

**SCHOTTKY BARRIER RECTIFIER**

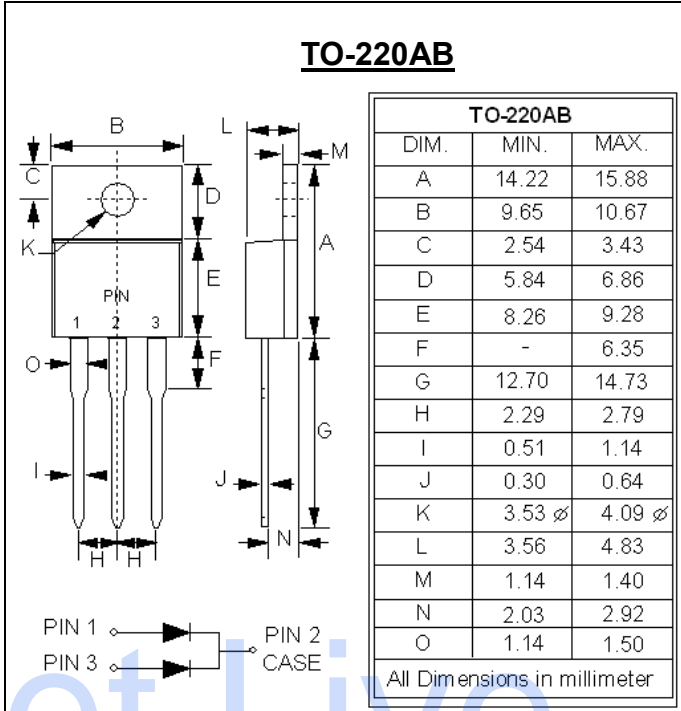
**REVERSE VOLTAGE – 30 to 45 Volts  
FORWARD CURRENT – 20 Amperes**

**FEATURES**

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capability
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

**MECHANICAL DATA**

- Case: JEDEC TO-220AB
- Polarity indicator: As marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Terminals: Lead Free Plating
- Max. mounting torque = 0.5 N.m (5.1 Kgf-cm)



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	SBL2030CT	SBL2035CT	SBL2040CT	SBL2045CT	UNIT
Device marking code	Note	SBL2030CT	SBL2035CT	SBL2040CT	SBL2045CT	---
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	30	35	40	45	V
Maximum RMS Voltage	$V_{RMS}$	21	24.4	28	31.5	V
Maximum DC Blocking Voltage	$V_{DC}$	30	35	40	45	V
Average Rectified Output Current	@TC=100°C	20				A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	225				A
Typical Junction Capacitance per element (1)	$C_J$	600				pF
Storage temperature range	$T_{STG}$	-55 to +150				°C
Operating junction temperature range	$T_J$	-55 to +125				°C
PARAMETER	TEST CONDITIONS	SYMBOL	Min.	Max.	UNIT	
Forward Voltage (2)	$I_F=10A$ $T_J=25^\circ C$	$V_F$	---	0.55	V	
Leakage Current (2)	$V_R=Rated$ $T_J=25^\circ C$ $T_J=100^\circ C$	$I_R$	---	1.0 50	mA	
THERMAL CHARACTERISTIC		SYMBOL	Typical		UNIT	
Typical thermal resistance _ Junction to Case (3)		$R_{\theta JC}$	3.0		°C/W	

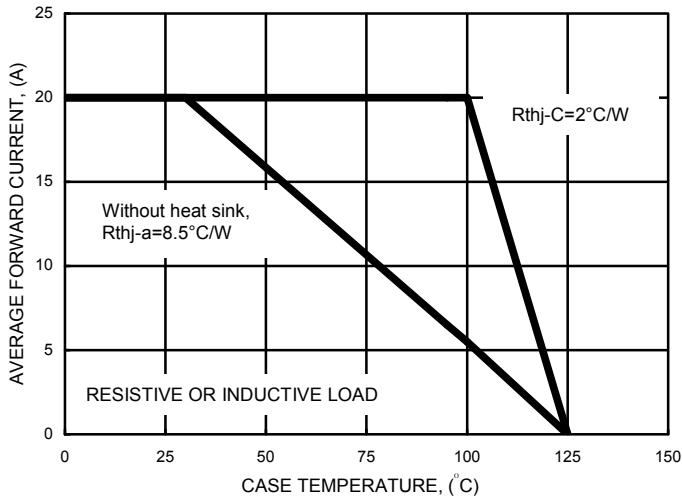
Note :

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0  $V_{DC}$ .
- (2) 300us Pulse Width, 2% Duty Cycle.
- (3) Thermal Resistance Junction to Case.  
Device mounted on L42xH25xW25mm\_ black Aluminum finny heat sink.

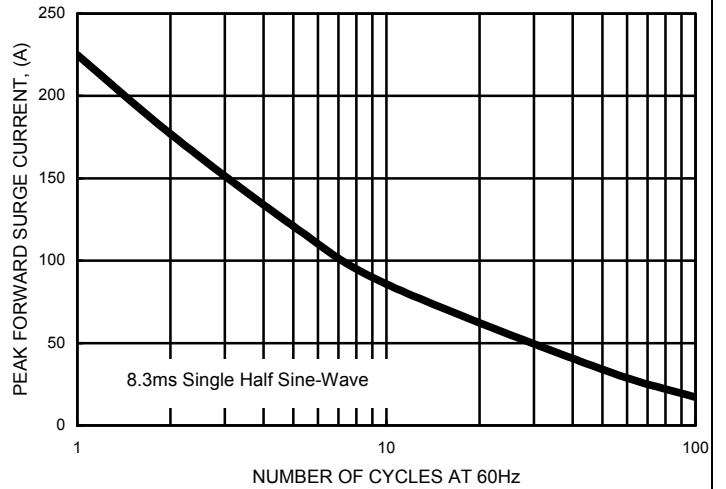
**RATING AND CHARACTERISTIC CURVES**  
**SBL2030CT thru SBL2045CT**



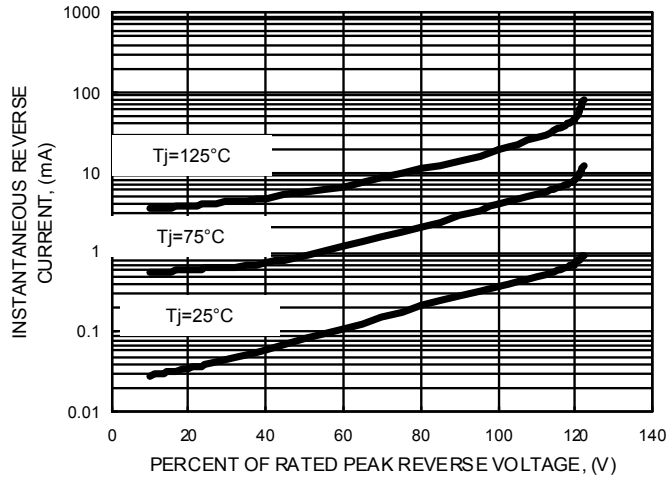
**FIG.1- FORWARD CURRENT DERATING CURVE**



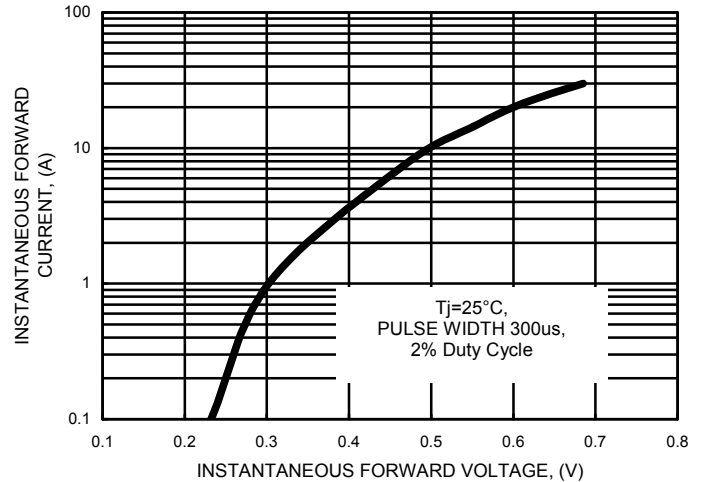
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



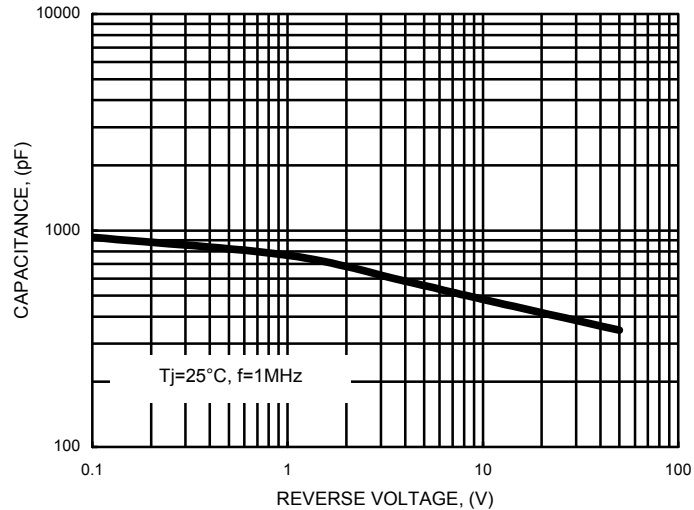
**FIG.3- TYPICAL REVERSE CHARACTERISTICS**



**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



**FIG.5- TYPICAL JUNCTION CAPACITANCE**



**FIG.6- DC REVERSE VOLTAGE DERATING CURVE**

