

**SCHOTTKY BARRIER RECTIFIER**

**REVERSE VOLTAGE - 40 Volts**  
**FORWARD CURRENT - 60 Amperes**

**FEATURES**

- High Surge Capability
- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low  $V_F$
- Qualification is according to AEC-Q101 Rev\_C

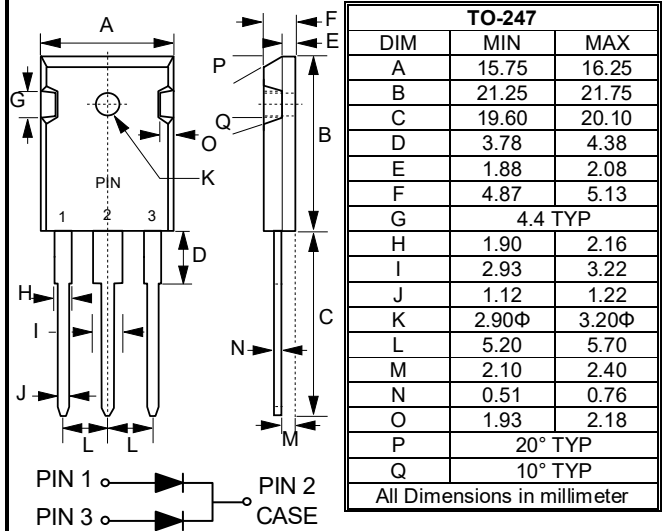
**APPLICATION**

- Low voltage high frequency inverters
- Polarity protection application
- Freewheeling diodes

**MECHANICAL DATA**

- Case: JEDEC TO-247
- Case Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 6.4 grams (Approximate)
- Marking code: SBL6040PTW

**TO-247**



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	V
Maximum DC blocking voltage	$V_{DC}$	40	V
Maximum Average rectified output current	$I_{(AV)}$	60	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	450	A
Operating junction Temperature range	$T_J$	-55 ~ +125	°C
Storage Temperature rang	$T_{STG}$	-55 ~ +150	°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note1)	$I_F=30A$ $T_J=25°C$ $T_J=100°C$	$V_F$	-- 0.48	0.55 --	V
Leakage current	$V_R=40V$ $T_J=25°C$ $T_J=100°C$	$I_R$	-- 11.80	10 200	mA
Typical junction capacitance (Note 2)		$C_J$	1350		pF

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 3,4)	$R_{thJc}$	1	°C/W
	$R_{thJl}$	1	

**Note :**

REV.-2 , Sep-2019, KTHC172

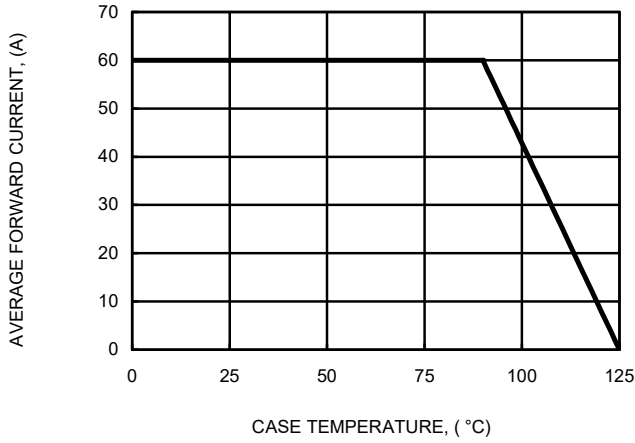
- (1) 300us pulse width, 2% duty cycle.
- (2) Measured at 1.0MHz and applied voltage of 4.0VDC.
- (3) Thermal resistance test performed in accordance with JESD-51.
- (4) The unit mounted on copper heat sink 100mm x 100mm x 1.9mm and Aluminum 100mm x 75mm x 27mm

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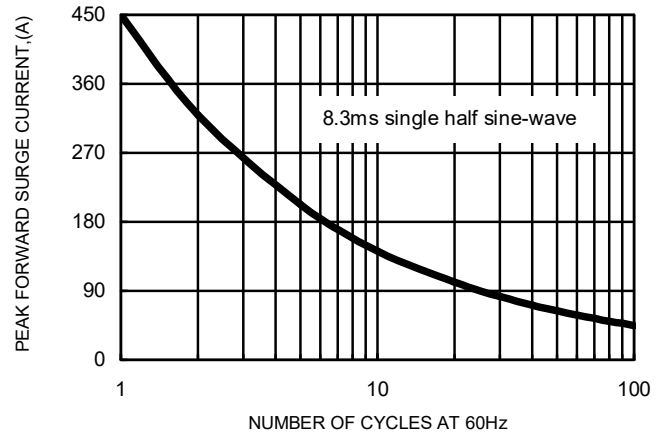
# RATING AND CHARACTERISTIC CURVES SBL6040PTW



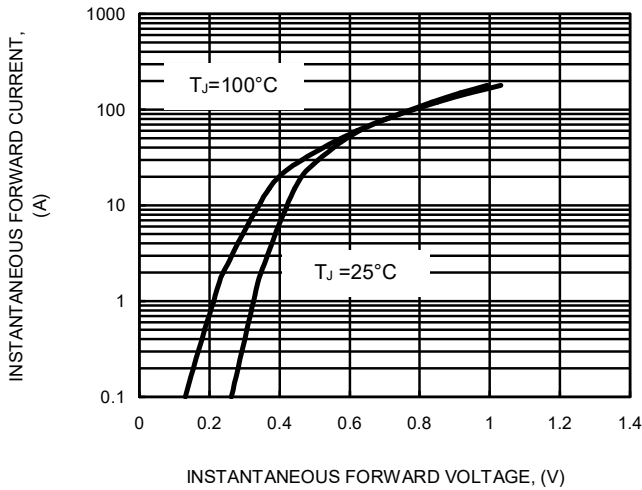
**FIG.1 FORWARD CURRENT DERATING CURVE**



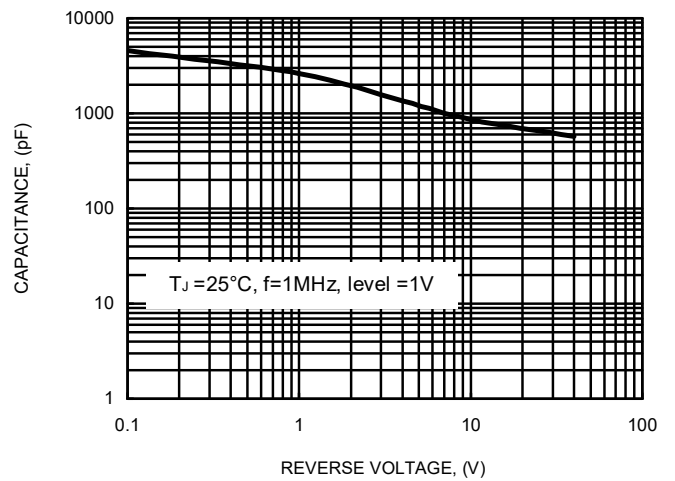
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



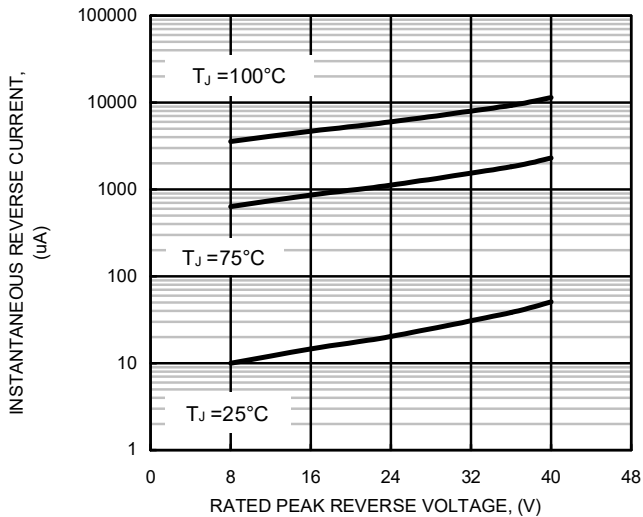
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



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