

**TRENCH SCHOTTKY RECTIFIER**

**REVERSE VOLTAGE – 100 Volts  
FORWARD CURRENT – 40 Amperes**

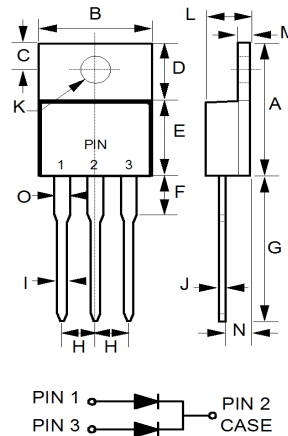
**FEATURES**

- 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	$I_F$	40	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	250	A
Peak repetitive forward current per diode (Square wave, 5KHz, $T_c = 120^\circ\text{C}$ )	$I_{FRM}$	60	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)	$I_F = 10\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	0.54	--	V
			0.45	--	
	$I_F = 20\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	--	0.73	
--			0.67		
Leakage current	$V_R = 100\text{V}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	--	400	µA
			--	35	mA
Typical junction capacitance (Note 5)		$C_J$	850		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:**

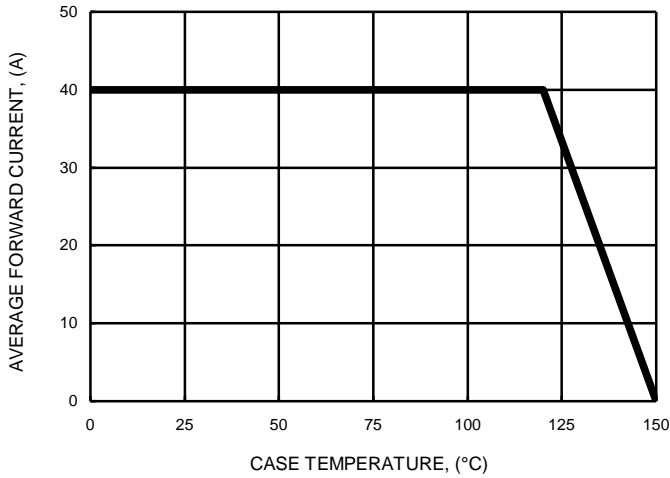
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- 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.

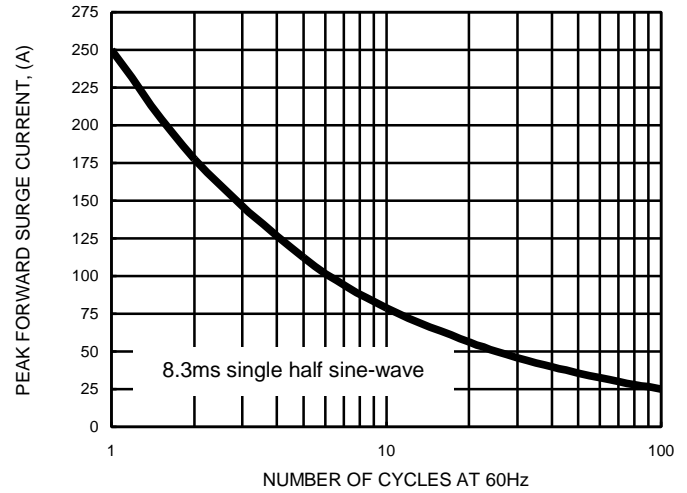
**RATING AND CHARACTERISTIC CURVES**

**G40100CTW**

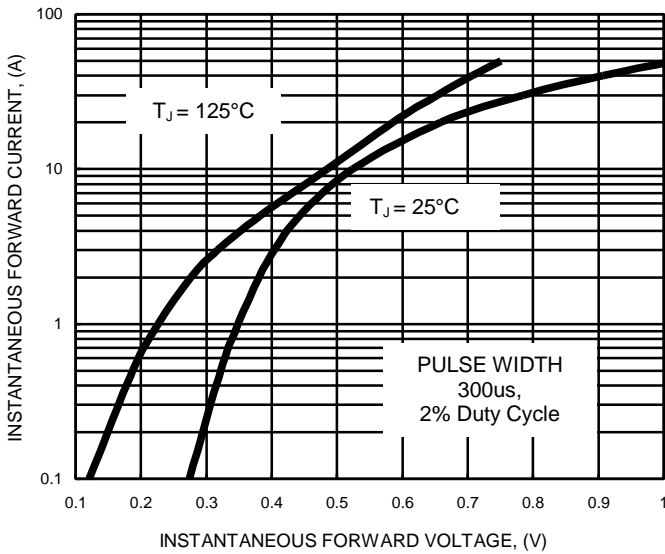
**FIG.1- FORWARD CURRENT DERATING CURVE**



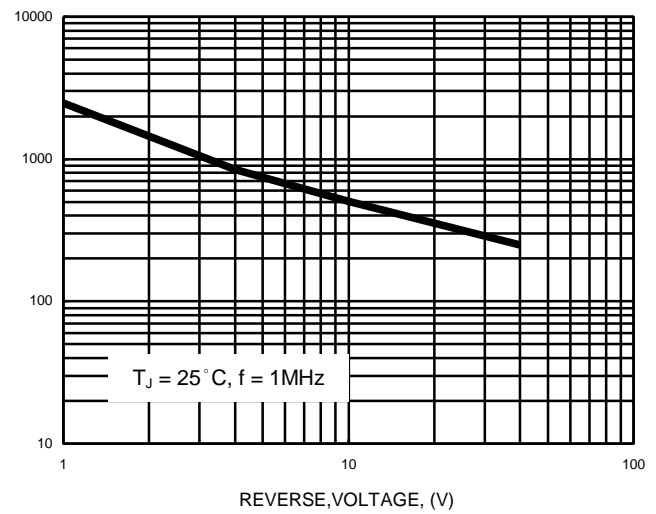
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



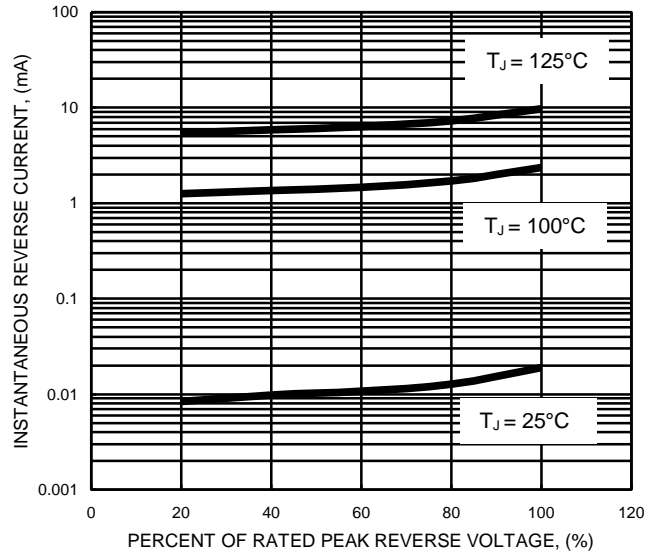
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



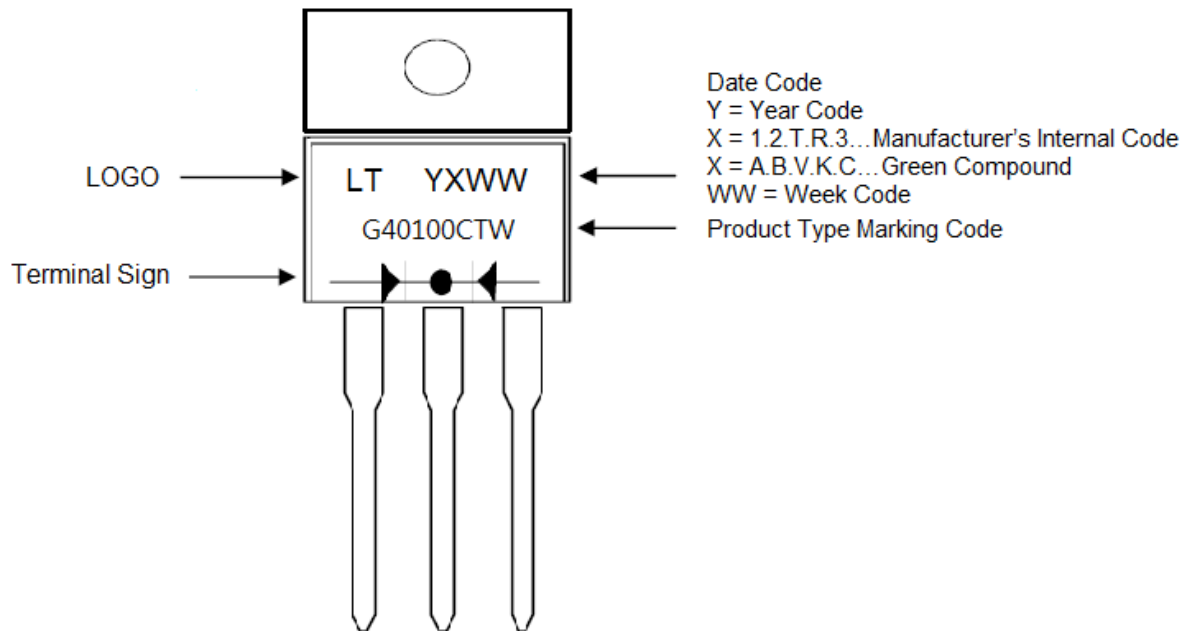
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



**Ordering Information:**

Part Number	Package	Packing	
		Qty.	Carrier
G40100CTW	TO-220AB	50 pcs	Tube

**Marking Information:**



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