage (Note 4) @ T_j = 125°C	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.

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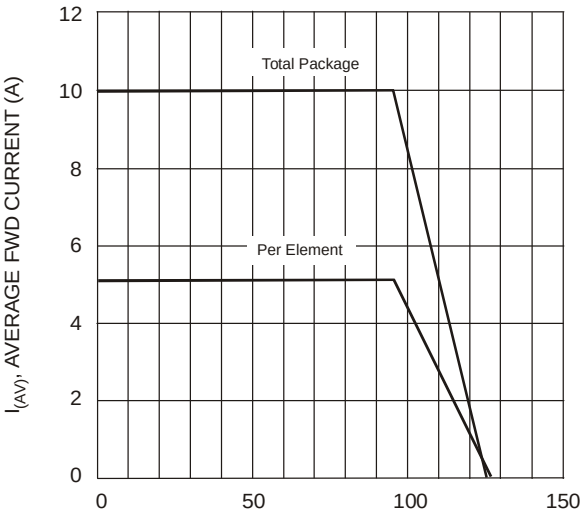

Fig. 1 Forward Current Derating Curve

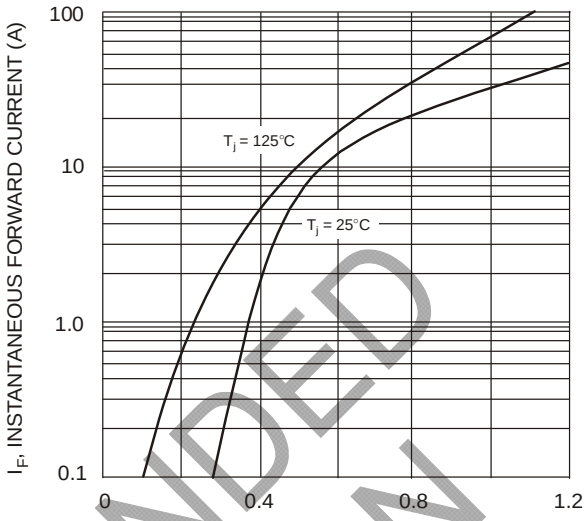

Fig. 2 Typical Forward Characteristics, Per Element

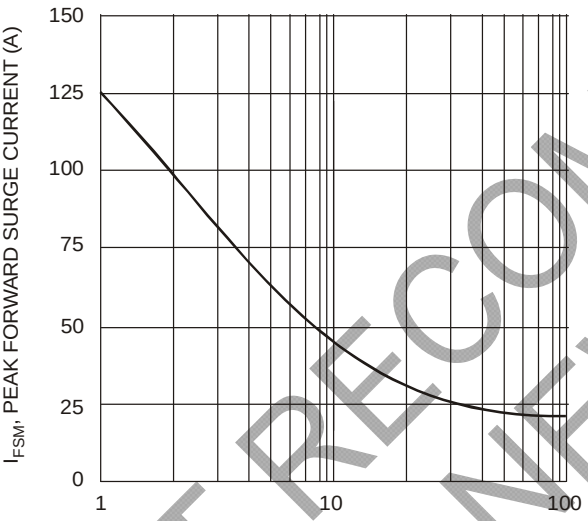

Fig. 3 Max Non-Repetitive Surge Current

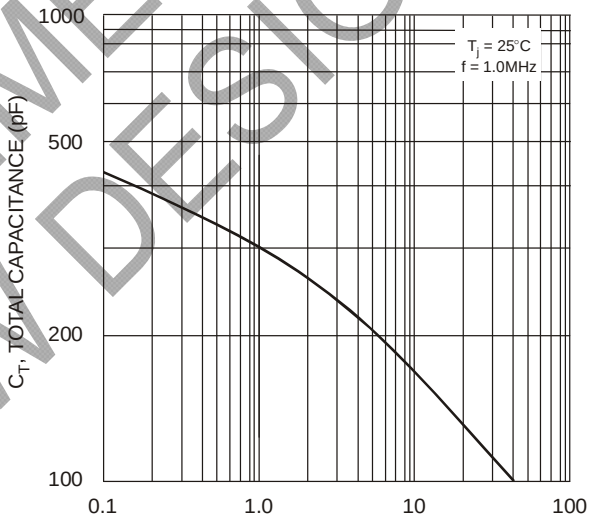

Fig. 4 Typical Total Capacitance, Per Element

Ordering Information (Note 5)

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