

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 120 Volts
FORWARD CURRENT – 40 Amperes

FEATURES

- High efficiency
- Reduced high temperature reverse leakage
- Reduced ultra-low forward voltage drop
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

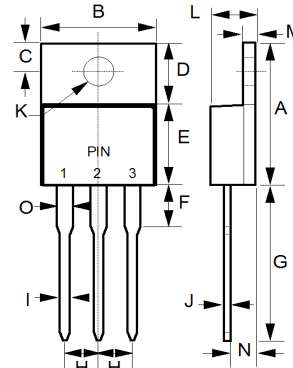
APPLICATION

- DC to DC converters
- AC to DC adaptors

MECHANICAL DATA

- Package: JEDEC TO-220AB
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.927 grams (Approximate)
- Marking code: G40C120CTW

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}	120	V
Maximum DC blocking voltage	V_{DC}	120	V
Maximum Average rectified output current	$I_{(AV)}$	40	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	250	A
Non repetitive peak reverse current	I_{RSM}	3	A
Operating junction and Storage Temperature range	T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=20A$ $T_J=25^\circ C$ $T_J=125^\circ C$	V_F	-- 0.74	0.98 0.75	V
Leakage current	$V_R=120V$ $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	-- 5.71	50 25	μA mA
Typical junction capacitance (Note 5)		C_J		510	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6,7)	R_{thJc}	1	°C/W
	R_{thJl}	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. 300μs pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on aluminum fin-type heatsink 100mm x 100mm x 5mm.

RATING AND CHARACTERISTIC CURVES
G40C120CTW

FIG.1 FORWARD CURRENT DERATING CURVE

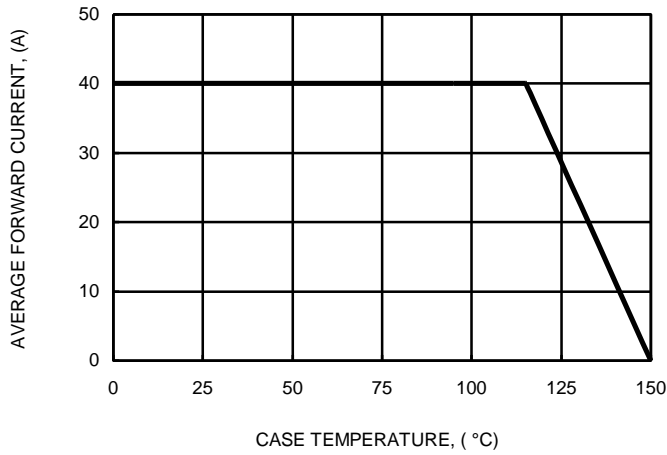


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

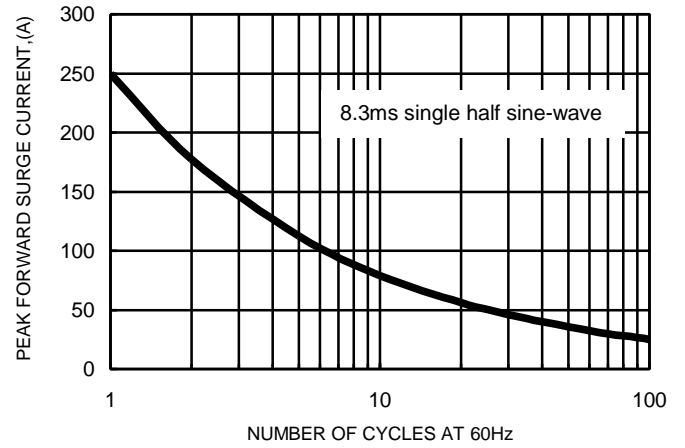


FIG.3 TYPICAL FORWARD CHARACTERISTICS

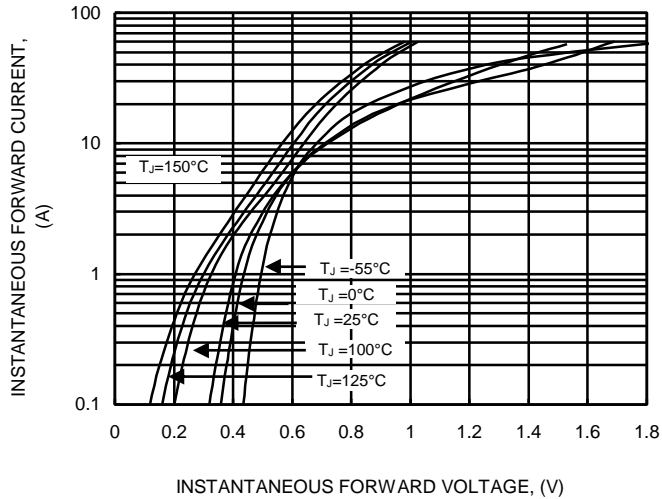


FIG.4 TYPICAL JUNCTION CAPACITANCE

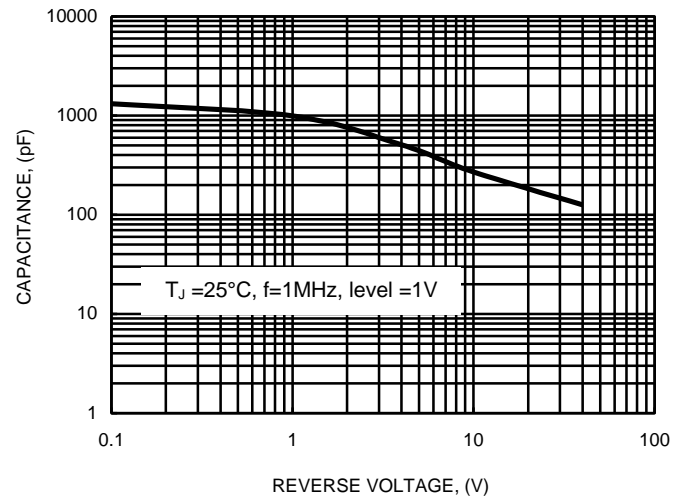


FIG.5 TYPICAL REVERSE CHARACTERISTICS

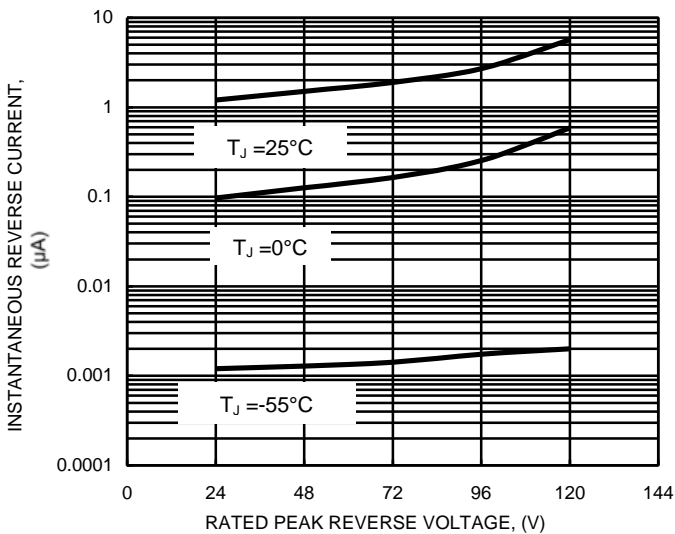
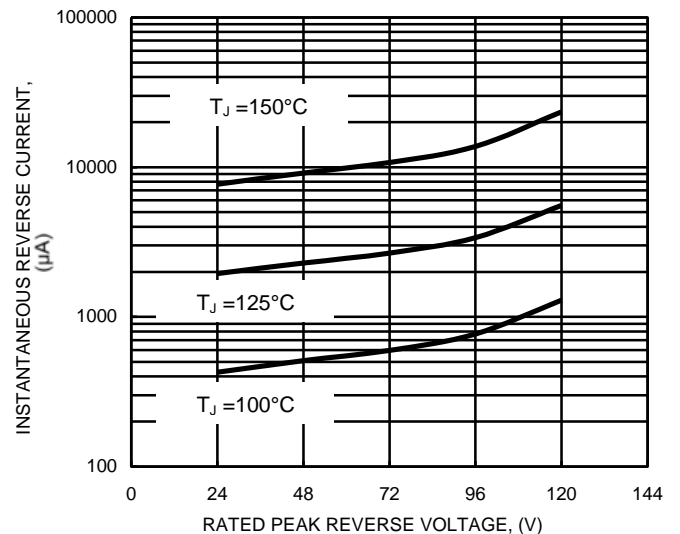


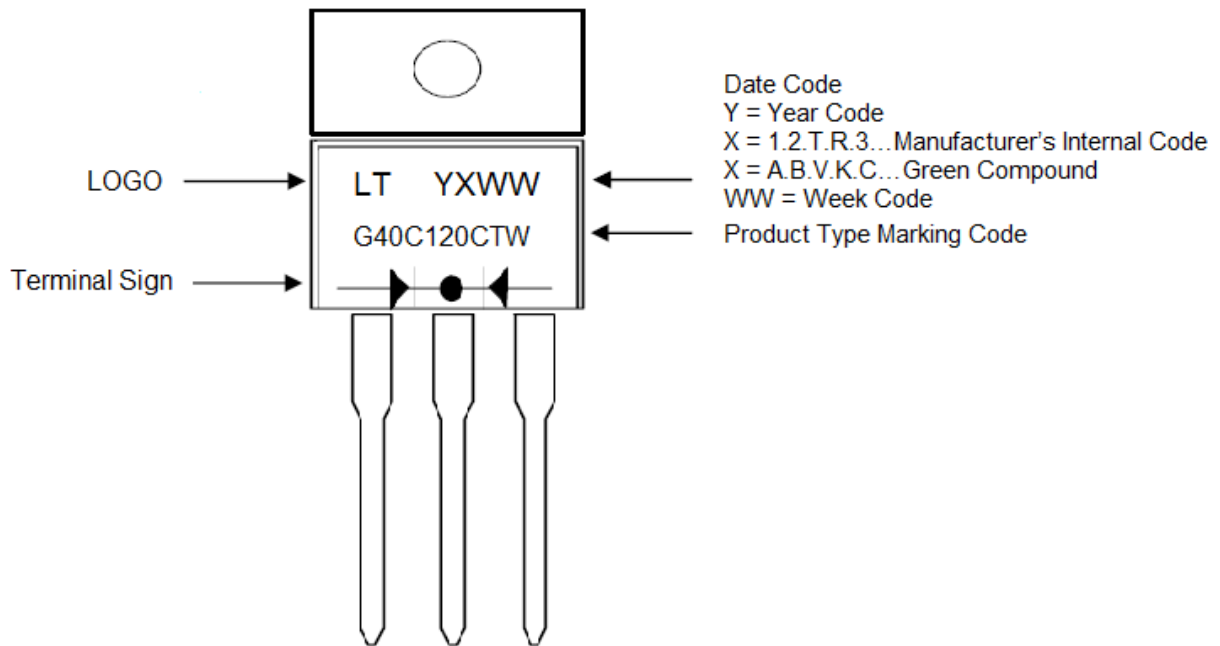
FIG.6 TYPICAL REVERSE CHARACTERISTICS

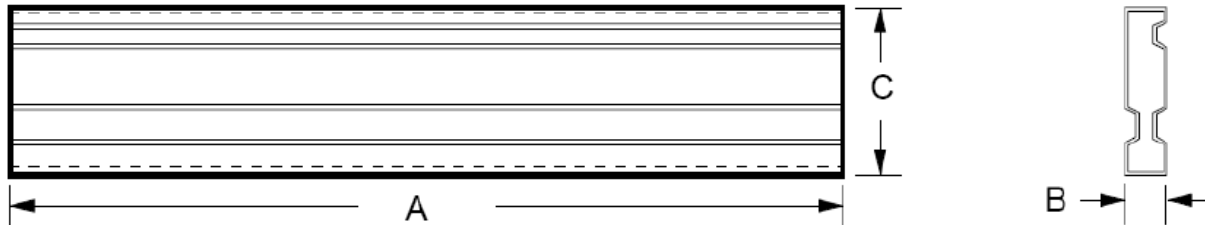
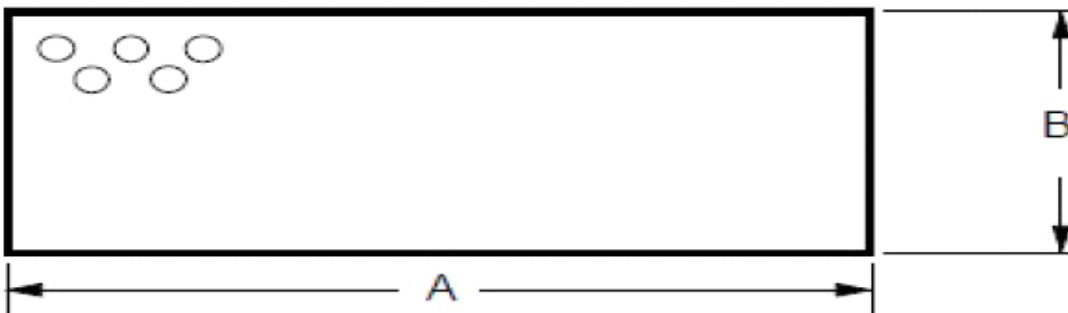
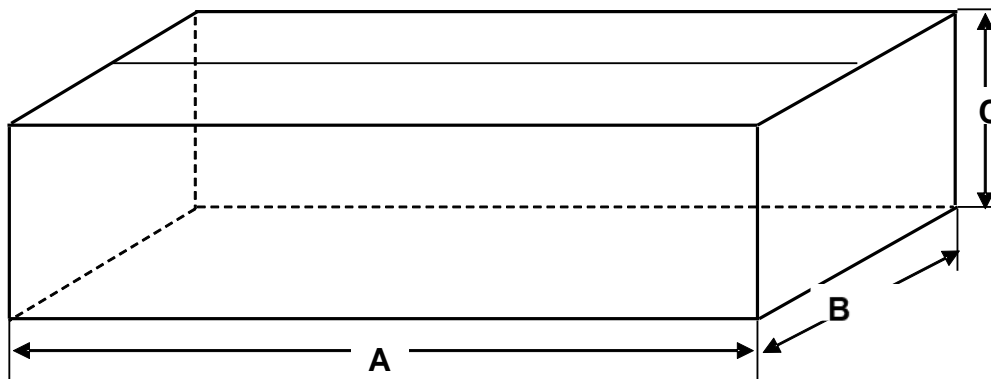


Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G40C120CTW	TO-220AB	50pcs	Tube

Marking Information:

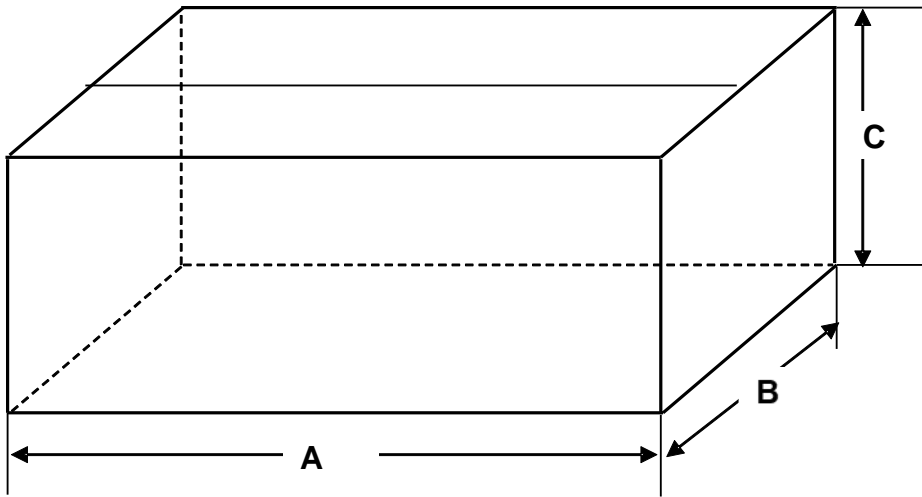


PACKAGING INFORMATION
G40C120CTW**Packaging Information:****1. TUBE****2. AIR BAG****3. INNERBOX**

PACKAGING INFORMATION
G40C120CTW

Packaging Information (continued):

4. CARTON



Unit: mm

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'ty/per	REMARK
TUBE	536	5.6	31.8	50	/
AIR BAG	800	550	/	/	/
INNERBOX	555	165	105	2000	40TUBE
CARTON	575	179	225	4K	2 INNER BOX

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