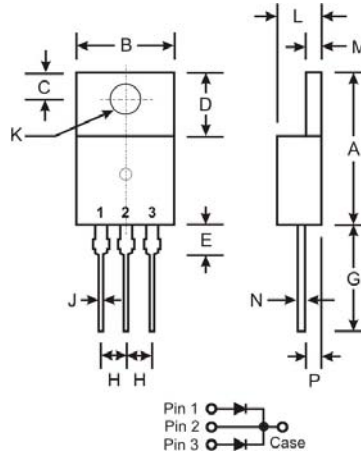


### Features

- 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-020C
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Ordering Information: See Page 3
- 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<sub>A</sub> = 25°C unless otherwise specified

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

Characteristic	Symbol	SBL 3030CT	SBL 3040CT	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>			
Working Peak Reverse Voltage	V <sub>RWM</sub>	30	40	V
DC Blocking Voltage	V <sub>R</sub>			
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	28	V
Average Rectified Output Current (Note 1) @ T <sub>C</sub> = 100°C	I <sub>O</sub>	30		A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	250		A
Forward Voltage Drop @ I <sub>F</sub> = 15A, T <sub>C</sub> = 25°C	V <sub>FM</sub>	0.55		V
Peak Reverse Current @ T <sub>C</sub> = 25°C	I <sub>RM</sub>	1.0		mA
at Rated DC Blocking Voltage @ T <sub>C</sub> = 100°C		75		
Typical Total Capacitance (Note 2)	C <sub>T</sub>	450		pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>	1.5		°C/W
Operating Temperature Range	T <sub>j</sub>	-55 to +125		°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150		°C
Critical Rate of Rise Reverse Voltage	dv/dt	10,000		V/μs

- Notes:
1. Thermal resistance junction to case mounted on heatsink.
  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*.

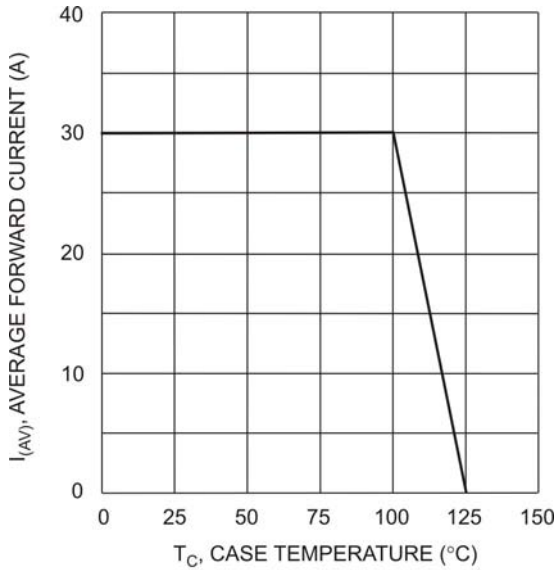


Fig. 1 Forward Current Derating Curve

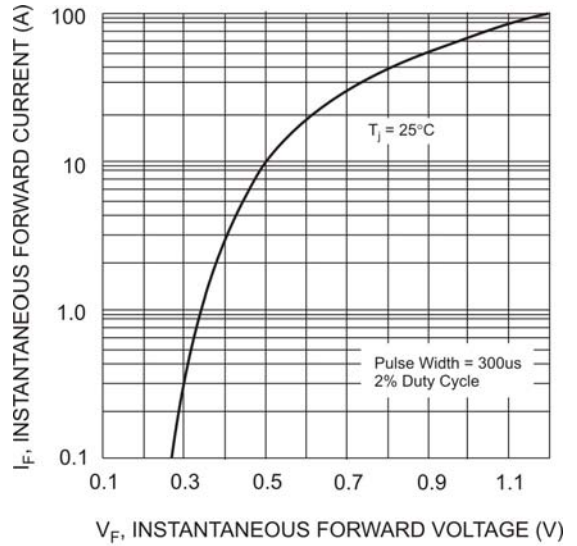


Fig. 2 Typical Forward Characteristics

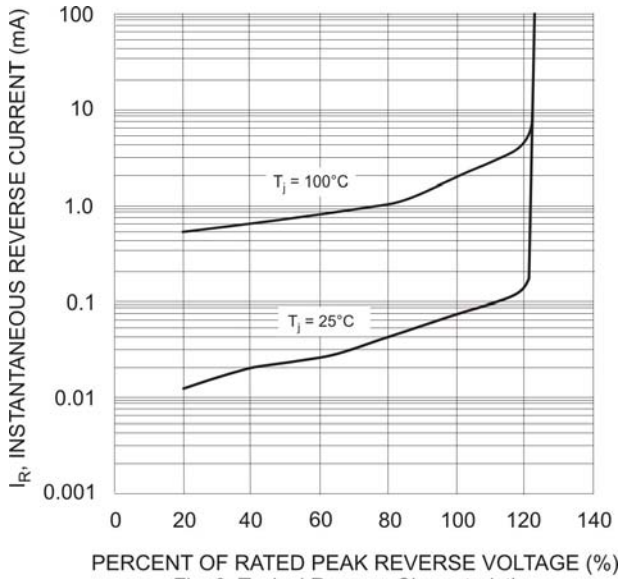


Fig. 3 Typical Reverse Characteristics

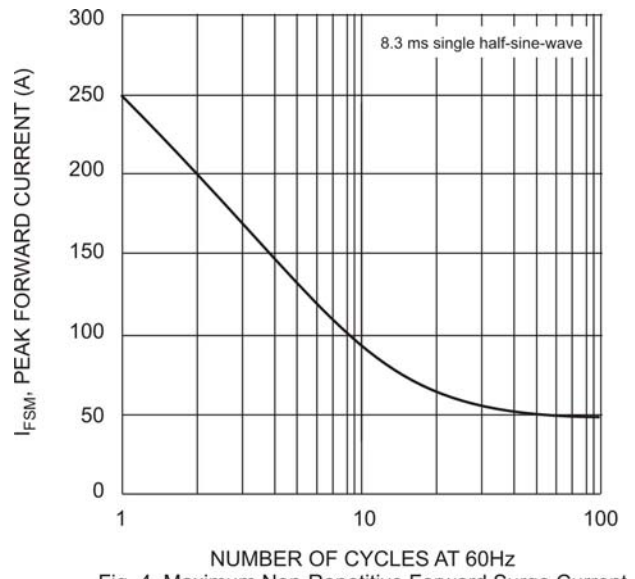


Fig. 4 Maximum Non-Repetitive Forward Surge Current

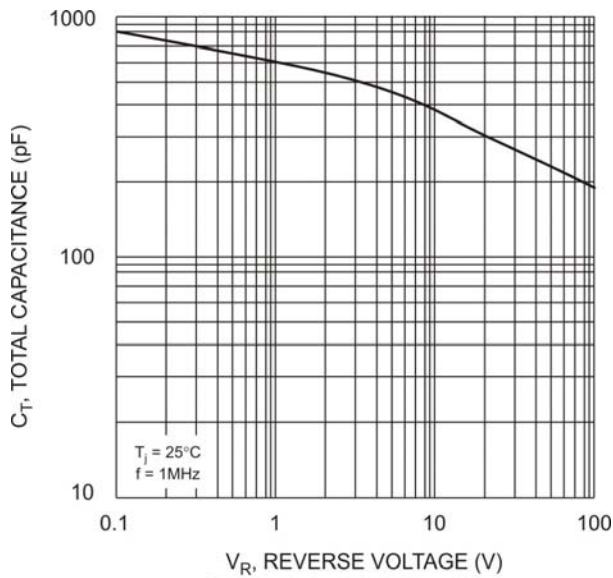


Fig. 5 Typical Total Capacitance

**Ordering Information** (Note 4)

Device	Packaging	Shipping
SBL3030CT	TO-220AB	50/Tube
SBL3040CT	TO-220AB	50/Tube

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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