

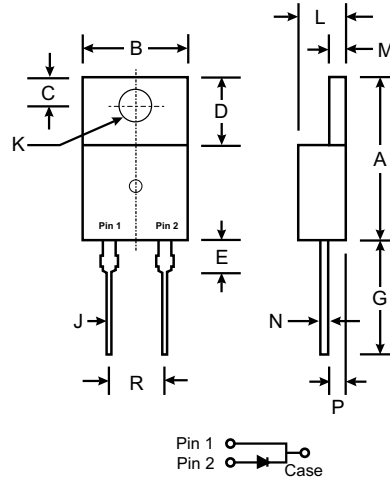
### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- Very Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

UNDER DEVELOPMENT

### Mechanical Data

- Case: TO-220AC Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Type Number
- Weight: 2.24 grams (approx.)



TO-220AC		
Dim	Min	Max
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	—	6.35
G	12.70	14.73
J	0.51	1.14
K	3.53 $\varnothing$	4.09 $\varnothing$
L	3.56	4.83
M	1.14	1.40
N	0.30	0.64
P	2.03	2.92
R	4.83	5.33
All Dimensions in mm		

### Maximum Ratings @ 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	SBL1025L	SBL1030L	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	25	30	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	18	21	V
Average Rectified Output Current @ T <sub>C</sub> = 120°C	I <sub>O</sub>	10		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	200		A
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>	3.0		°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150		°C

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	25 30	—	—	V V	I <sub>R</sub> = 1mA
Forward Voltage	V <sub>FM</sub>	—	0.34	0.45 0.35 0.55 0.50	V	@ I <sub>F</sub> = 10A, T <sub>C</sub> = 25°C @ I <sub>F</sub> = 10A, T <sub>C</sub> = 125°C @ I <sub>F</sub> = 20A, T <sub>C</sub> = 25°C @ I <sub>F</sub> = 20A, T <sub>C</sub> = 125°C
Peak Reverse Current at Rated DC Blocking Voltage	I <sub>RM</sub>	—	150	1.0 260	mA	@ T <sub>C</sub> = 25°C @ T <sub>C</sub> = 125°C
Typical Junction Capacitance	C <sub>j</sub>	—	350	—	pF	f = 1.0MHz, V <sub>R</sub> = 4.0V DC

Notes: 1. Thermal resistance: junction to case mounted on heat sink.

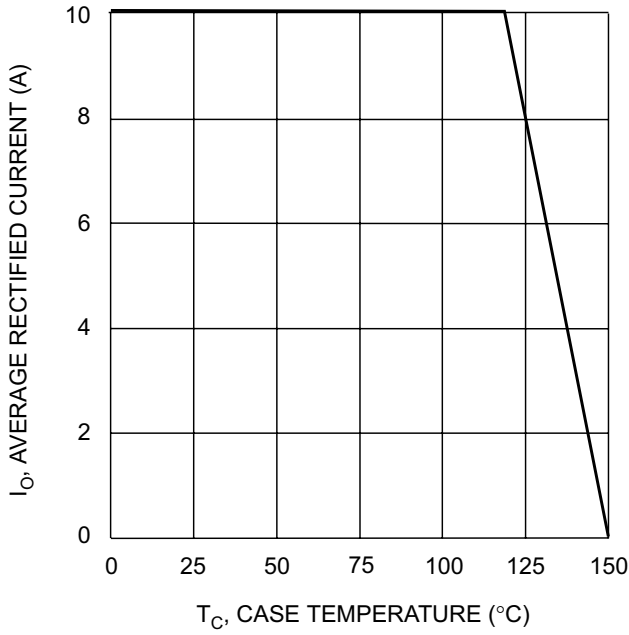


Fig. 1 Forward Derating Curve

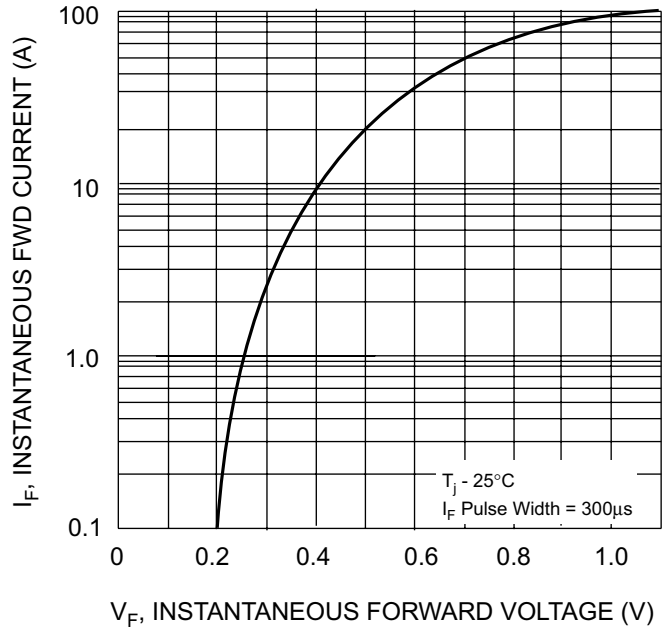


Fig. 2 Typical Forward Characteristics

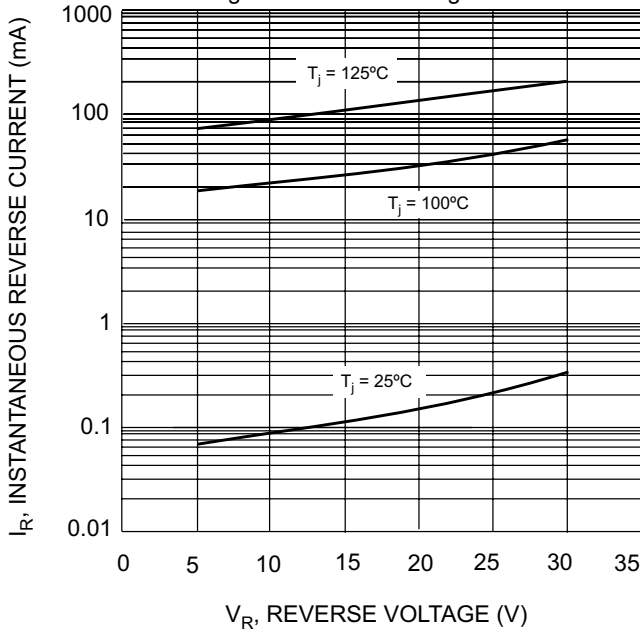


Fig. 3 Typical Reverse Characteristics

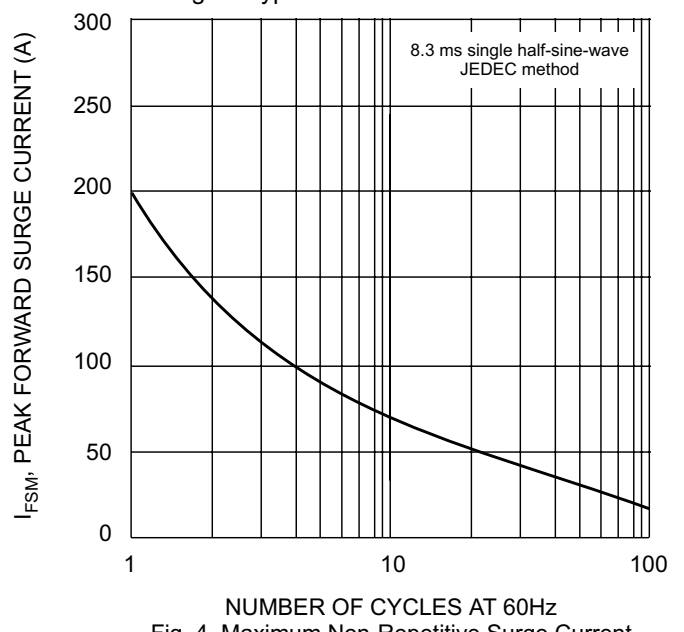


Fig. 4 Maximum Non-Repetitive Surge Current

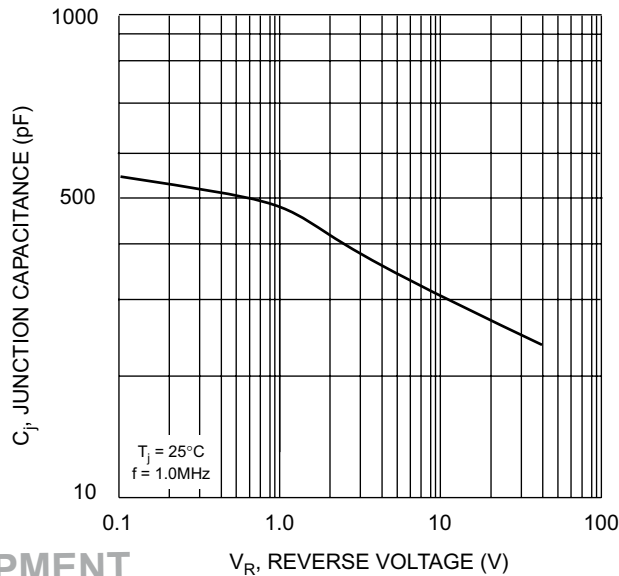


Fig. 5 Typical Junction Capacitance

UNDER DEVELOPMENT