

G40E120CTSW

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)**

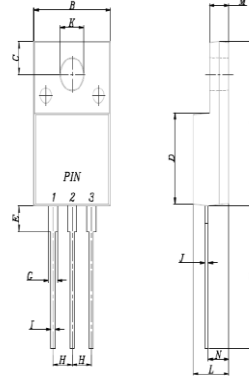
APPLICATION

- DC to DC converters
- AC to DC adaptors

MECHANICAL DATA

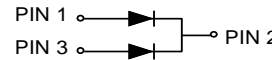
- Package: JEDEC TO-220ABFP
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.558 grams (Approximate)
- Marking code: G40E120CTSW

ITO-220(S)AB



ITO-220(S)AB		
DIM	MIN	MAX
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	2.10	2.50
F	13.00	13.70
G	1.15	1.37
H	2.40	2.70
I	0.50	0.80
J	0.45	0.70
K	3.00	3.30
L	4.46	4.87
M	2.48	2.80
N	2.50	2.80

All dimension 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	@ $T_C=120^\circ C$ $I_{(AV)}$	40	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	300	A
Non repetitive peak reverse current	@ $tp=2\mu s$ 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	-- 0.69	0.82 0.74	V
Leakage current	$V_R=120V$ $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	-- 12	60 30	μA mA
Typical junction capacitance (Note 5)		C_J		860	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJC}	1	°C/W
	R_{thJL}	5	°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 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on fin type heatsink (85.2mm x 32mm x 24mm) and cathode pin mounted on Aluminum heatsink (35.8mm x 30mm x 1.45mm) in free air condition.

RATING AND CHARACTERISTIC CURVES

G40E120CTSW

FIG.1 FORWARD CURRENT DERATING CURVE

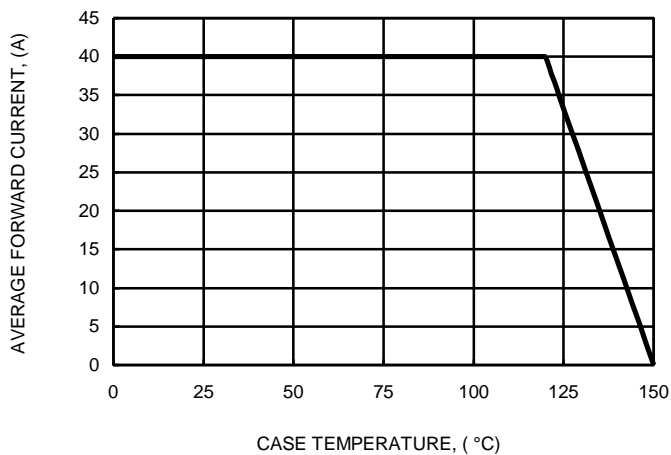


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

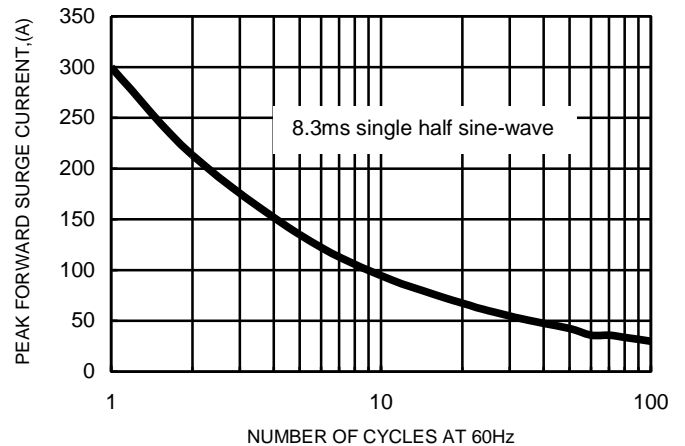


FIG.3 TYPICAL FORWARD CHARACTERISTICS

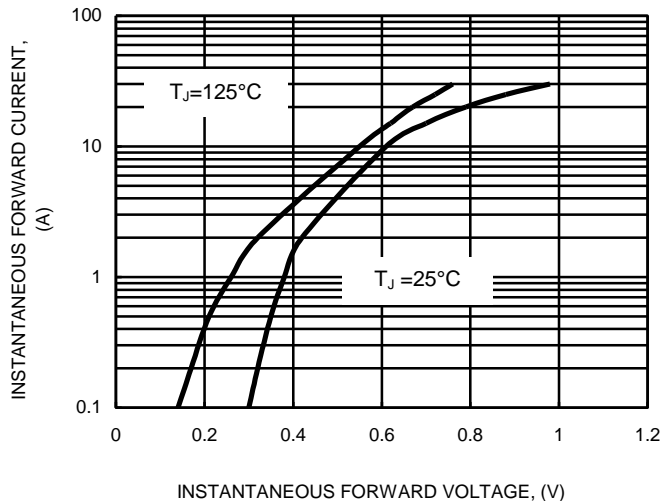


FIG.4 TYPICAL JUNCTION CAPACITANCE

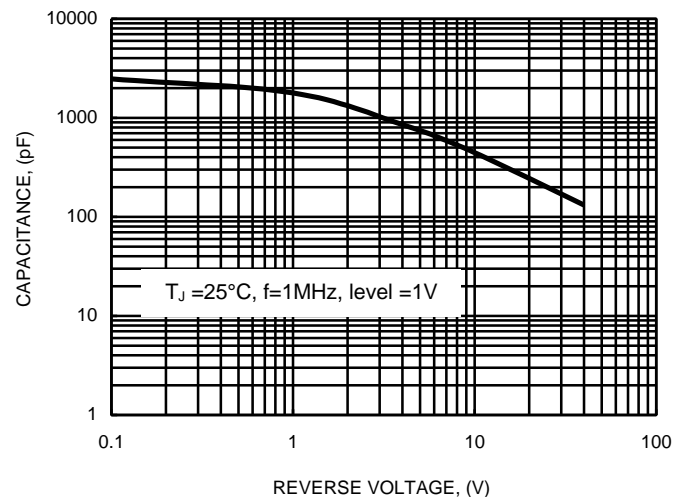
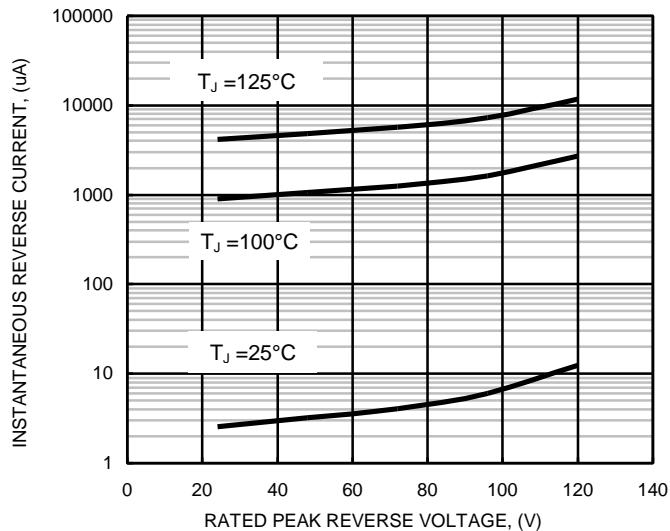


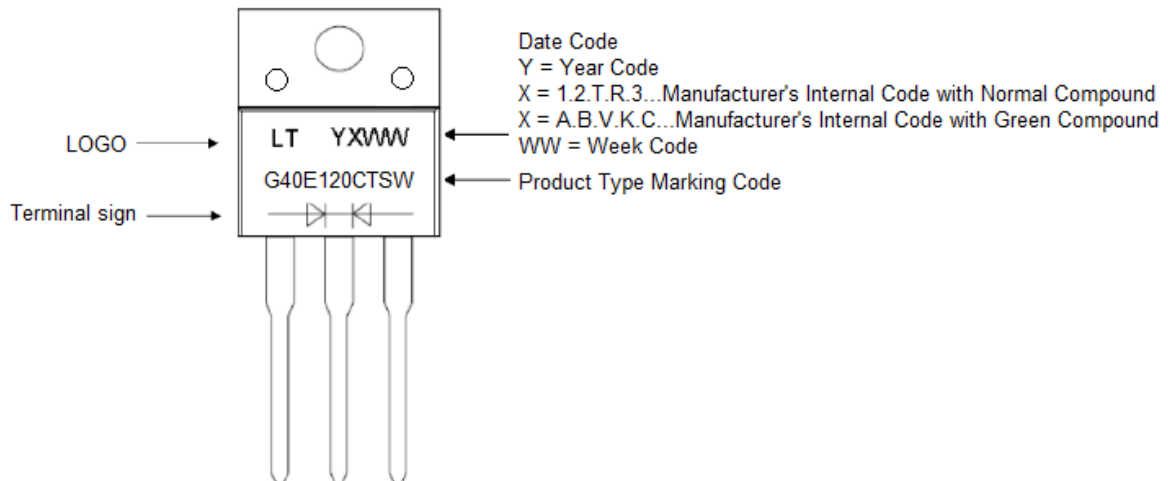
FIG.5 TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G40E120CTSW	ITO-220(S)AB	50pcs	Tube

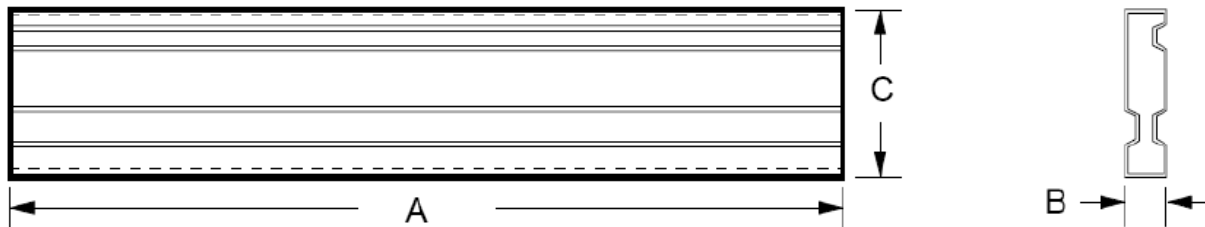
Marking Information:



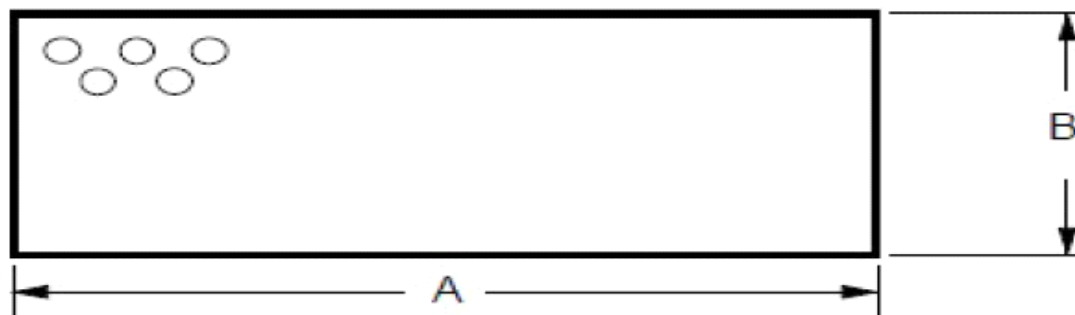
PACKAGING INFORMATION
G40E120CTSW

Packaging Information:

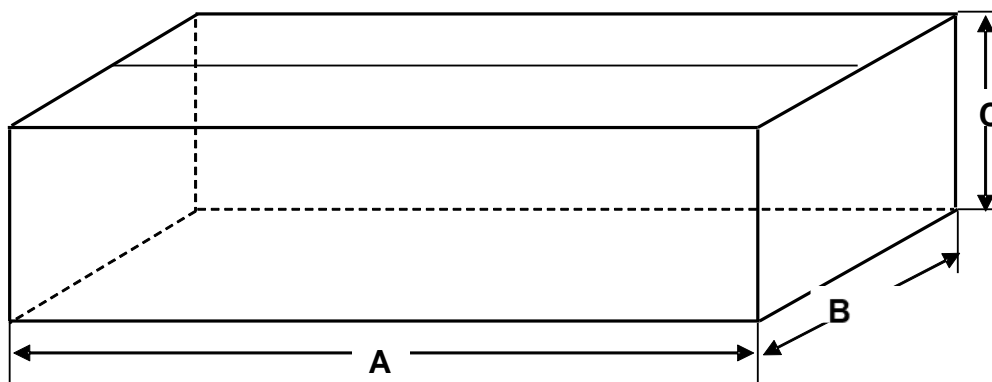
1. TUBE



2. AIR BAG



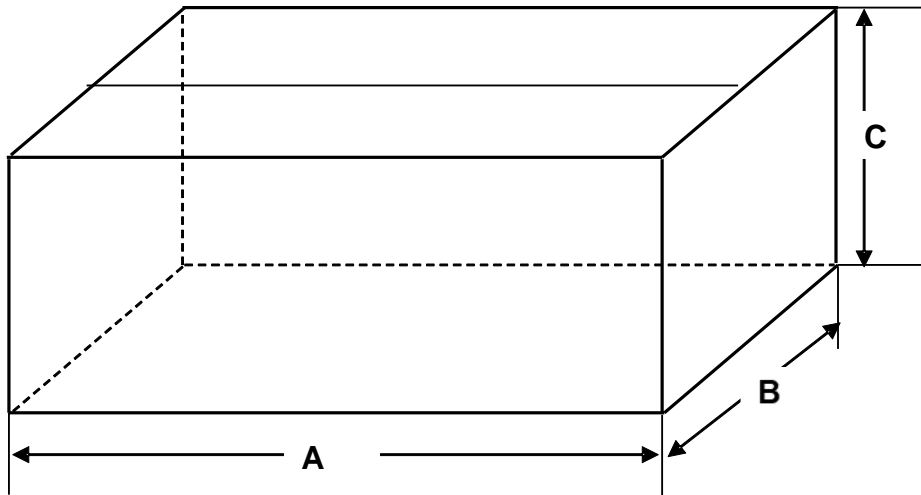
3. INNERBOX



**PACKAGING INFORMATION
G40E120CTSW**

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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