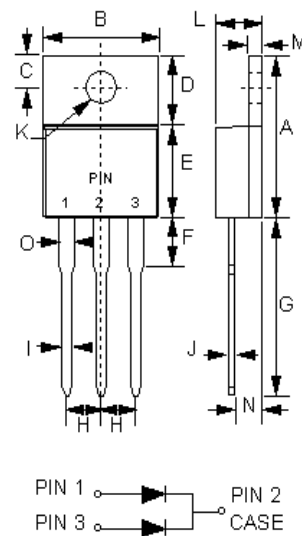


**SCHOTTKY BARRIER RECTIFIER**
**REVERSE VOLTAGE – 40 to 45 Volts**  
**FORWARD CURRENT – 20 Amperes**
**FEATURES**

- 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
- IEC 61000-4-2, level 4 (ESD). > 15KV (air)

**MECHANICAL DATA**

- Case: JEDEC TO-220AB
- Polarity indicator: As marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Terminals: Lead Free Plating (Matte Tin Finish)
- Max. mounting torque = 0.5 N.m (5.1 Kgf-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	SBL2040CTW	SBL2045CTW	UNIT
Device marking code		Note	SBL2040CTW	SBL2045CTW	---
Maximum Repetitive Peak Reverse Voltage		$V_{RRM}$	40	45	V
Maximum RMS Voltage		$V_{RMS}$	28	31.5	V
Maximum DC Blocking Voltage		$V_{DC}$	40	45	V
Average Rectified Output Current	@TC=100°C	$I_F$	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)	$V_R=Rated$	$T_J=25^\circ C$ $T_J=100^\circ C$	$I_R$	0.4 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.

**REV. 4, Jul-2012, KTHC90**

# RATING AND CHARACTERISTIC CURVES SBL2040CTW thru SBL2045CTW



FIG.1- FORWARD CURRENT DERATING CURVE

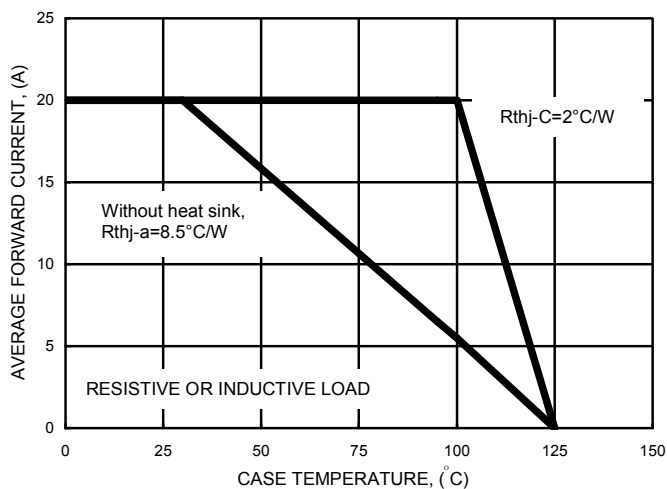


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

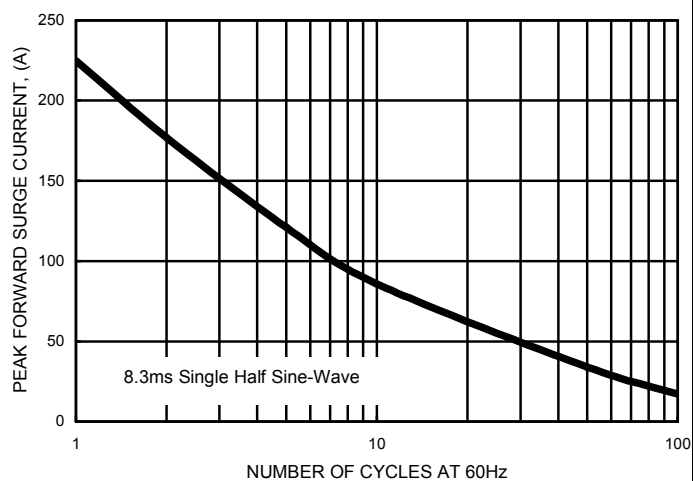


FIG.3- TYPICAL REVERSE CHARACTERISTICS

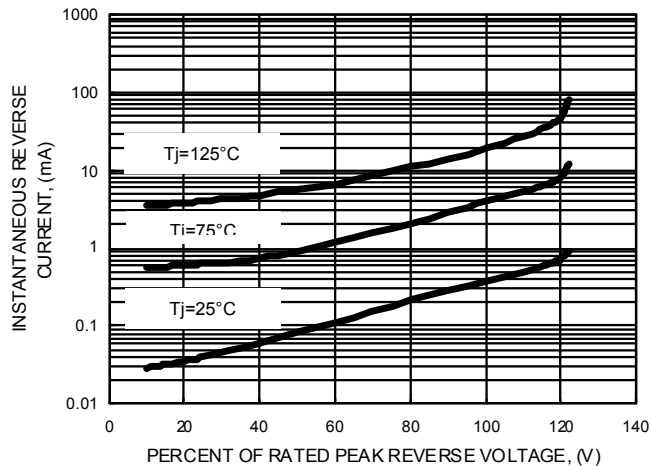


FIG.4- TYPICAL FORWARD CHARACTERISTICS

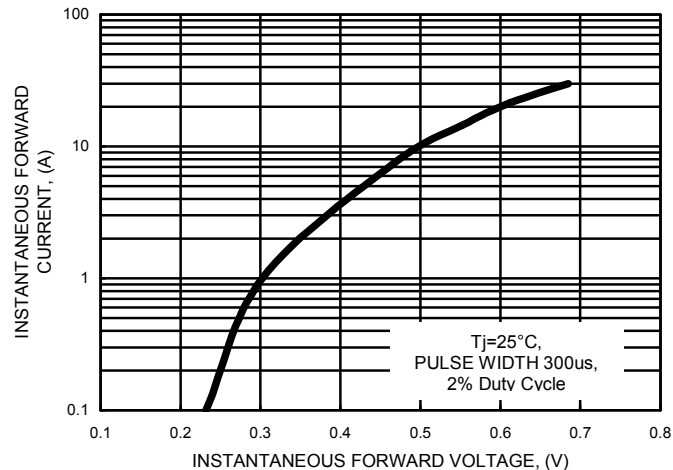


FIG.5- TYPICAL JUNCTION CAPACITANCE

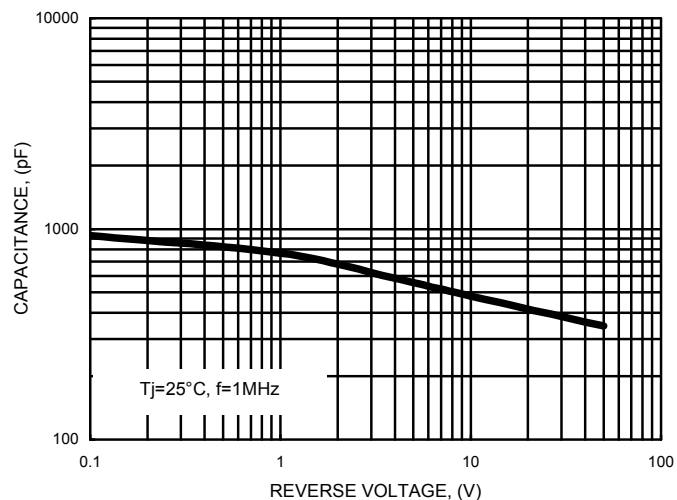
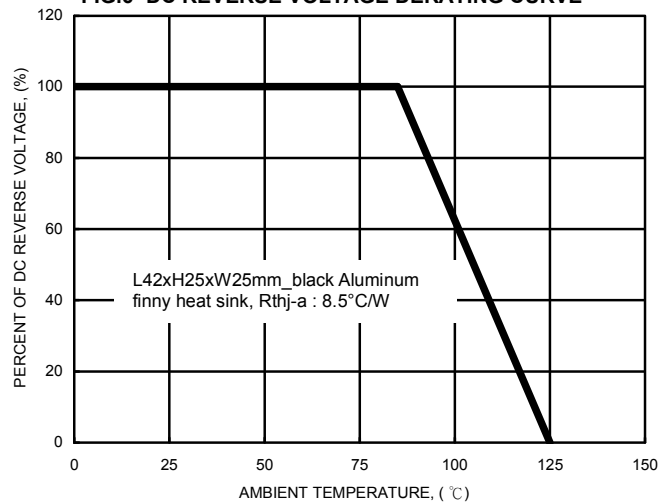


FIG.6- DC REVERSE VOLTAGE DERATING CURVE



## **Important Notice and Disclaimer**

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.