

TRENCH SCHOTTKY RECTIFIER

**REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 30 Amperes**

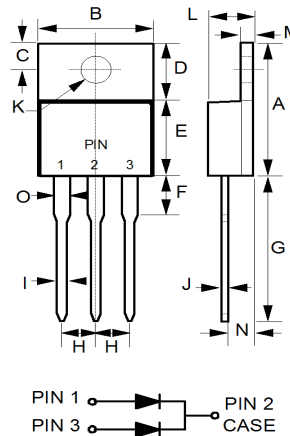
FEATURES

- 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: Matte tin
- Polarity: As marked on the body
- Weight: 0.072 ounces, 2.0275 grams (Approximate)
- Mounting Position: Any

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}	100	V
Maximum DC blocking voltage	V_{DC}	100	V
Average rectified output current per device	I_F	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	160	A
Peak repetitive forward current per diode (Square wave, 5KHz, $T_c = 120^\circ\text{C}$)	I_{FRM}	45	A
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION		SYMBOL	TYP.	MAX	UNIT
Forward voltage (Note 4)	$I_F = 7.5\text{A}$	$T_J = 25^\circ\text{C}$	V_F	0.576	--	V
		$T_J = 125^\circ\text{C}$		0.455	--	
Leakage current	$V_R = 100\text{V}$	$T_J = 25^\circ\text{C}$	I_R	--	240	uA mA
		$T_J = 125^\circ\text{C}$		--	35	
Typical junction capacitance (Note 5)			C_J	500		pF

THERMAL CHARACTERISTICS

THERMAL CHARACTERISTIC	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 6)	R_{thJc}	1	°C/W
	R_{thJl}	2	
	R_{thJa}	10	

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 4.0V DC.
6. Thermal resistance junction to case, lead and ambient. Device mounted on 100mm x 100mm x 2mm copper plate.

RATING AND CHARACTERISTIC CURVES

G30100CTW

FIG.1- FORWARD CURRENT DERATING CURVE

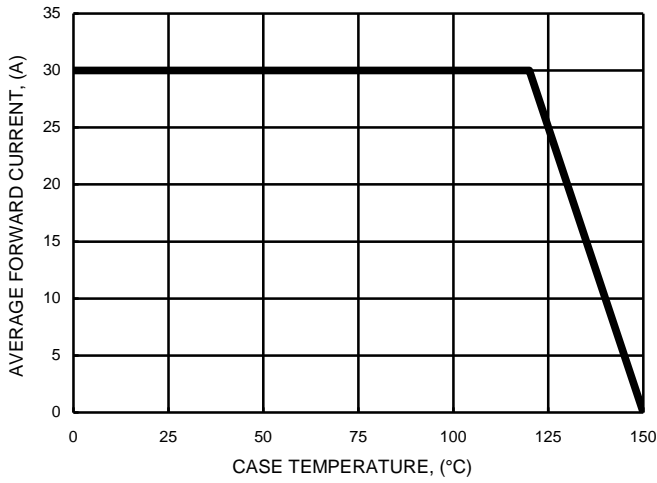


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

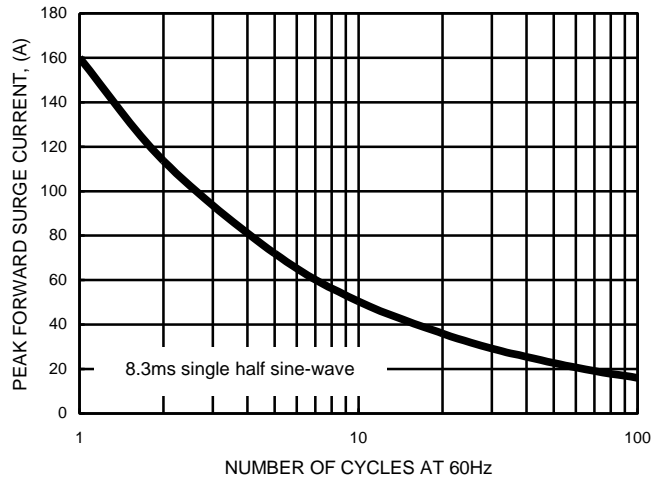


FIG.3- TYPICAL FORWARD CHARACTERISTICS

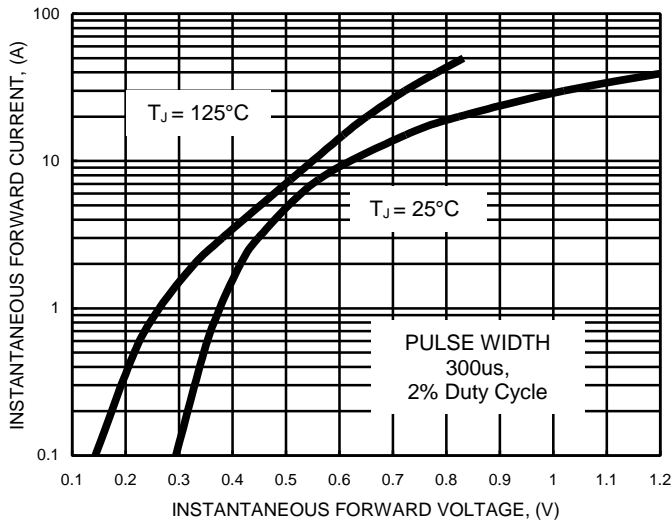


FIG.4- TYPICAL JUNCTION CAPACITANCE

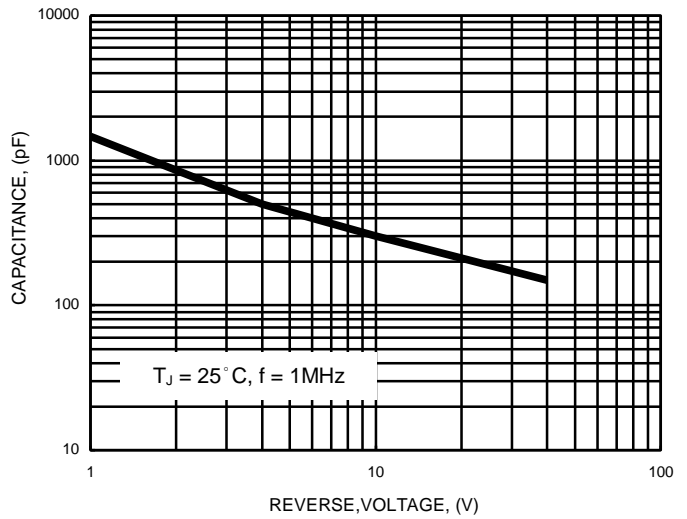
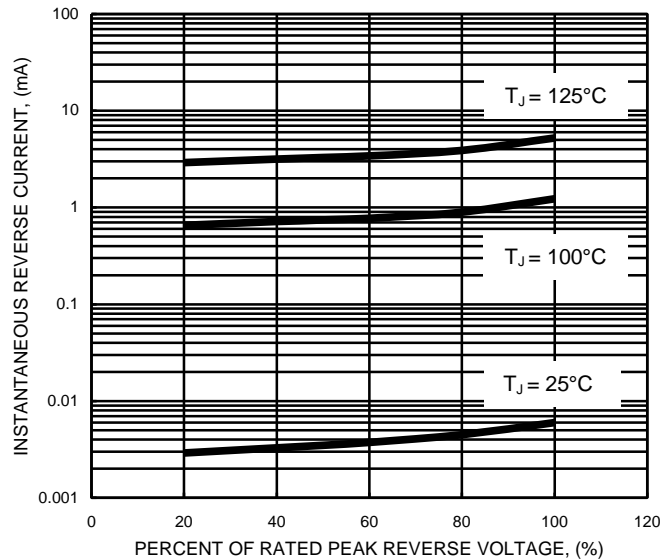


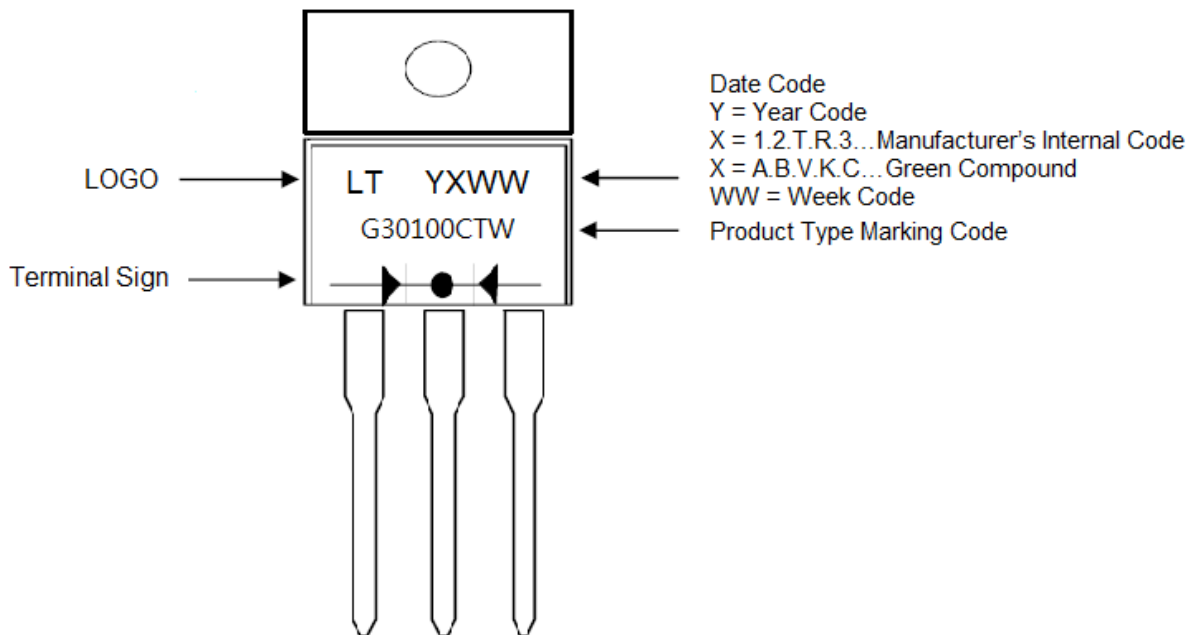
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G30100CTW	TO-220AB	50 pcs	Tube

Marking Information:



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