

# G30E120CTSW

## 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)**

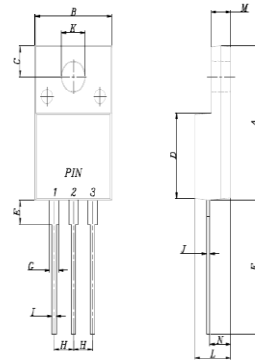
### APPLICATION

- DC to DC converters
- AC to DC adaptors

### MECHANICAL DATA

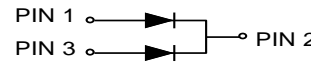
- Package: JEDEC TO-220ABFP
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.558 grams (Approximate)
- Marking code: G30E120CTSW

### 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	$I_{(AV)}$	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	270	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)	$I_F=15A$ $T_J=25^\circ C$ $T_J=125^\circ C$	$V_F$	-- --	0.91 0.78	V
Leakage current	$V_R=120V$ $T_J=25^\circ C$ $T_J=125^\circ C$	$I_R$	-- --	40 21	$\mu A$ mA
Typical junction capacitance (Note 5)		$C_J$		480	pF

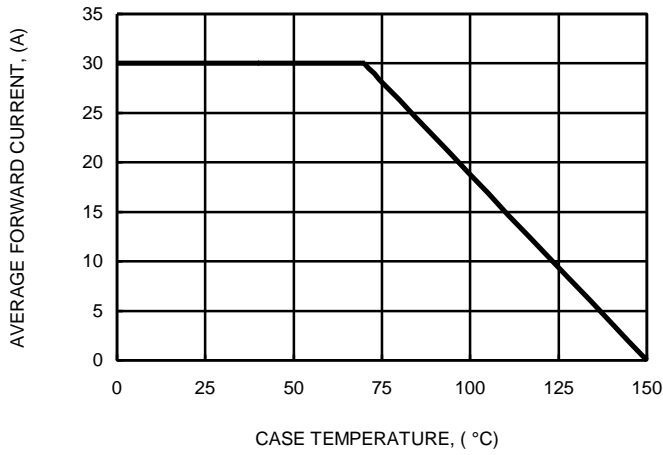
### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	$R_{thJC}$	3	°C/W
	$R_{thJL}$	3	°C/W

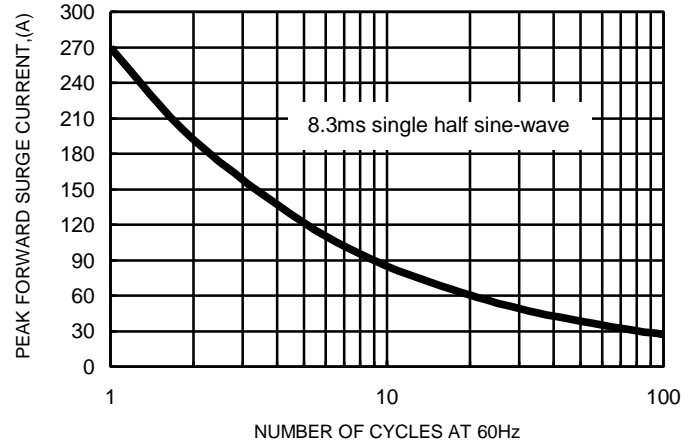
#### Note:

- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- 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.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 300us pulse width, 2% duty cycle.
- Measured at 1.0MHz and applied voltage of 4.0V DC.
- Thermal resistance test performed in accordance with JESD-51.
- The unit mounted on copper heatsink (75mm x 75mm x 2mm & 200mm x 200mm x 10mm) in free air condition.

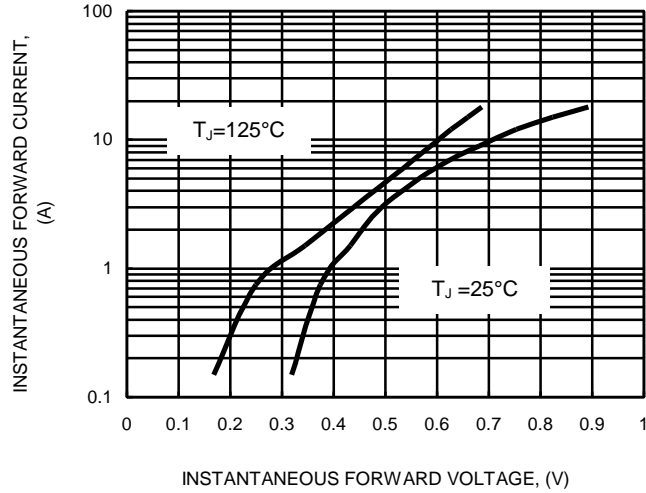
**FIG.1 FORWARD CURRENT DERATING CURVE**



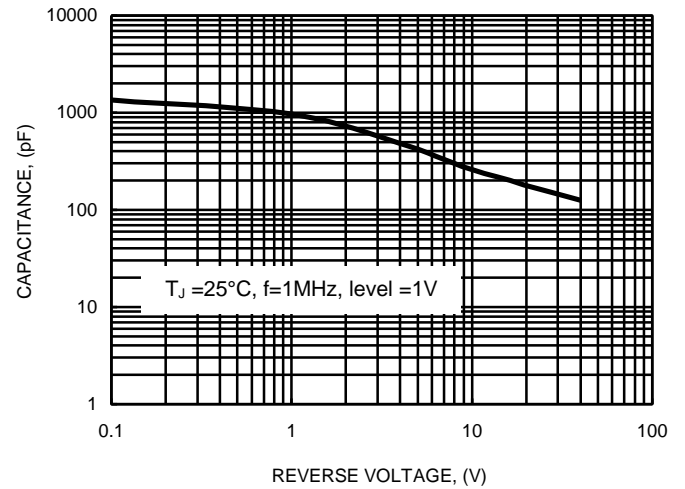
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



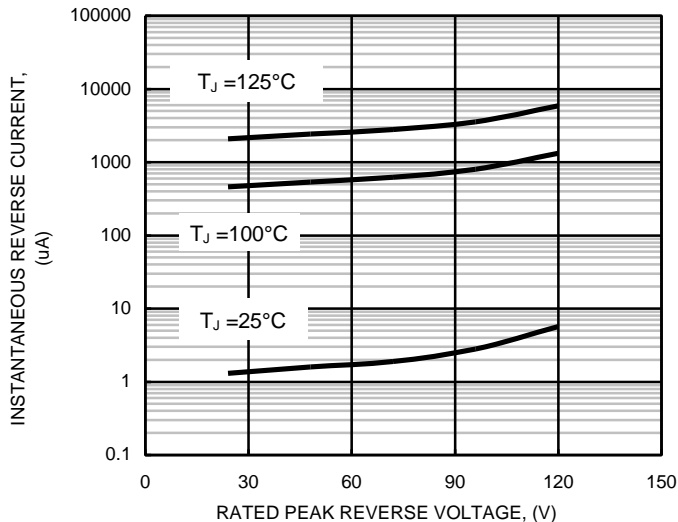
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



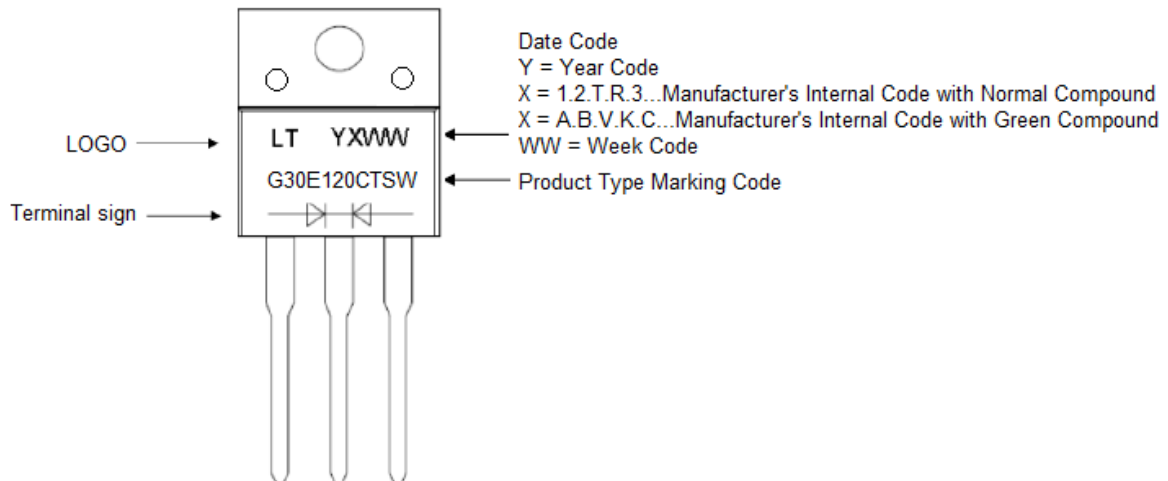
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G30E120CTSW	ITO-220(S)AB	50pcs	Tube

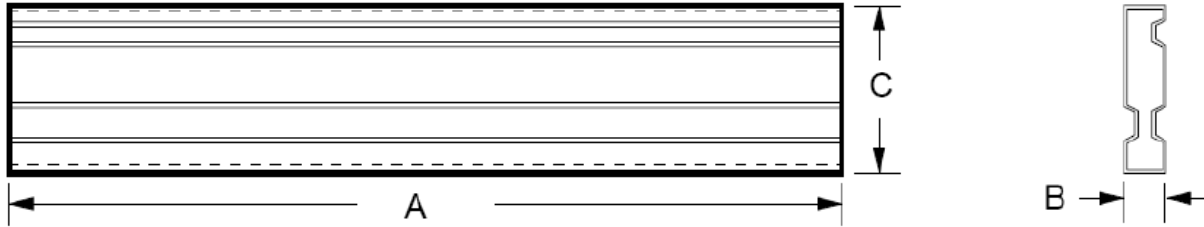
## Marking Information:



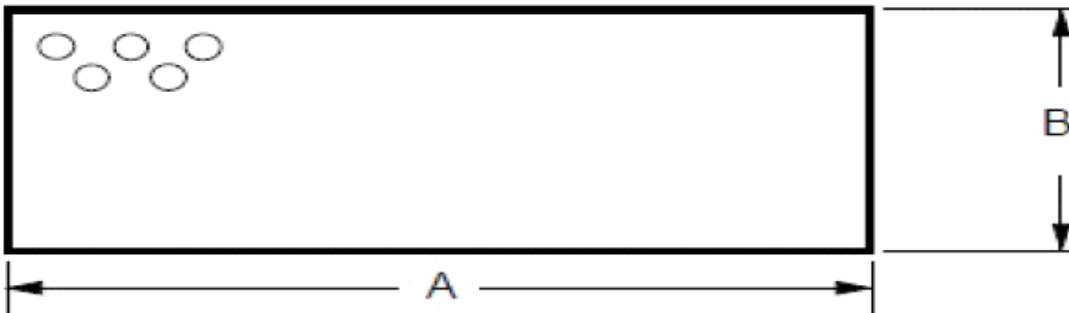
**PACKAGING INFORMATION**  
**G30E120CTSW**

**Packaging Information:**

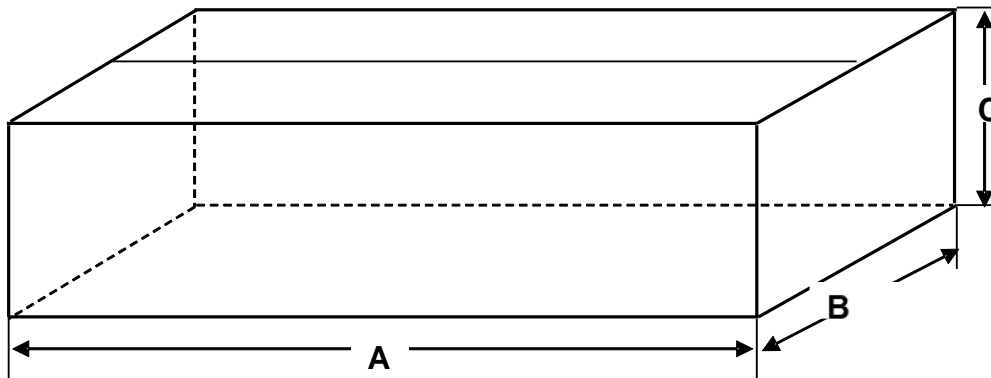
**1. TUBE**



**2. AIR BAG**



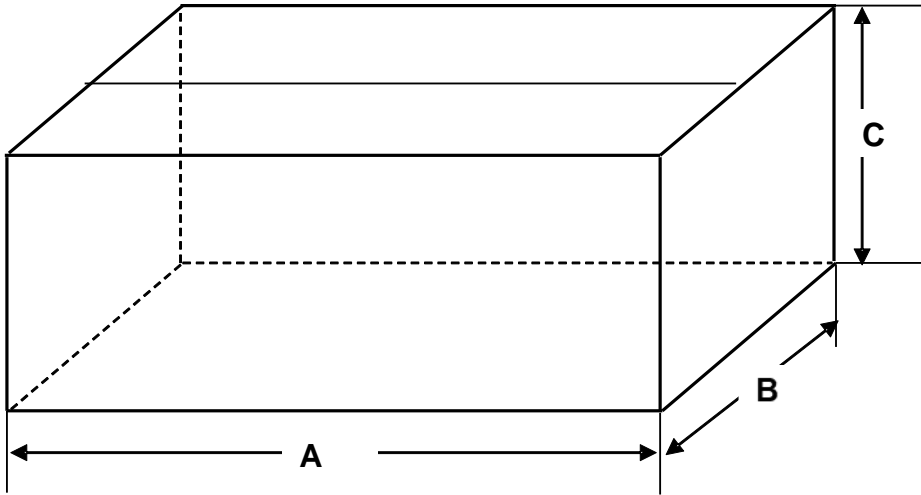
**3. INNERBOX**



**PACKAGING INFORMATION  
G30E120CTSW**

**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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