

## TRENCH SCHOTTKY RECTIFIER

**REVERSE VOLTAGE – 120 Volts**  
**FORWARD CURRENT – 30 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)**

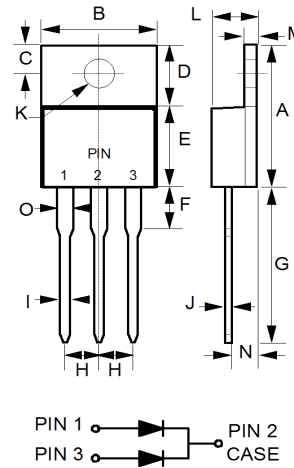
### APPLICATION

- 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"
- Weight: 1.927 grams (Approximate)
- Marking Code: G30E120CTW

### 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	@ $T_C=120^\circ\text{C}$ $I_{(AV)}$	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	270	A
Non-repetitive peak reverse current	@ $t_p=2\mu\text{s}$ $I_{RSM}$	3	A
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=15\text{A}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$V_F$	-- 0.69	0.91 0.78	V
Leakage current	$V_R=120\text{V}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$	-- 7.0	40 21	uA 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
	$R_{thJL}$	2	

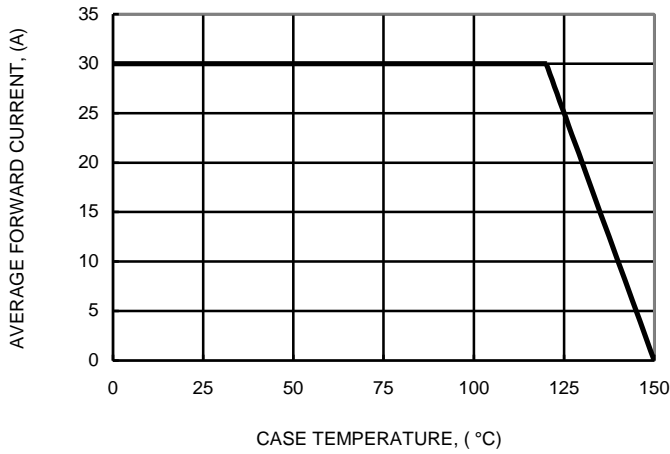
#### Notes:

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 (50.5mm x 22mm x 50.3mm) in free air condition.

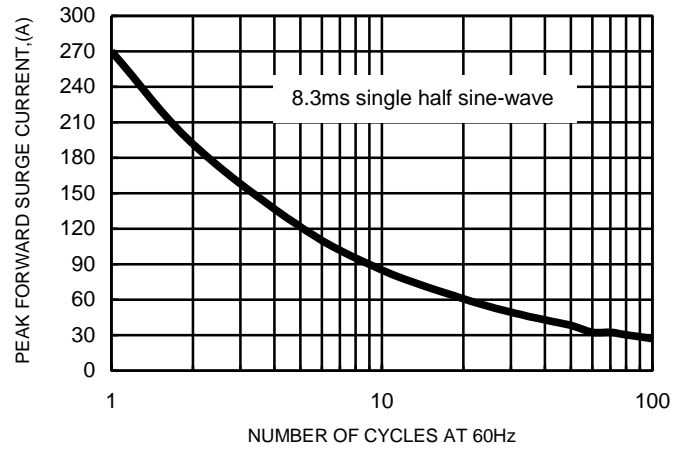
**RATING AND CHARACTERISTIC CURVES**

**G30E120CTW**

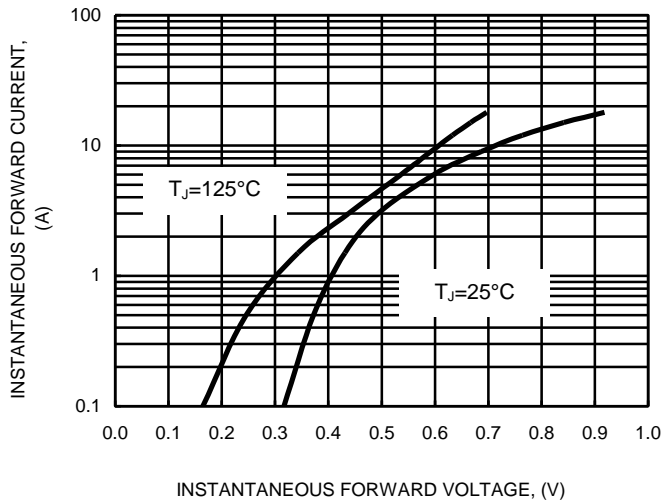
**FIG.1 FORWARD CURRENT DERATING CURVE**



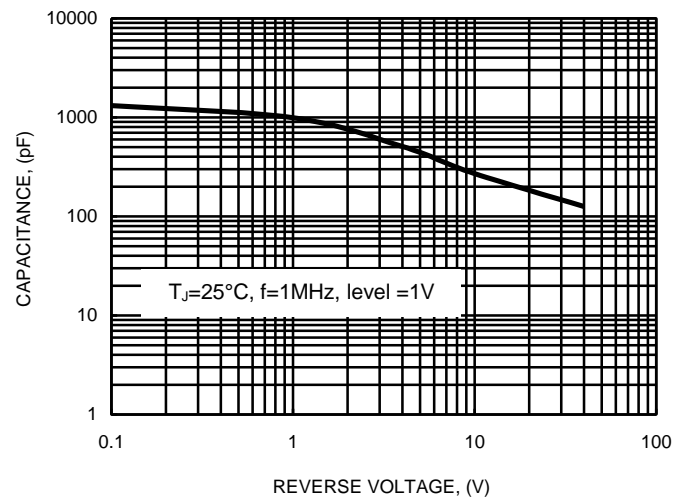
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



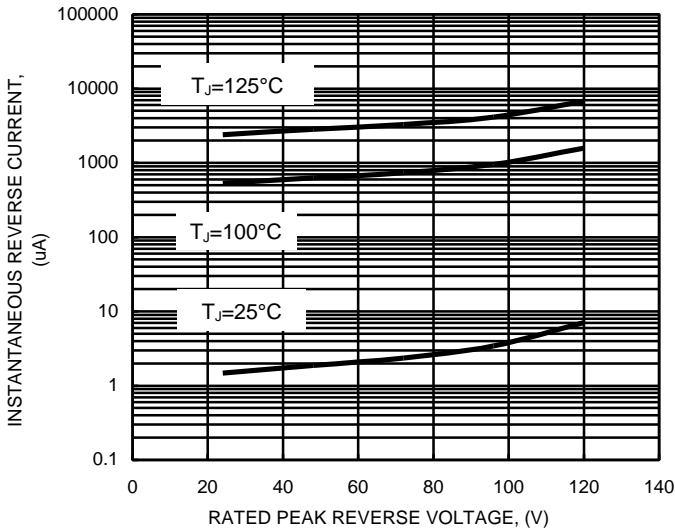
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



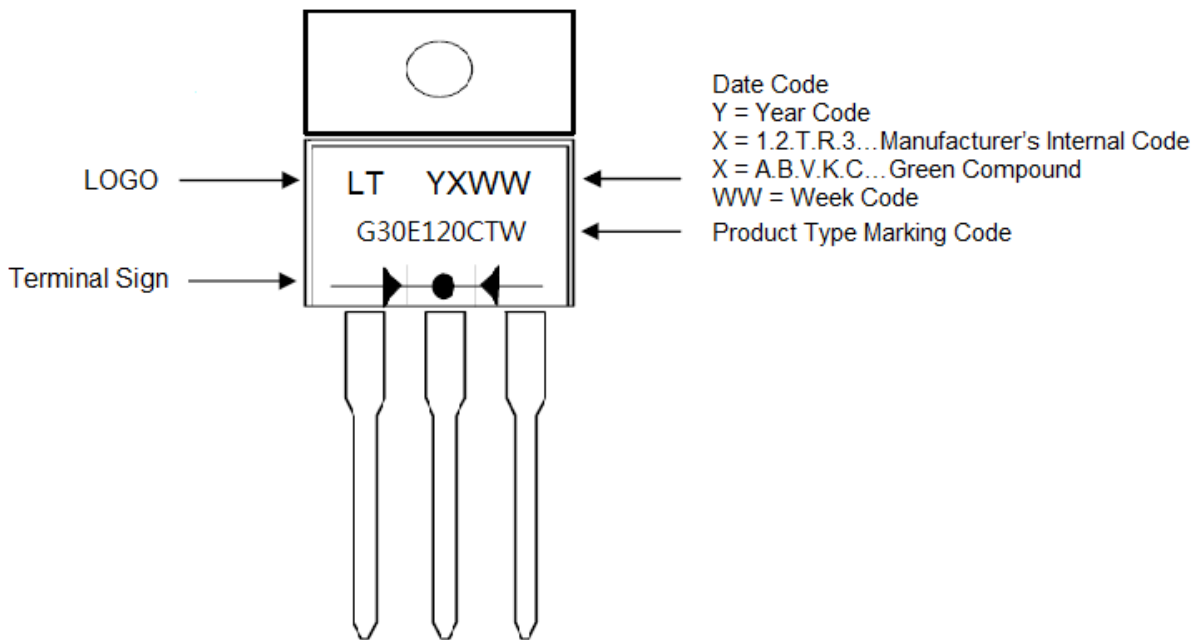
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



### Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G30E120CTW	TO-220AB	50 pcs	Tube

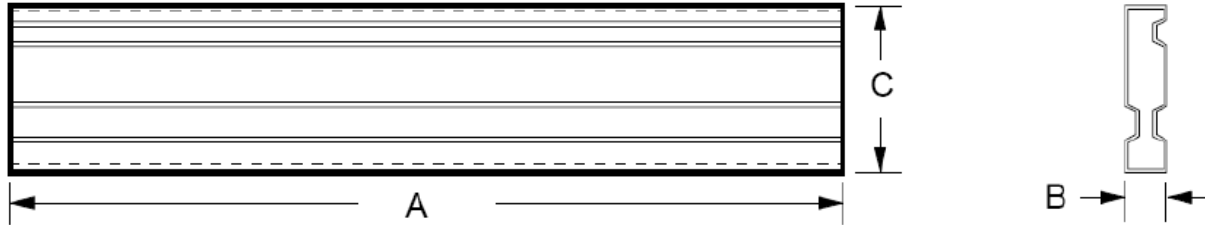
### Marking Information:



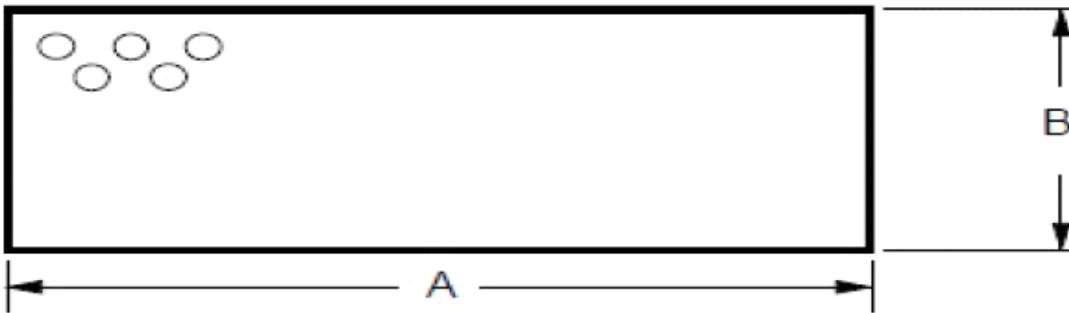
**PACKAGING INFORMATION**  
**G30E120CTW**

**Packaging Information:**

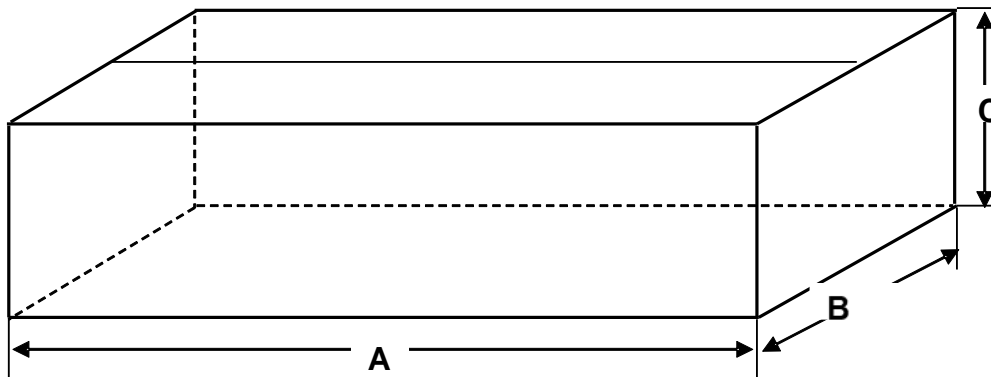
**1. TUBE**



**2. AIR BAG**



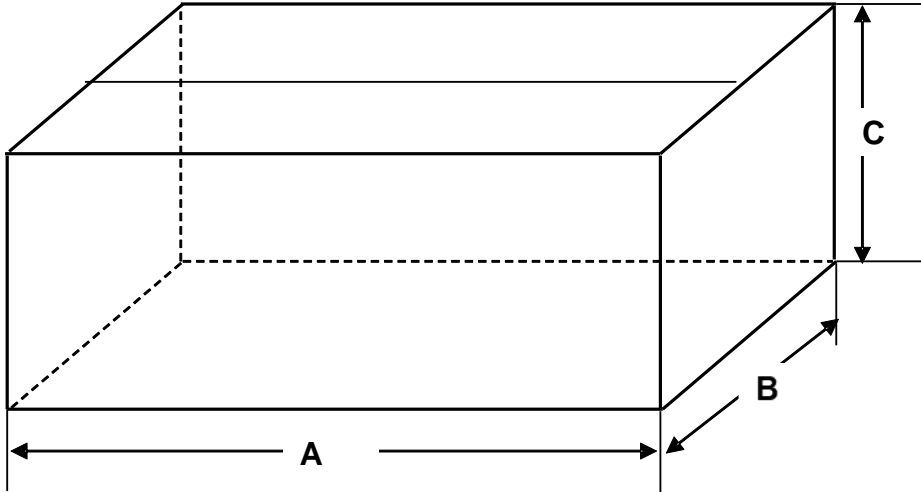
**3. INNERBOX**



**PACKAGING INFORMATION**  
**G30E120CTW**

**Packaging Information:**

**4. CARTON**



**Unit:mm**

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

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