

# G40E120CTFW

## 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)**

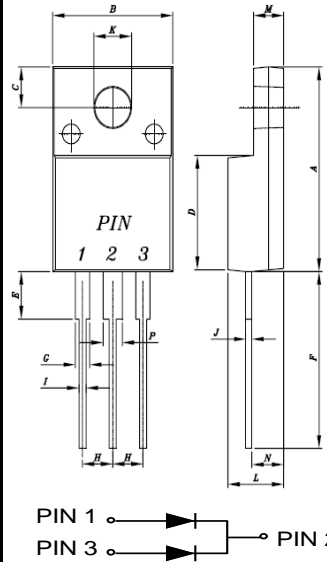
### APPLICATION

- 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: G40E120CTFW

### ITO-220AB



ITO-220AB		
DIM	MIN	MAX
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	3.30	3.90
F	13.00	13.70
G	1.15	1.70
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
P	1.50	1.90

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	$I_{(AV)}$	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	$I_{RSM}$	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	$\mu A$ mA
Typical junction capacitance (Note 5)		$C_J$		860	pF

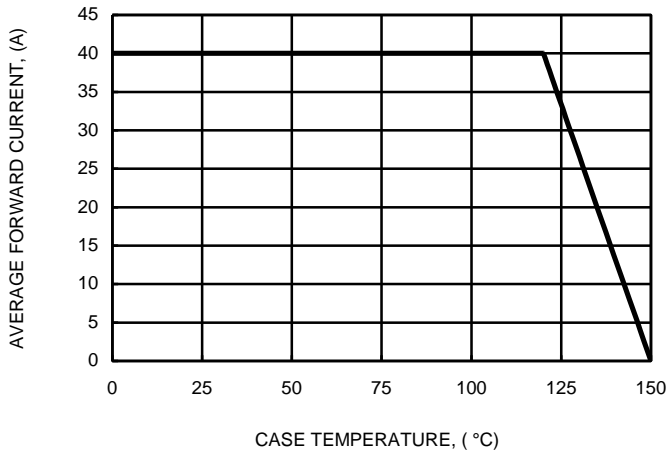
### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$R_{thJC}$ $R_{thJA}$	1 5	°C/W

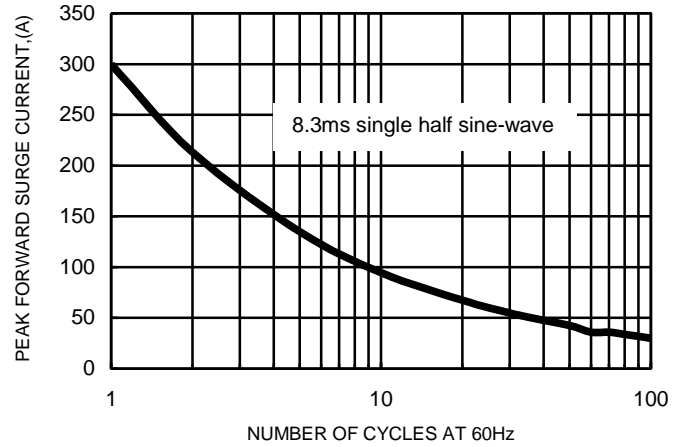
#### Notes:

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 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.

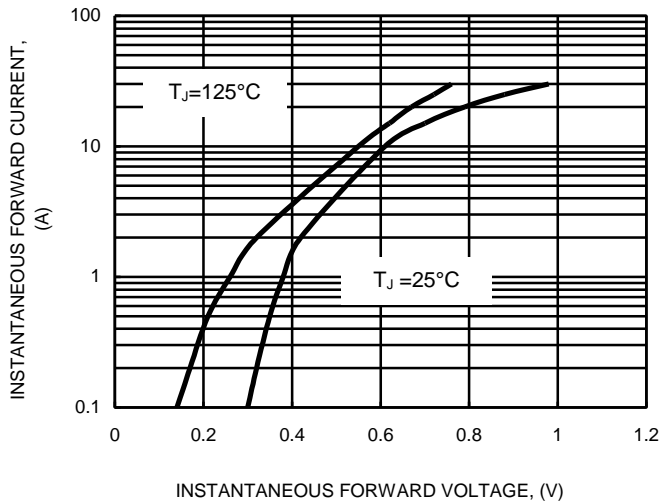
**FIG.1 FORWARD CURRENT DERATING CURVE**



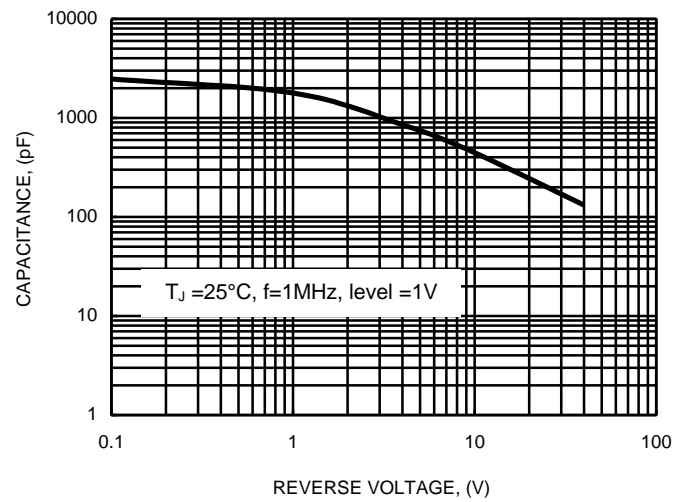
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



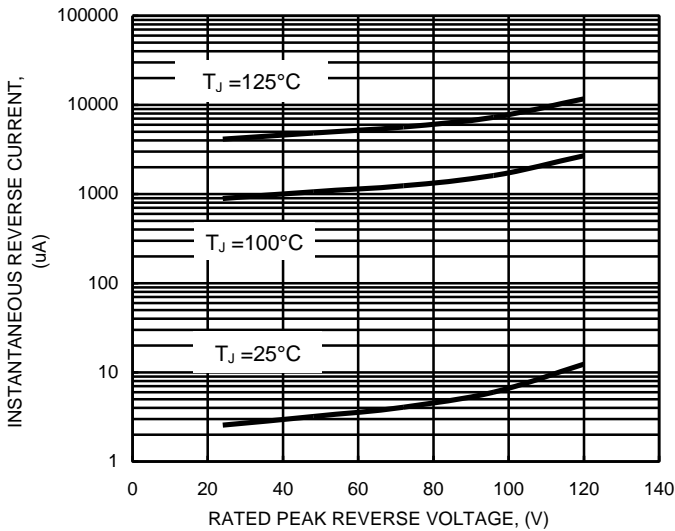
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



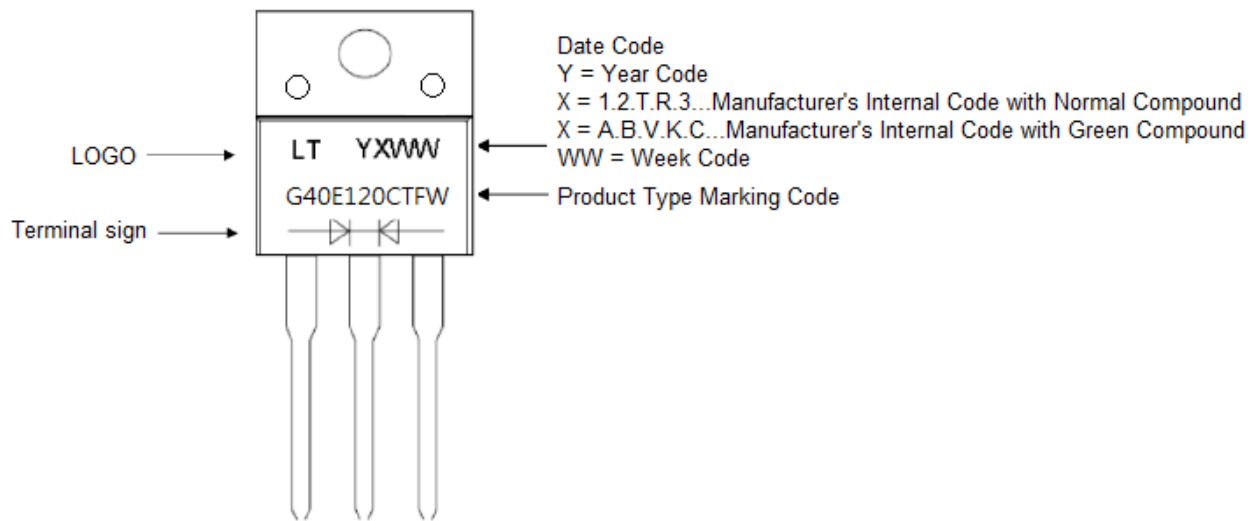
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information:

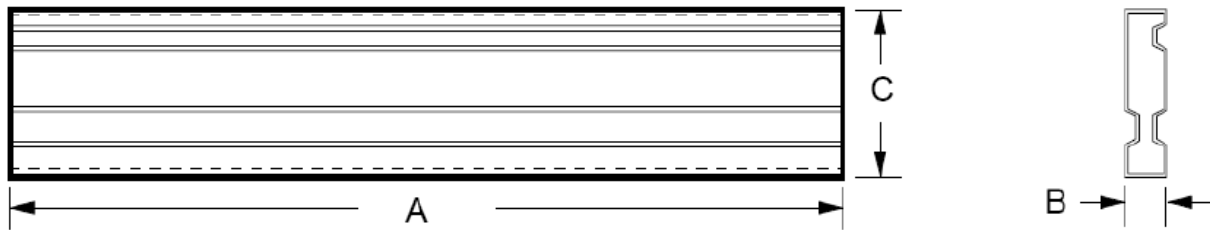
Part Number	Package	Packing	
		Qty.	Carrier
G40E120CTFW	ITO-220AB	50 pcs	Tube

## Marking Information:

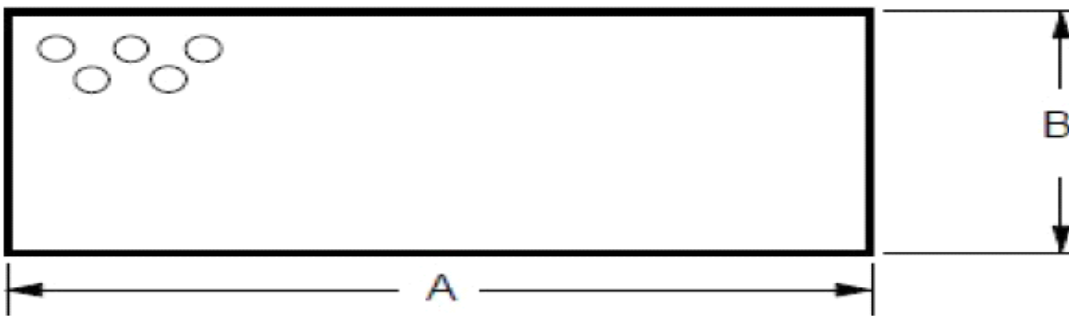


## Packaging Information:

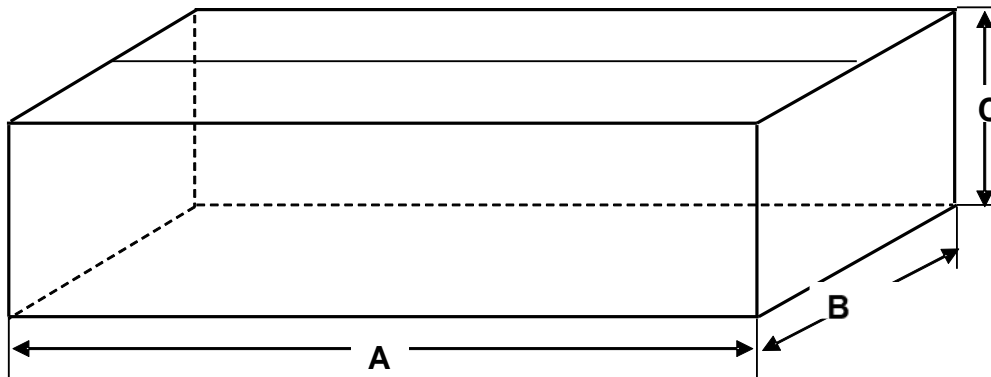
### 1. TUBE



### 2. AIR BAG



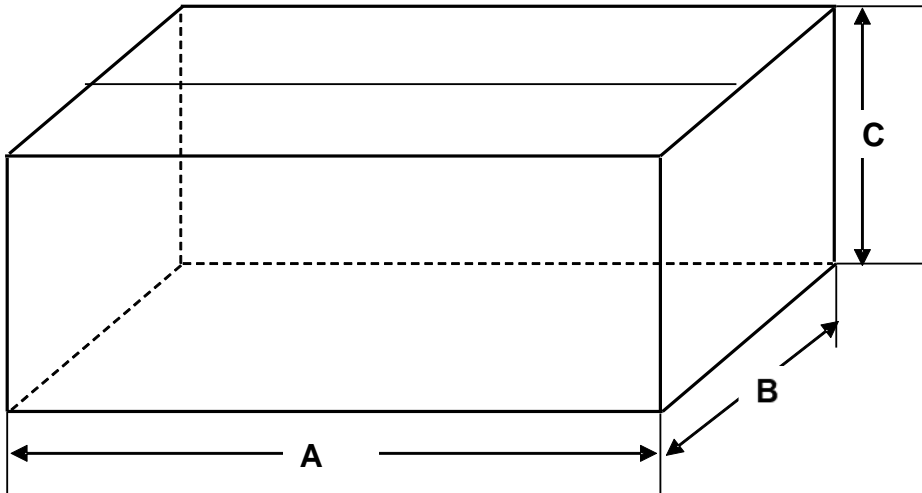
### 3. INNERBOX



**PACKAGING INFORMATION** (continued)  
**G40E120CTFW**

**Packaging Information:**

**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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