

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 45 Volts
FORWARD CURRENT – 30 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
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

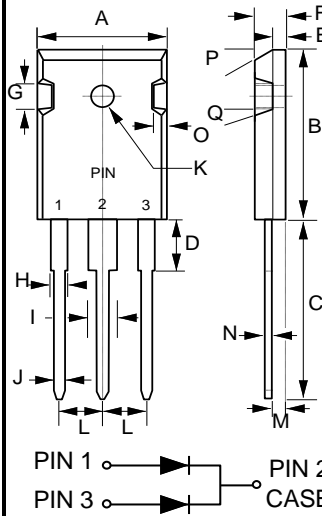
APPLICATION

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

MECHANICAL DATA

- Package: JEDEC TO-247
- Package Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.
- Lead free finish, RoHS compliant
- Weight: 6.4 grams (Approximate)
- Marking code: SBL3045PTW

TO-247



TO-247		
DIM	MIN	MAX
A	15.75	16.25
B	21.25	21.75
C	19.60	20.10
D	3.78	4.38
E	1.88	2.08
F	4.87	5.13
G	4.4 TYP	
H	1.90	2.16
I	2.93	3.22
J	1.12	1.22
K	2.90Φ	3.20Φ
L	5.20	5.70
M	2.10	2.40
N	0.51	0.76
O	1.93	2.18
P	20° TYP	
Q	10° TYP	
All Dimensions in millimeter		

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}	45	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum Average rectified output current	$I_{(AV)}$	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	275	A
Operating junction Temperature range	T_J	-55 ~ +125	°C
Storage Temperature range	T_{STG}	-55 ~ +150	

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=15A$ $T_J=25^\circ C$ $T_J=100^\circ C$	V_F	-- 0.50	0.55 --	V
Leakage current	$V_R=45V$ $T_J=25^\circ C$ $T_J=100^\circ C$	I_R	-- 5.9	0.5 50	mA
Typical junction capacitance (Note 5)		C_J	550		pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJc} R_{thJl}	1 1	°C/W

Note:

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. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us Pulse Width, 2% Duty Cycle.
5. Measured at 1.0MHz and applied voltage of 4.0VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on fin-type heat sink 50mm x 50mm x 22mm.

**RATING AND CHARACTERISTIC CURVES
SBL3045PTW**

FIG.1 FORWARD CURRENT DERATING CURVE

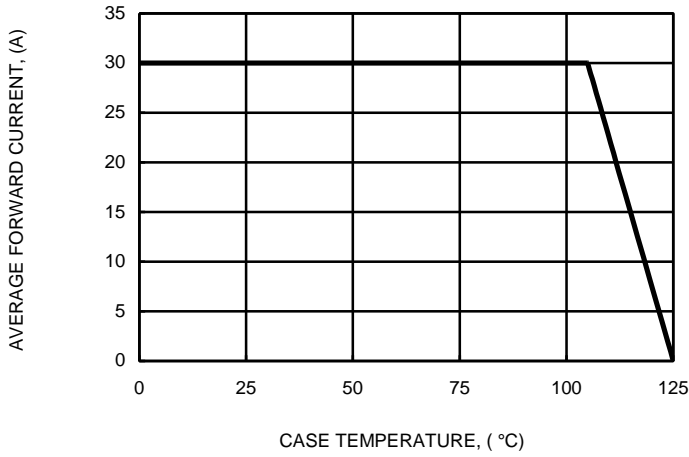


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

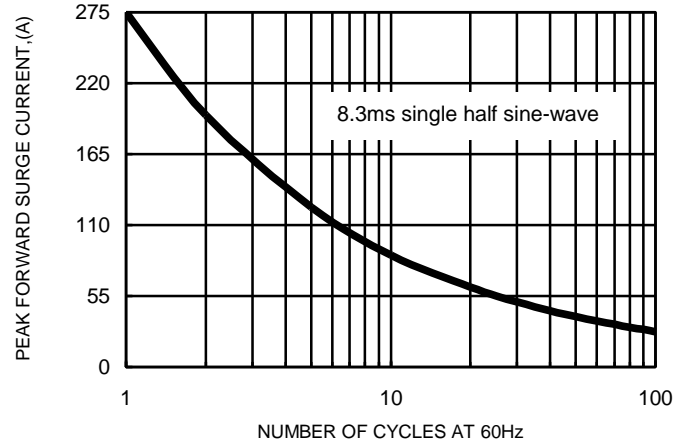


FIG.3 TYPICAL FORWARD CHARACTERISTICS

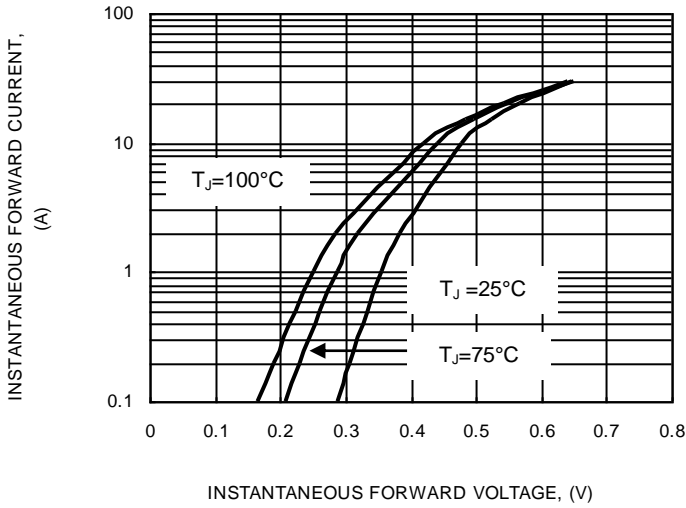


FIG.4 TYPICAL JUNCTION CAPACITANCE

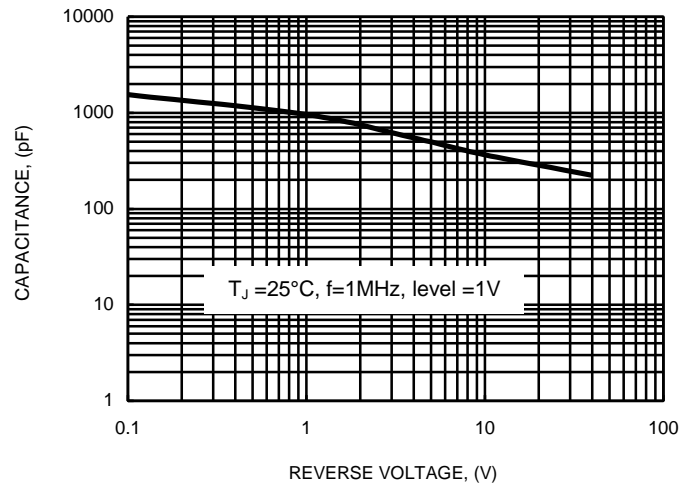
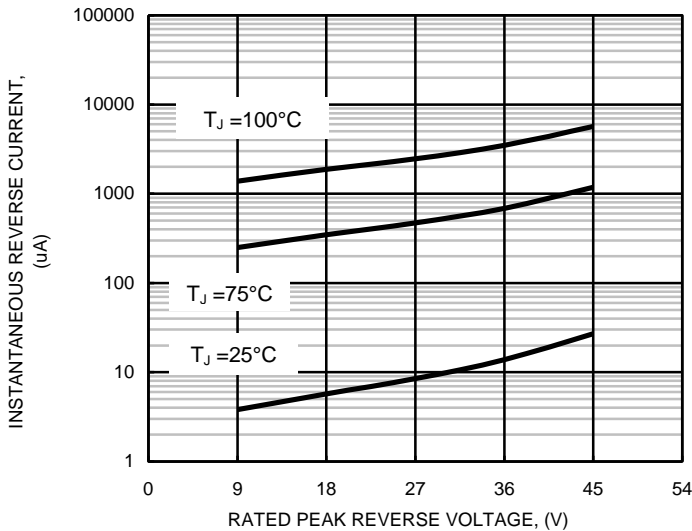


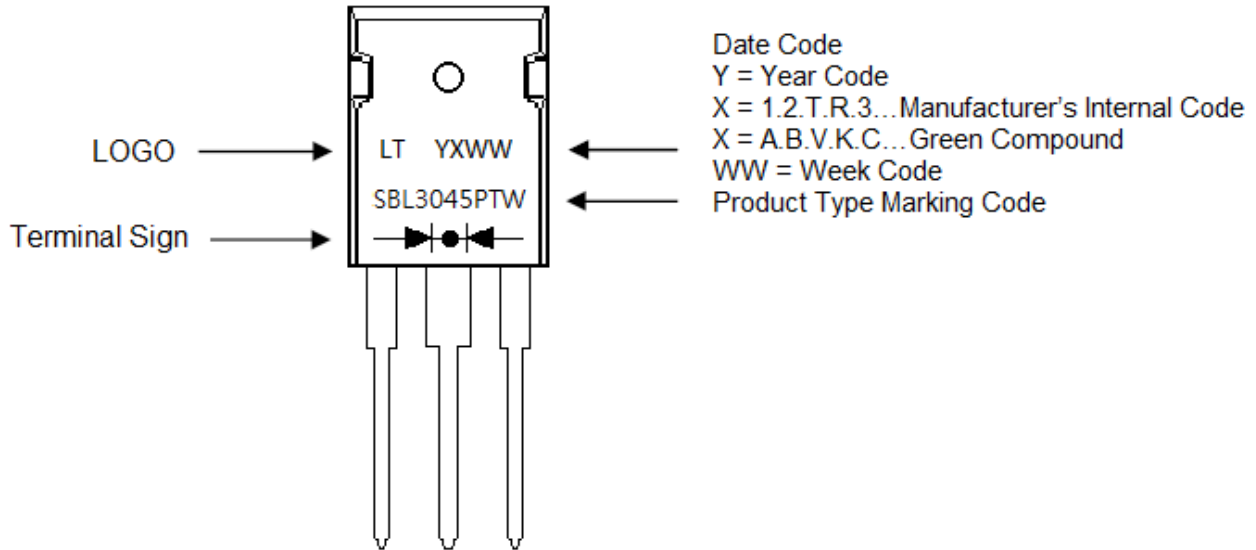
FIG.5 TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
SBL3045PTW	TO-247	30 pcs	Tube

Marking Information :



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