

SBL2030CT - SBL2060CT

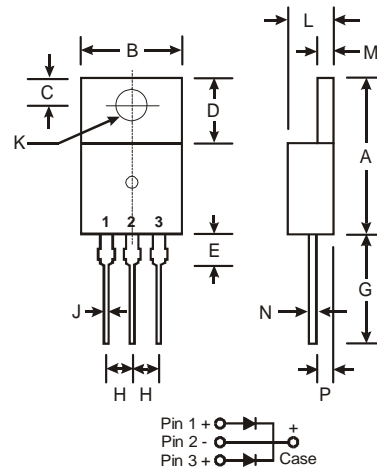
20A SCHOTTKY BARRIER RECTIFIER

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
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 3)**

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity: As Marked on Body
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Weight: 2.24 grams (approximate)



TO-220AB		
Dim	Min	Max
A	14.48	15.75
B	10.00	10.40
C	2.54	3.43
D	5.90	6.40
E	2.80	3.93
G	12.70	14.27
H	2.40	2.70
J	0.69	0.93
K	3.54	3.78
L	4.07	4.82
M	1.15	1.39
N	0.30	0.50
P	2.04	2.79
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	SBL 2030CT	SBL 2035CT	SBL 2040CT	SBL 2045CT	SBL 2050CT	SBL 2060CT	Unit
Peak Repetitive Reverse Voltage	V_{RRM}							
Working Peak Reverse Voltage	V_{RWM}	30	35	40	45	50	60	V
DC Blocking Voltage	V_R							
RMS Reverse Voltage	$V_{R(RMS)}$	21	24.5	28	31.5	35	42	V
Average Rectified Output Current (Note 1)	I_O	20						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	250						A
Forward Voltage Drop @ $I_F = 10\text{A}$, $T_C = 25^\circ\text{C}$	V_{FM}	0.55				0.75		V
Peak Reverse Current @ $T_C = 25^\circ\text{C}$	I_{RM}	1.0						mA
at Rated DC Blocking Voltage @ $T_C = 100^\circ\text{C}$		50						
Typical Junction Capacitance (Note 2)	C_j	650						pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	2.8						$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150						$^\circ\text{C}$

- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.

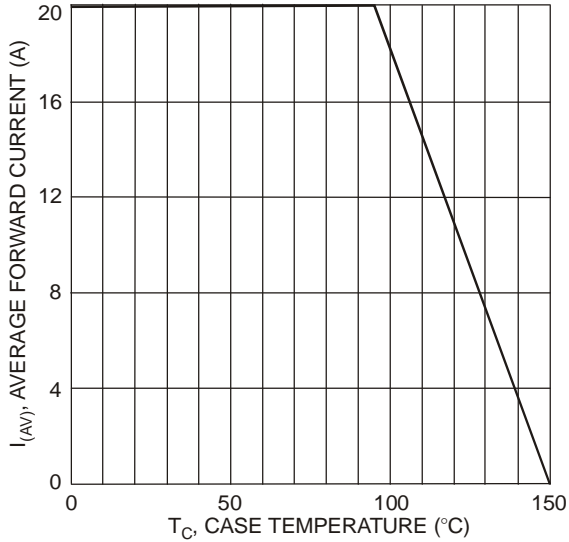


Fig. 1 Forward Current Derating Curve

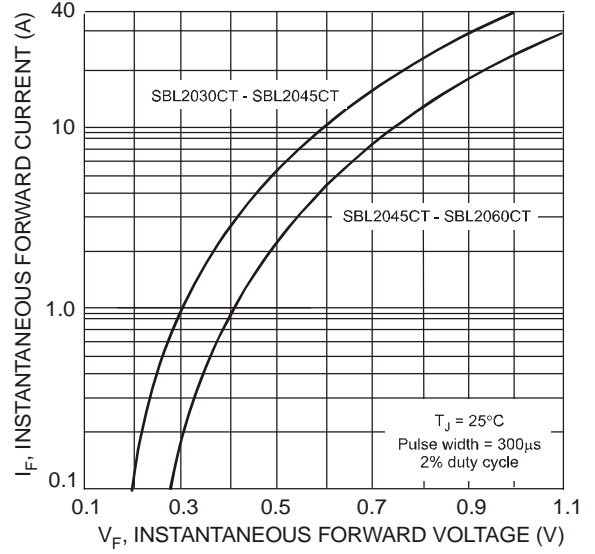


Fig. 2 Typical Forward Voltage

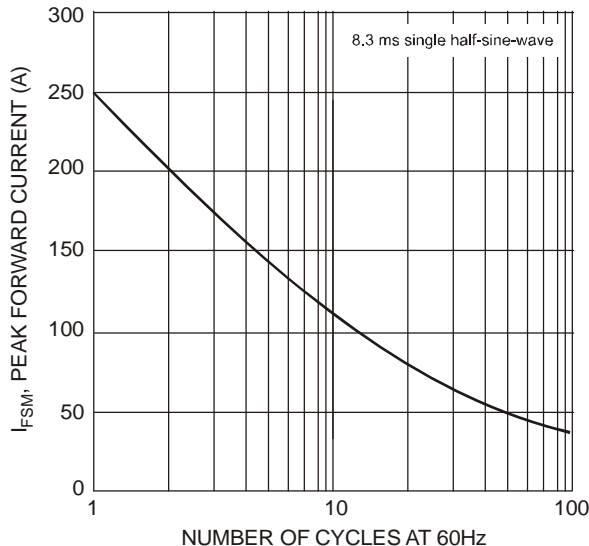


Fig. 3 Maximum Non-Repetitive Surge Current

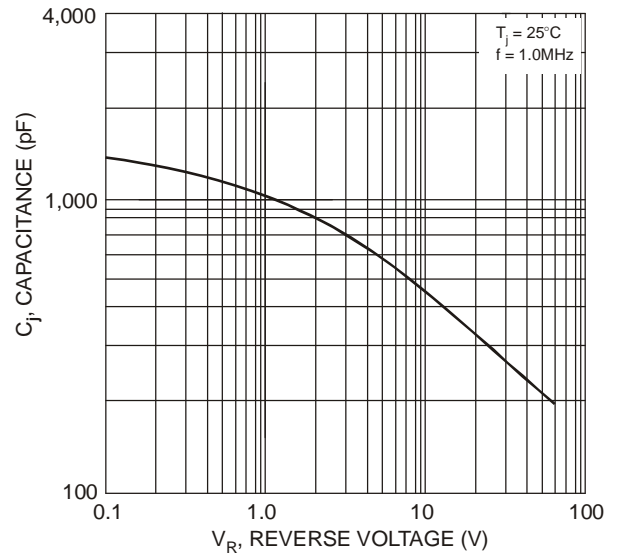


Fig. 4 Typical Junction Capacitance

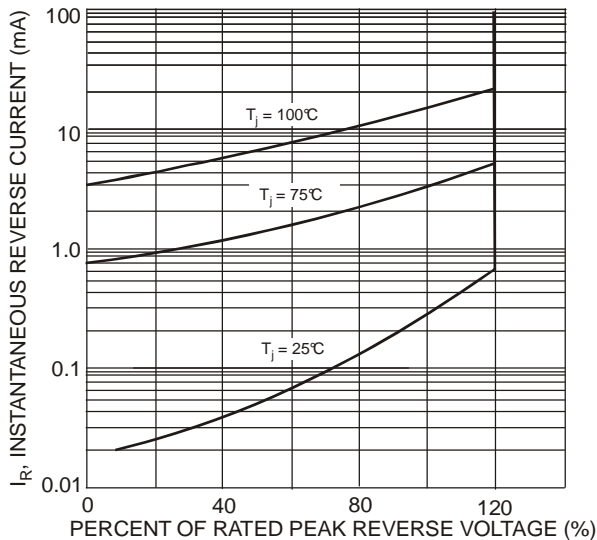


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 4)

Device	Packaging	Shipping
SBL20xxCT*	TO-220AB	50/Tube

* xx = Device type, e.g. SBL2045CT

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

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