

# SBL3040CT-SBL3045CT(LS)

## SCHOTTKY BARRIER RECTIFIERS

**REVERSE VOLTAGE** – 40 to 45 Volts  
**FORWARD CURRENT** – 30 Amperes

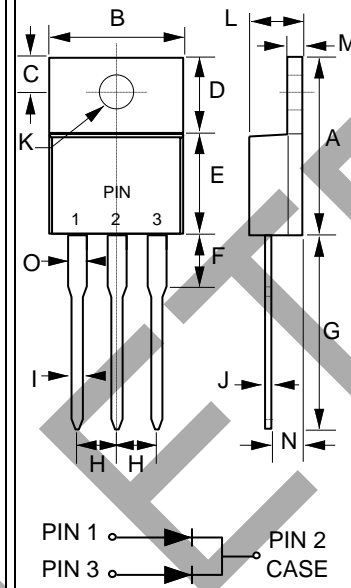
### FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low  $V_F$
- 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
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

### MECHANICAL DATA

- Package: TO-220AB molded plastic
- Polarity: As marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

### TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	4.20
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.30	0.64
K	3.53 $\varnothing$	4.09 $\varnothing$
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.70

All Dimensions in millimeter

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at +25°C ambient temperature unless otherwise specified.

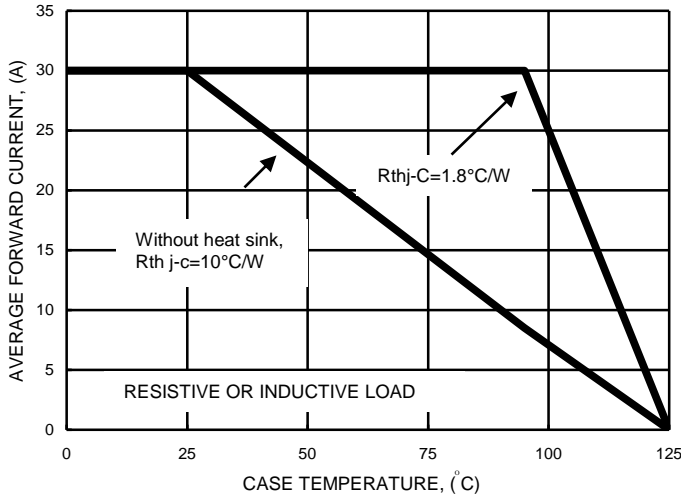
PARAMETER	SYMBOL	SBL3040CT	SBL3045CT	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	40	45	V
Maximum RMS Voltage	$V_{RMS}$	28	31	V
Maximum DC Blocking Voltage	$V_{DC}$	40	45	V
Average Rectified Output Current @ $T_C=+95^\circ\text{C}$	$I_F$	30		A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250		A
Maximum Forward Voltage (Note 3) $I_F=15\text{A}$ @ $T_J=+25^\circ\text{C}$	$V_F$	0.55		V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=+25^\circ\text{C}$ $T_J=+100^\circ\text{C}$	$I_R$	0.5 50		mA
Typical Junction Capacitance per Element (Note 4)	$C_J$	450		pF
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	1.8		$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55 to +125		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150		$^\circ\text{C}$

#### Notes:

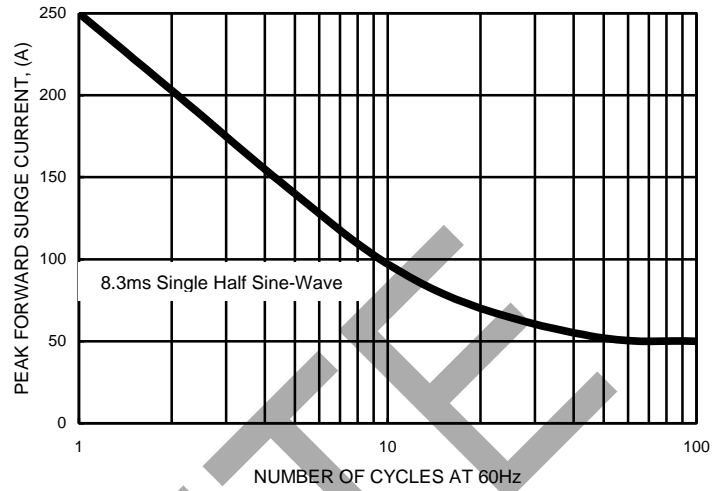
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. 300us Pulse Width, 2% Duty Cycle.
4. Measured at 1.0MHz and applied reverse voltage of 4.0  $V_{DC}$ .
5. Thermal Resistance Junction to Case, device mounted on L200 x W200 x H2mm\_copper heat sink.

**RATING AND CHARACTERISTIC CURVES**  
**SBL3040CT-SBL3045CT**

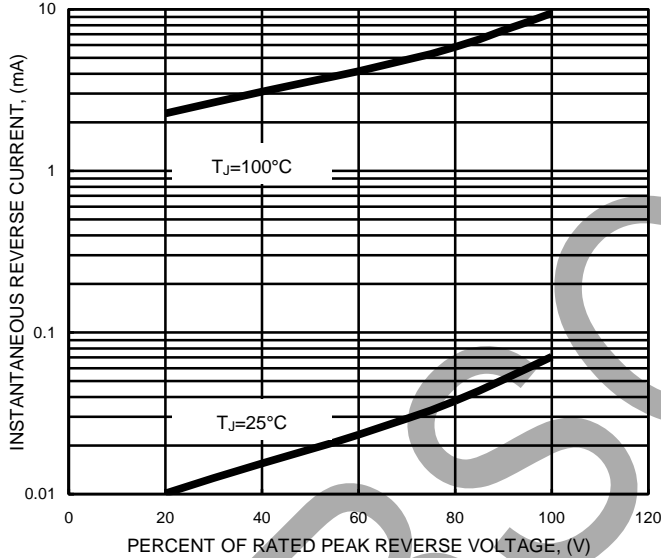
**FIG.1- FORWARD CURRENT DERATING CURVE**



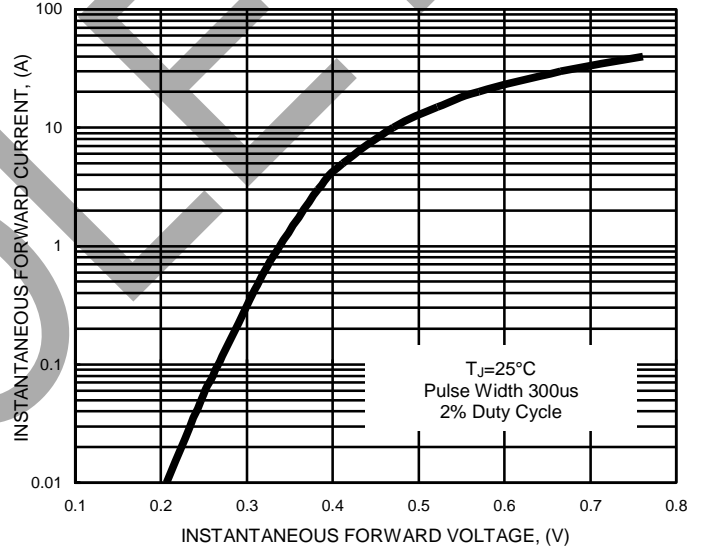
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



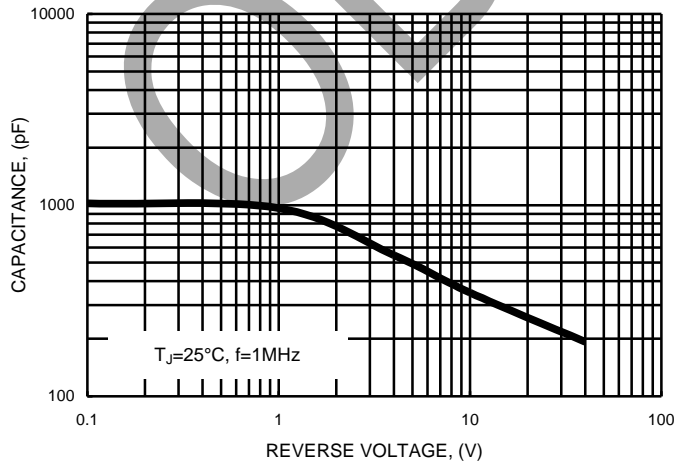
**FIG.3- TYPICAL REVERSE CHARACTERISTICS**



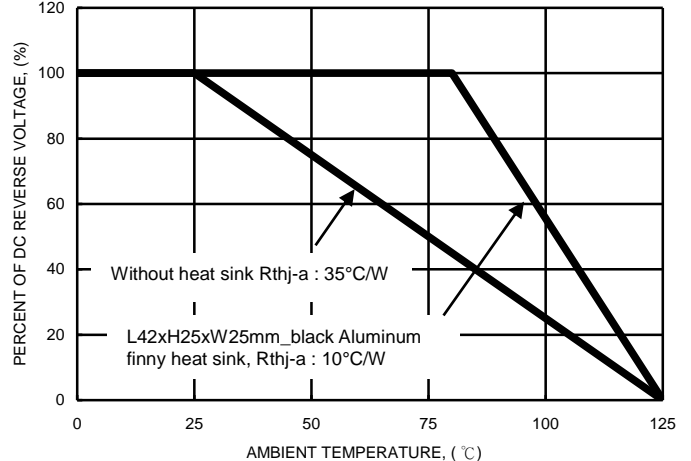
**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



**FIG.5- TYPICAL JUNCTION CAPACITANCE**



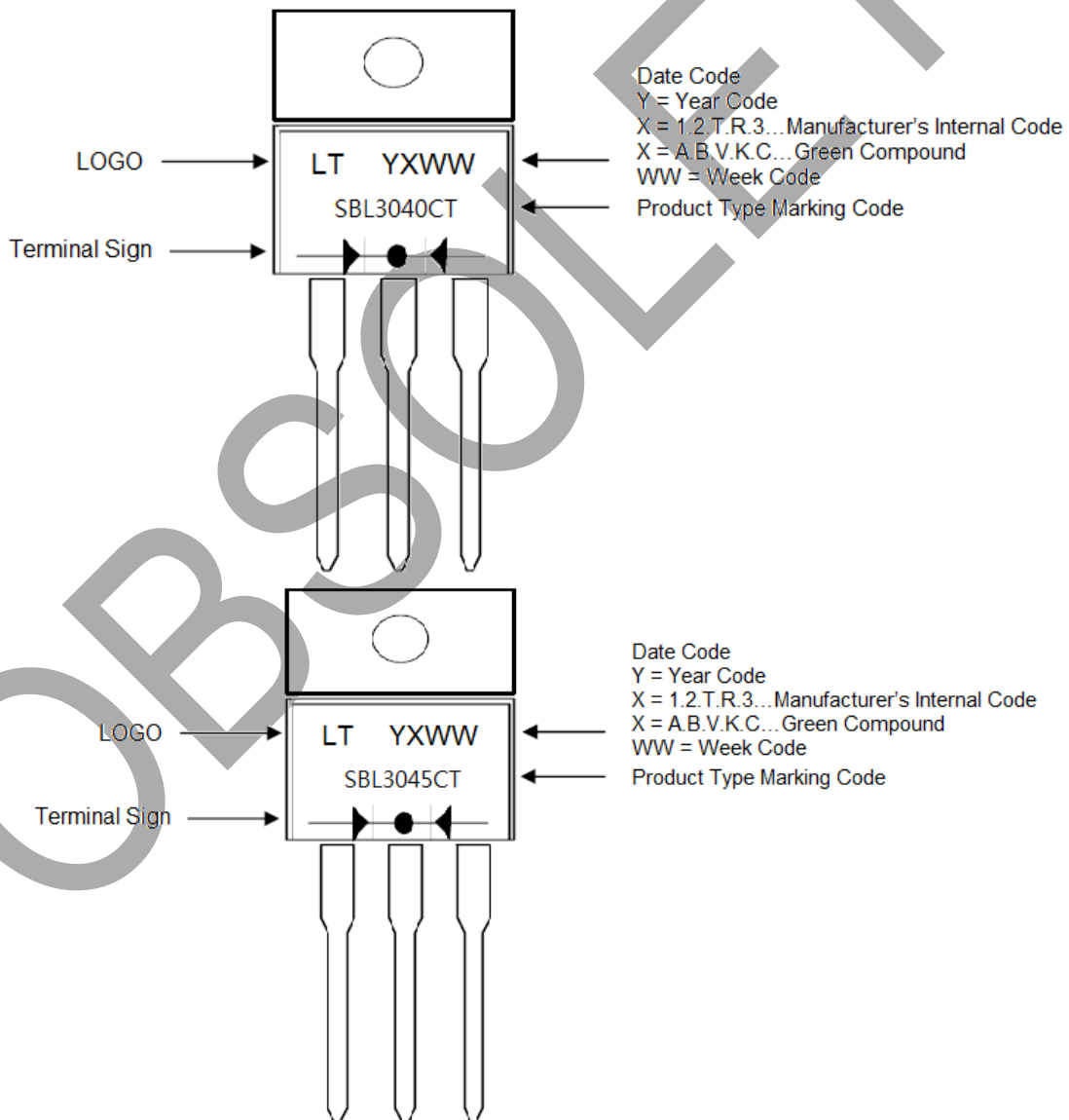
**FIG.6- DC REVERSE VOLTAGE DERATING CURVE**



**Ordering Information:**

Part Number	Package	Packing	
		Qty.	Carrier
SBL3040CT-LS	TO-220AB	50pcs	Tube
SBL3045CT-LS	TO-220AB	50pcs	Tube

**Marking Information:**



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