

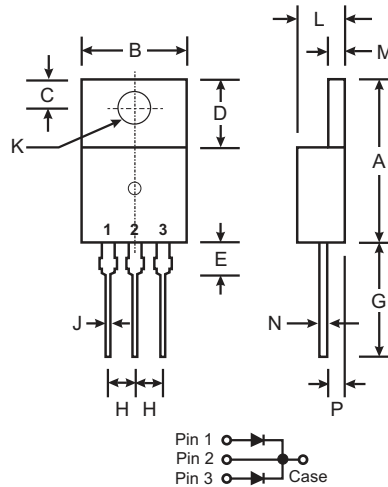
### Features

- 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)**

**NOT RECOMMENDED FOR NEW DESIGNS**  
**USE MBR3045CT**

### 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 – Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 2.24 grams (approx.)



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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	45	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	32	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 at Rated DC Blocking Voltage @ T <sub>C</sub> = 100°C	I <sub>RM</sub>	1.0 75	mA
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

- 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.

### Ordering Information (Note 4)

Device	Packaging	Shipping
SBL3045CT	TO-220AB	50/Tube

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

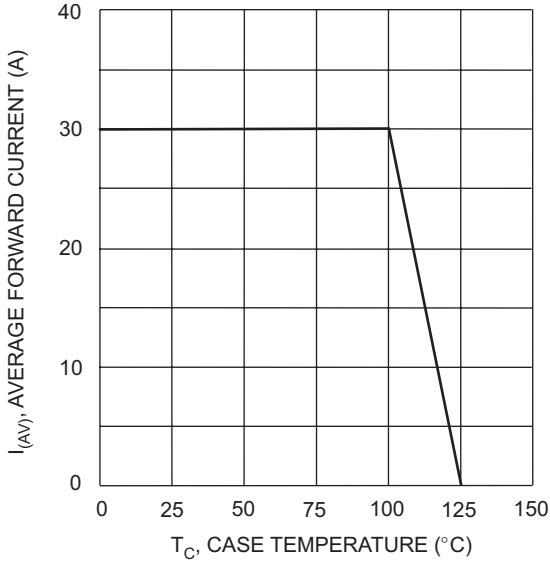


Fig. 1 Forward Current Derating Curve

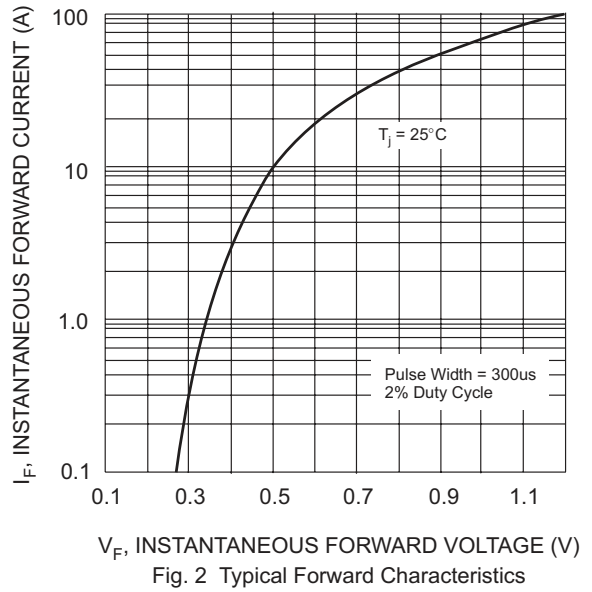


Fig. 2 Typical Forward Characteristics

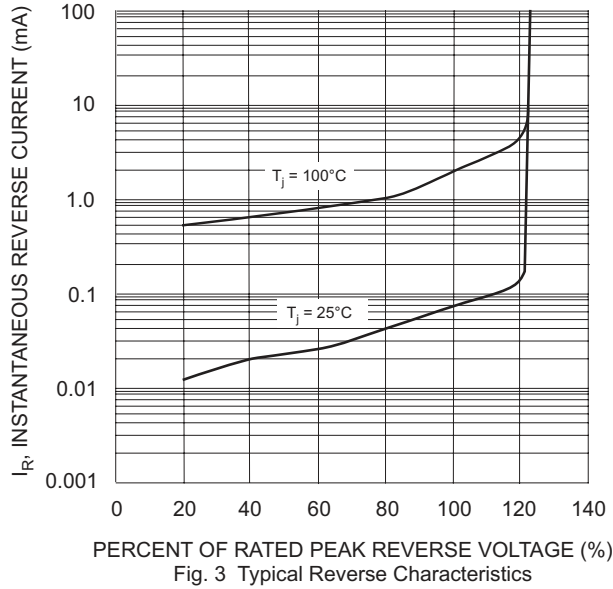


Fig. 3 Typical Reverse Characteristics

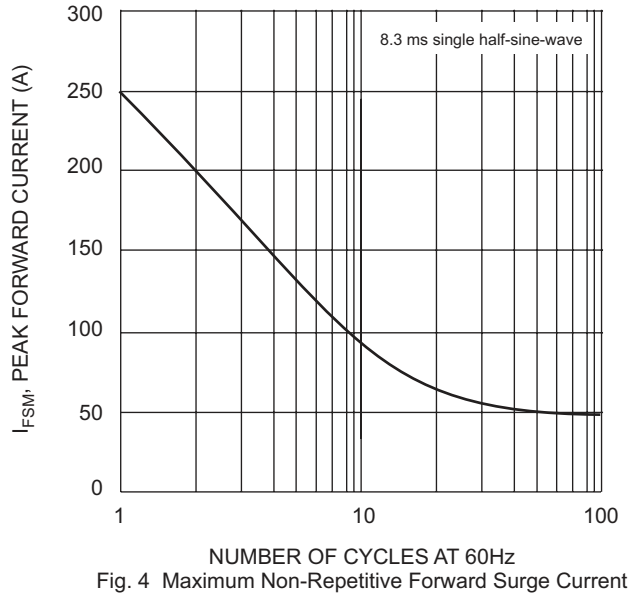


Fig. 4 Maximum Non-Repetitive Forward Surge Current

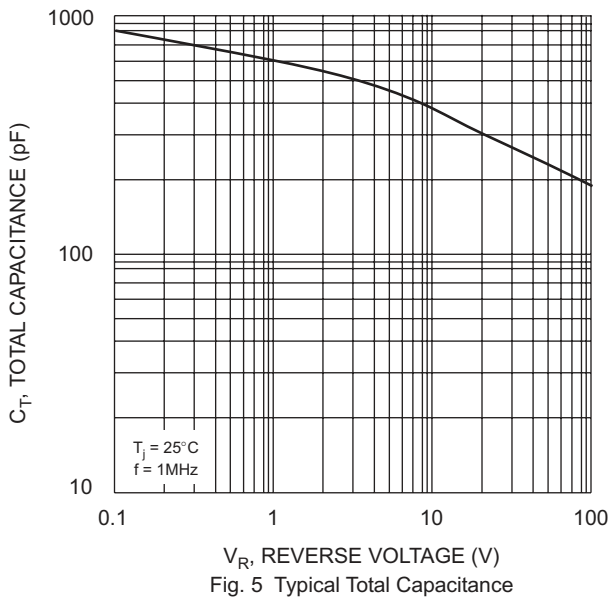


Fig. 5 Typical Total Capacitance

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