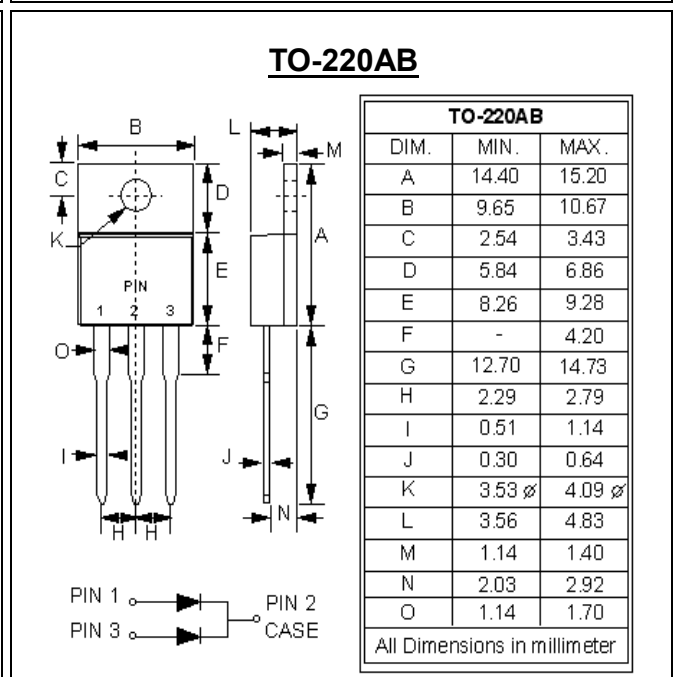


**SCHOTTKY BARRIER RECTIFIER**

**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)



**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	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 :

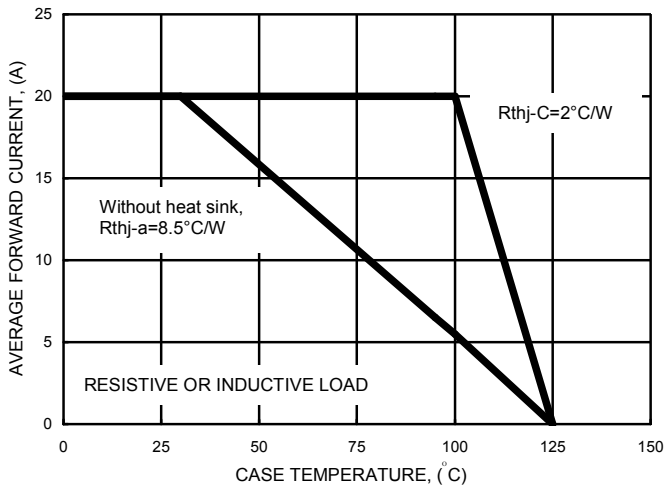
(1) Measured at 1.0MHz and applied reverse voltage of 4.0  $V_{DC}$ .  
 (2) 300us Pulse Width, 2% Duty Cycle.  
 (3) Thermal Resistance Junction to Case.  
 Device mounted on L42xH25xW25mm\_ black Aluminum finny heat sink.

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

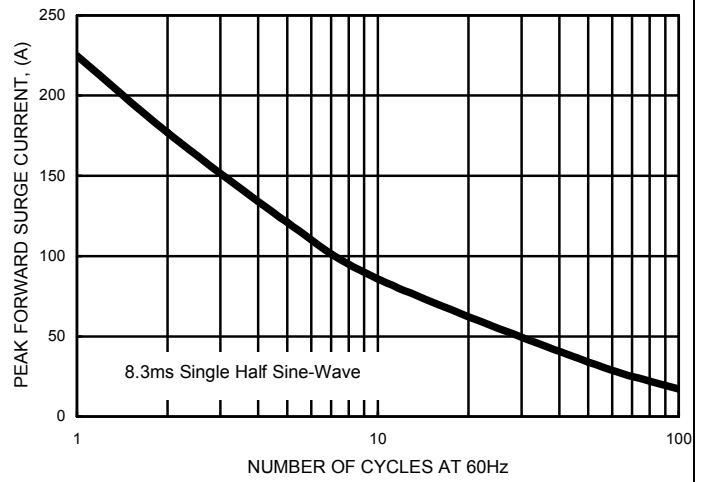
**RATING AND CHARACTERISTIC CURVES**  
**SBL2040CTW thru SBL2045CTW**



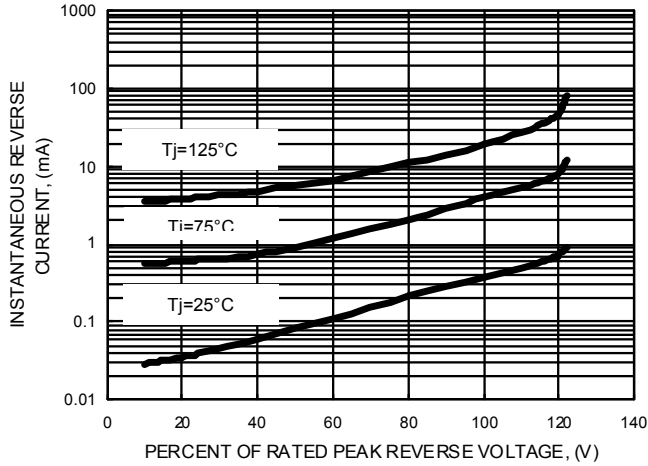
**FIG.1- FORWARD CURRENT DERATING CURVE**



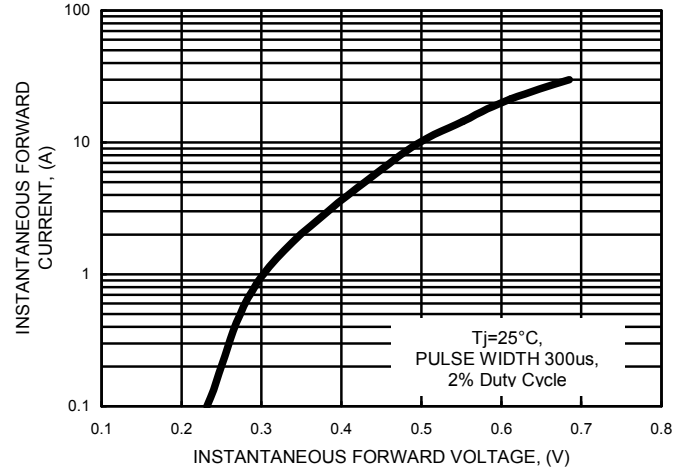
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



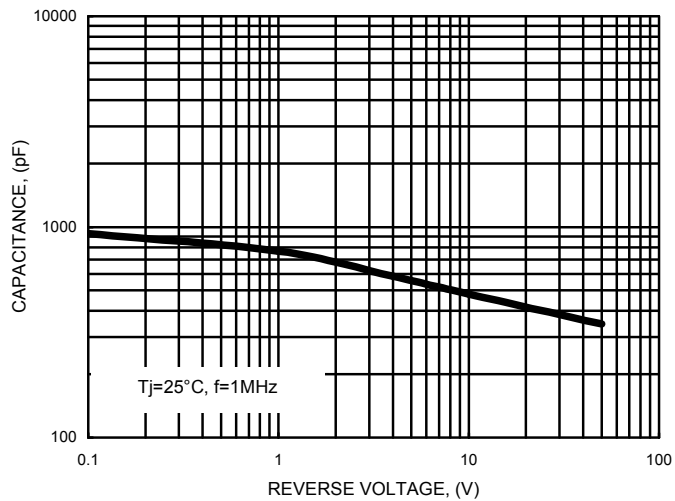
**FIG.3- TYPICAL REVERSE CHARACTERISTICS**



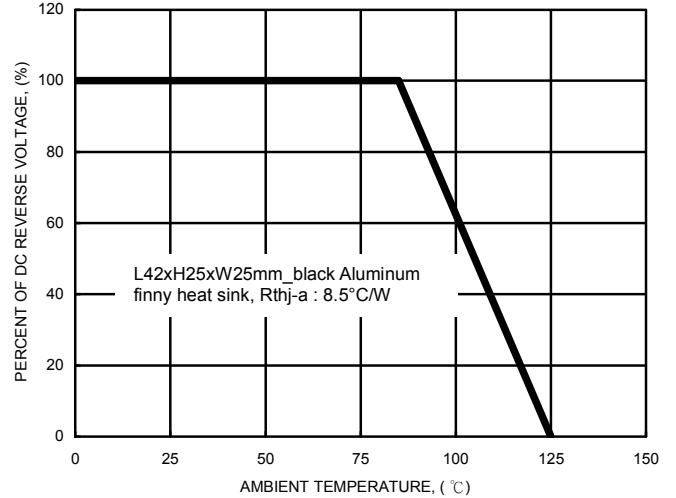
**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



**FIG.5- TYPICAL JUNCTION CAPACITANCE**



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



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