SBG1030CT - SBG1045CT

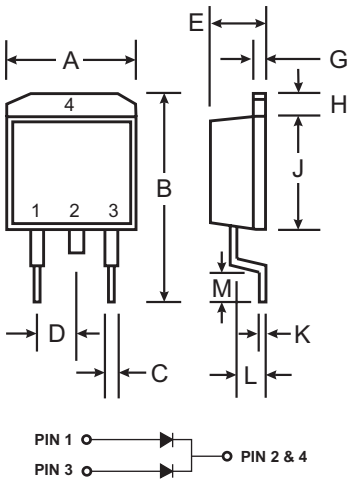
10A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Schottky Barrier Chip
- 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 - Bright Tin. Solderable per MIL-STD-202, Method 208
- Ordering Information, Note 5, on Page 2
- Polarity: See Diagram
- Marking: Type Number
- Mounting Position: Any
- 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	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 (JEDEC Method)	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 @ T_j = 125°C	I_{RM}	1.0 50				mA
Typical Junction Capacitance (Note 2)	C_j	275				pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	3.0				K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125				°C

Notes: 1. Thermal resistance: junction to case mounted on heat sink.
2. Measured at 1.0MHz 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*.

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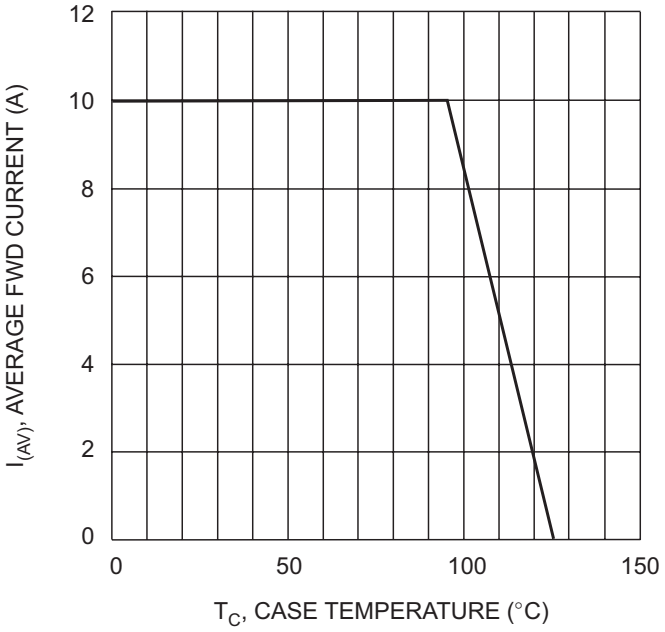


Fig. 1 Forward Current Derating Curve

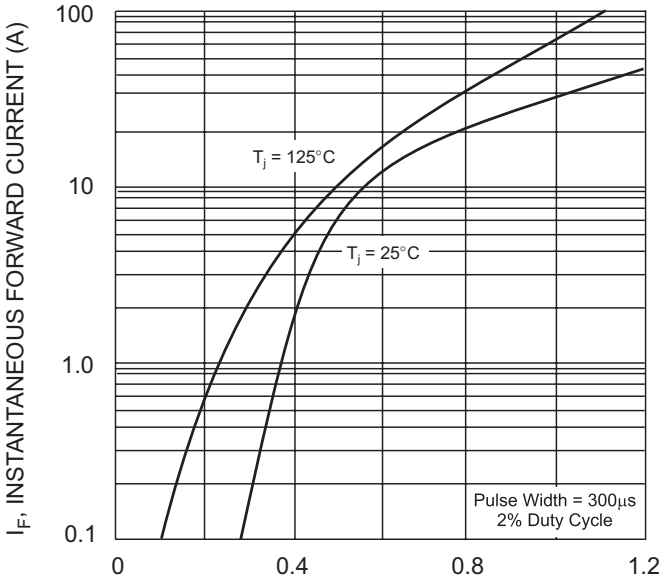


Fig. 2 Typical Forward Characteristics

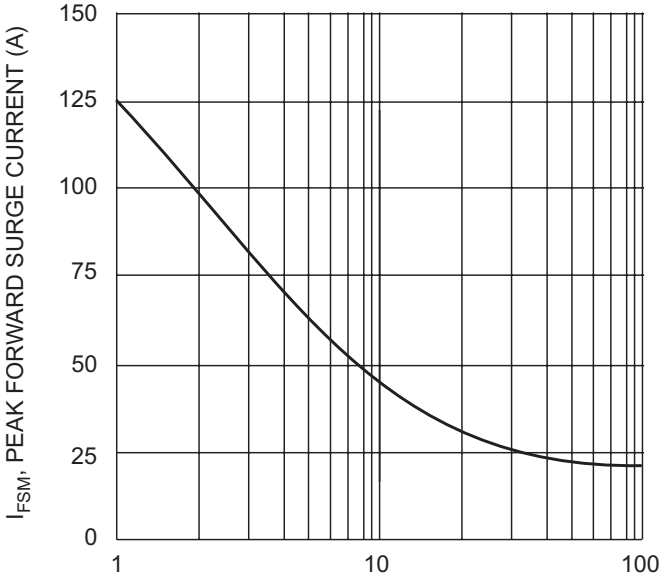


Fig. 3 Max Non-Repetitive Surge Current

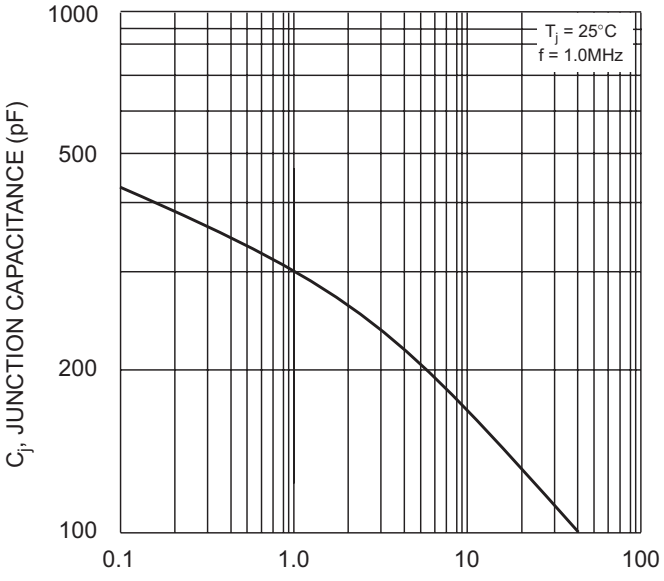


Fig. 4 Typical Junction Capacitance

Ordering Information (Note 4)

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: 4. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02007.pdf.

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