

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 45 Volts
FORWARD CURRENT – 30 Amperes

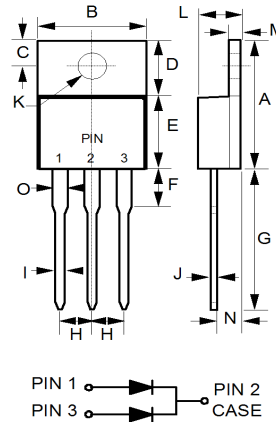
FEATURES

- Trench Schottky technology
- Low power loss, high efficiency
- Low forward drop voltage
- Qualified according to AEC-Q101 Rev_C
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: TO-220AB molded plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free"
- Terminals: Matted Tin
- Polarity: As marked on the body
- Weight: 2.0275 grams (Approximate)
- Mounting Position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf-cm)
- Marking Code: G3045CTW

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	1.00
J	0.30	0.64
K	3.53Φ	4.09Φ
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.37
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
Average rectified output current	$I_{(AV)}$	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	250	A
Operating and storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP.	MAX	UNIT
Forward voltage (Note 4)	$I_F=15A$ $T_J=25^\circ C$ $T_J=125^\circ C$	V_F	0.48 0.42	0.52 0.46	V
Leakage current	$V_R=45V$ $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	60 20	500 100	μA mA
Typical junction capacitance (Note 5)		C_j	1850		pF

THERMAL CHARACTERISTICS

THERMAL CHARACTERISTIC	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	R_{thJc}	3	°C/W

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. 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 reverse voltage of 4.0 VDC.
6. Thermal Resistance Junction to Case, Lead and Ambient.
7. Thermal Resistance test performed in accordance with JESD-51.

RATING AND CHARACTERISTIC CURVES
G3045CTW

FIG.1- FORWARD CURRENT DERATING CURVE

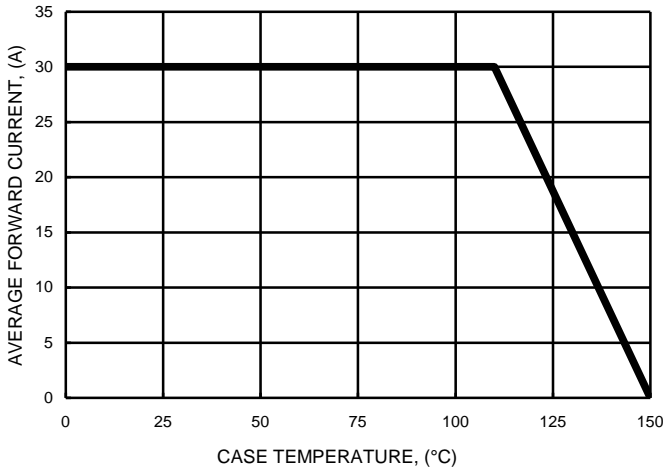


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

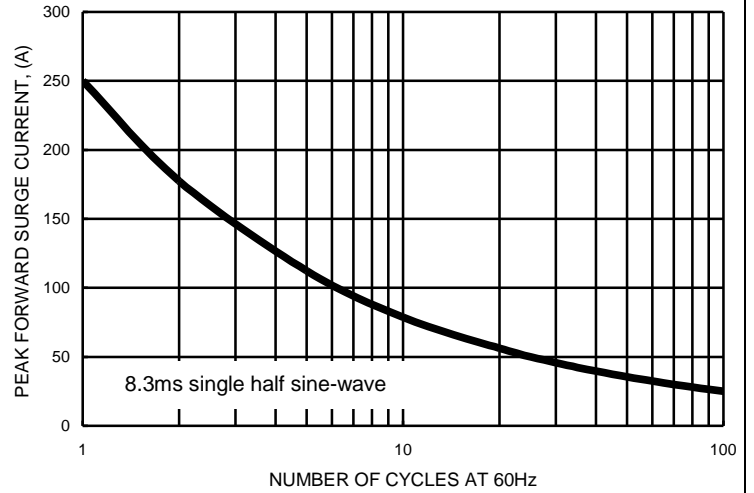


FIG.3- TYPICAL FORWARD CHARACTERISTICS

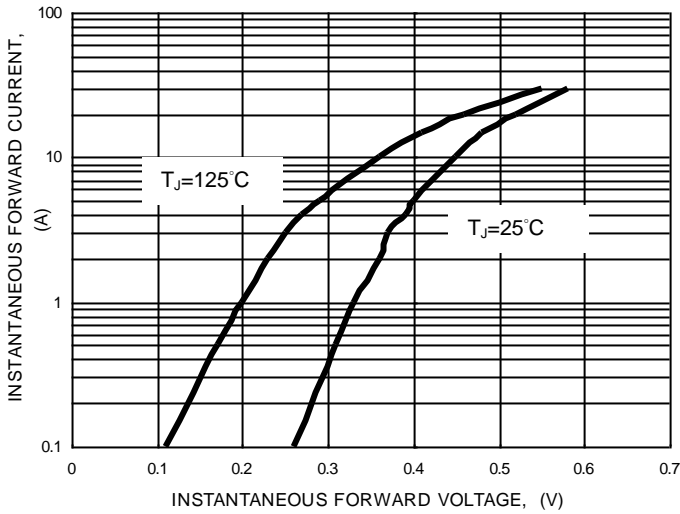


FIG.4- TYPICAL JUNCTION CAPACITANCE

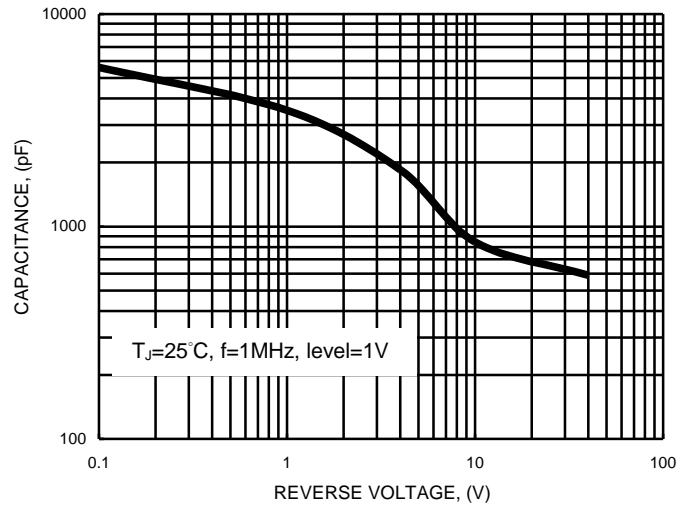
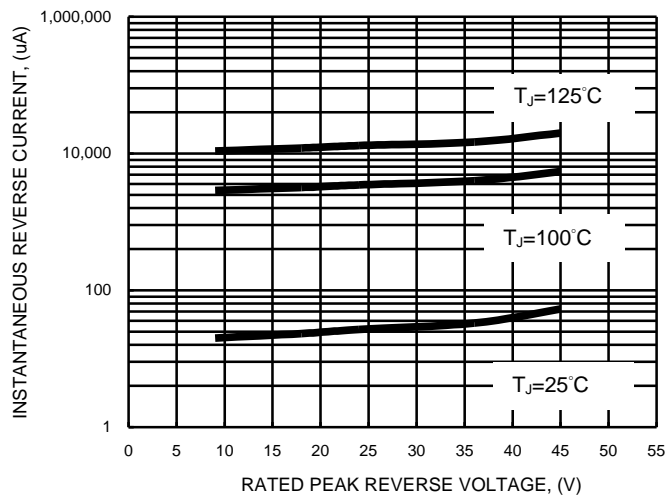


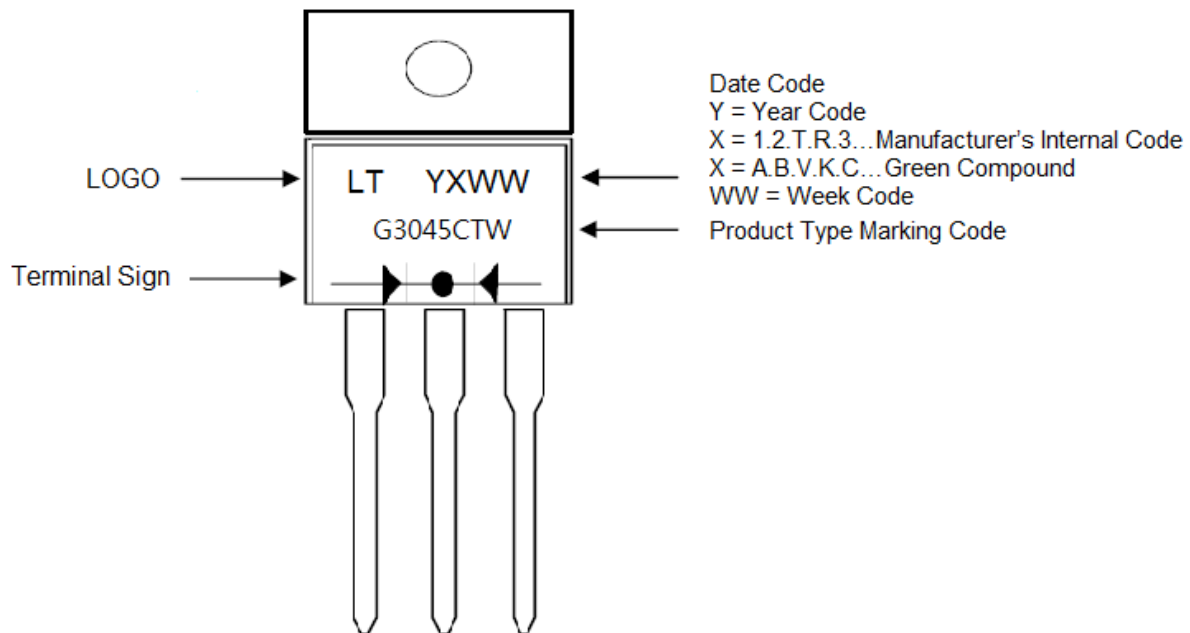
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G3045CTW	TO-220AB	50 pcs	Tube

Marking Information:



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