

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 150 Volts
FORWARD CURRENT – 20 Amperes

FEATURES

- Super Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- Qualified according to AEC-Q101 Rev_D
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

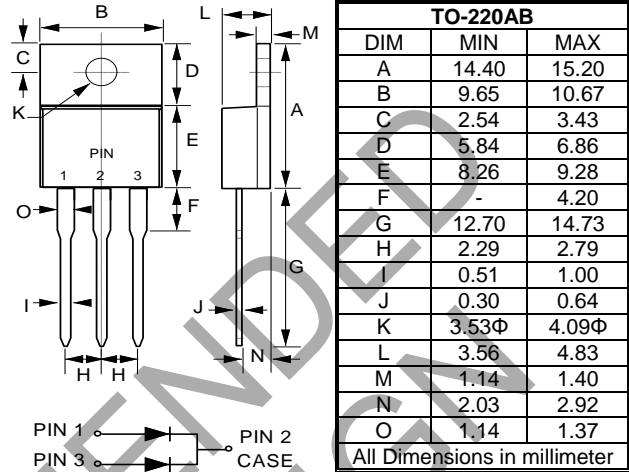
APPLICATIONS

- Device optimized for ultra-low forward voltage drop to maximize efficiency in power supply applications

MECHANICAL DATA

- Package: TO-220AB molded plastic
- Package Material: “Green” Molding compound, UL flammability classification 94V-0, “Halogen-free”.
- Lead free finish, RoHS compliant
- Polarity indicator: As marked on the body
- Marking code: G20H150CTW
- Weight: 1.927 grams (Approximate)

TO-220AB



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}	150	V
Maximum DC blocking voltage	V_{DC}	150	V
Maximum Average rectified forward current @ $T_c = 145^\circ\text{C}$	I_{AV}	20	A
Peak forward surge 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	180	A
Operating and Storage temperature range	T_J, T_{STG}	-55 ~ +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F = 10\text{A}$	V_F	$T_J = 25^\circ\text{C}$	0.82	V
	$T_J = 125^\circ\text{C}$		0.68		
Reverse leakage current	$V_R = 150\text{V}$	I_R	$T_J = 25^\circ\text{C}$	8	uA
			$T_J = 125^\circ\text{C}$	0.4	10

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical junction capacitance (Note 5)	C_J	710	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJL}	3	°C/W
	R_{thJC}	2	

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 reverse voltage of 4.0 VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on Aluminum fin-type heatsink (25mm x 44mm x 13.6 mm).

RATING AND CHARACTERISTIC CURVES

G20H150CTW

FIG.1- FORWARD CURRENT DERATING CURVE

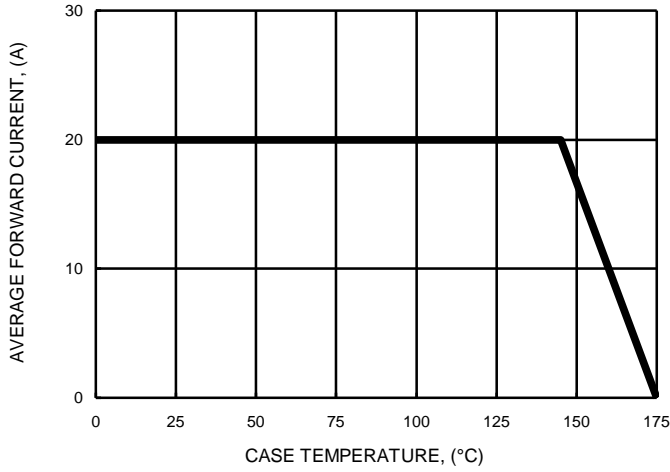


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

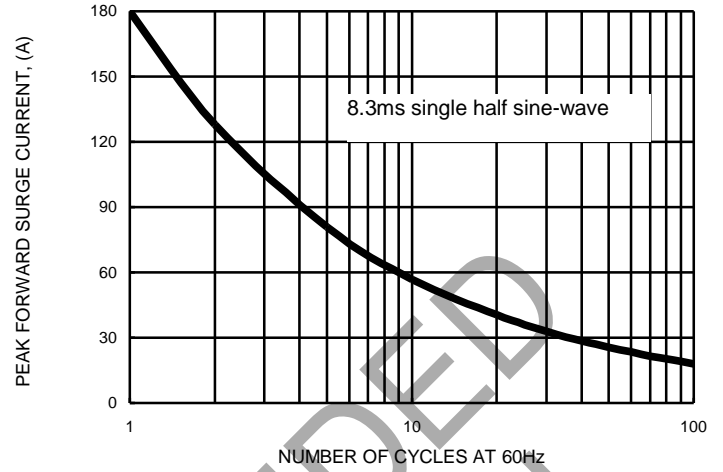


FIG.3- TYPICAL FORWARD CHARACTERISTICS

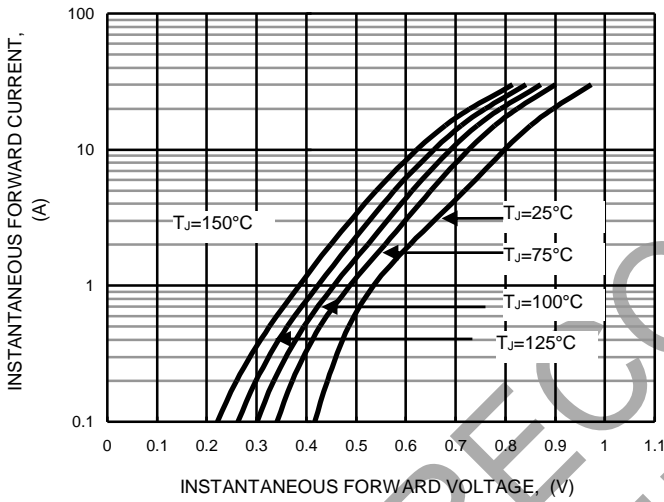


FIG.4- TYPICAL JUNCTION CAPACITANCE

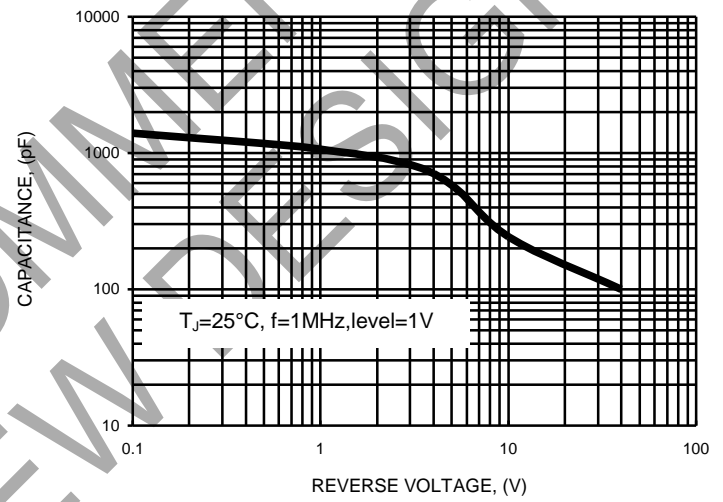


FIG.5- TYPICAL REVERSE CHARACTERISTICS

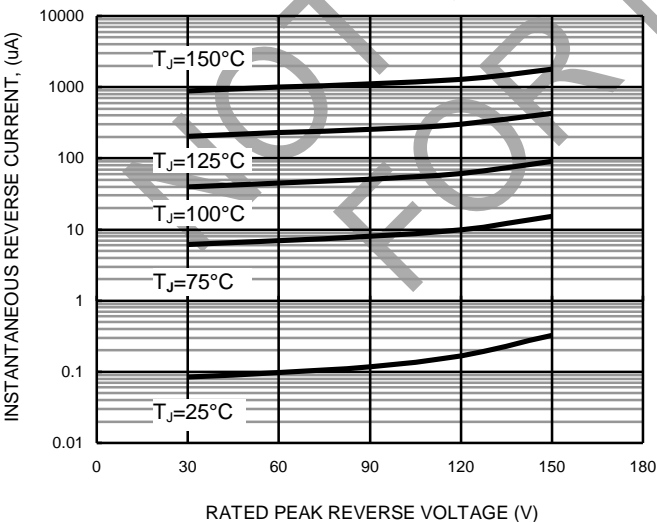
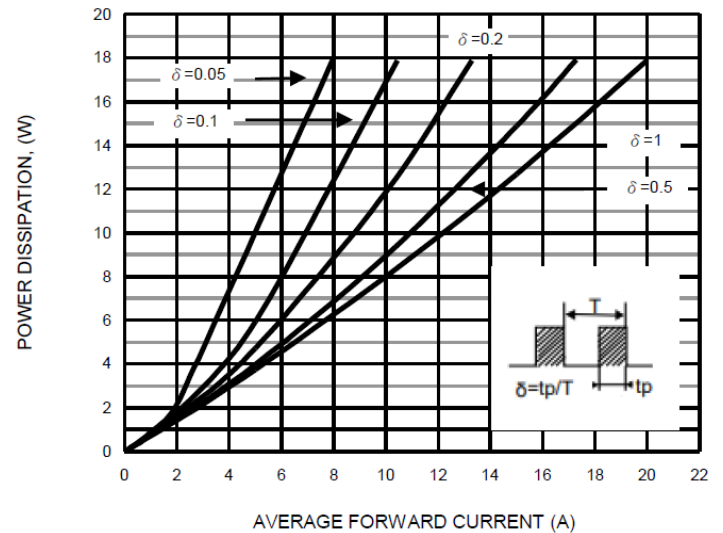
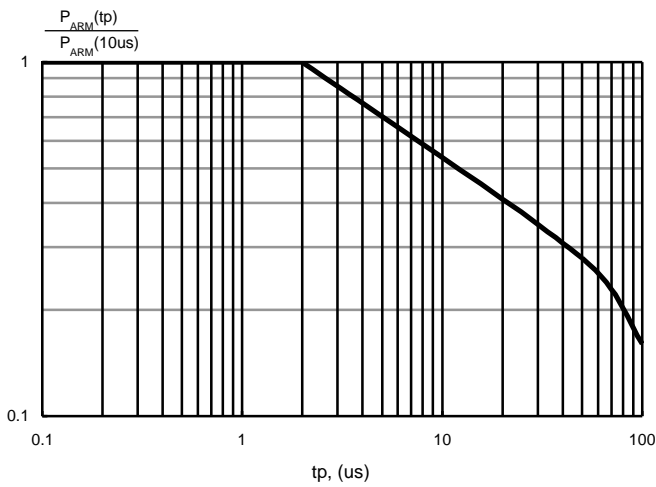


FIG.6- AVERAGE FORWARD POWER DISSIPATION VS AVERAGE FORWARD CURRENT



**RATING AND CHARACTERISTIC CURVES
G20H150CTW**

**FIG.7- NORMALIZED AVALANCHE POWER
DERATING VERSUS PULSE DURATION**

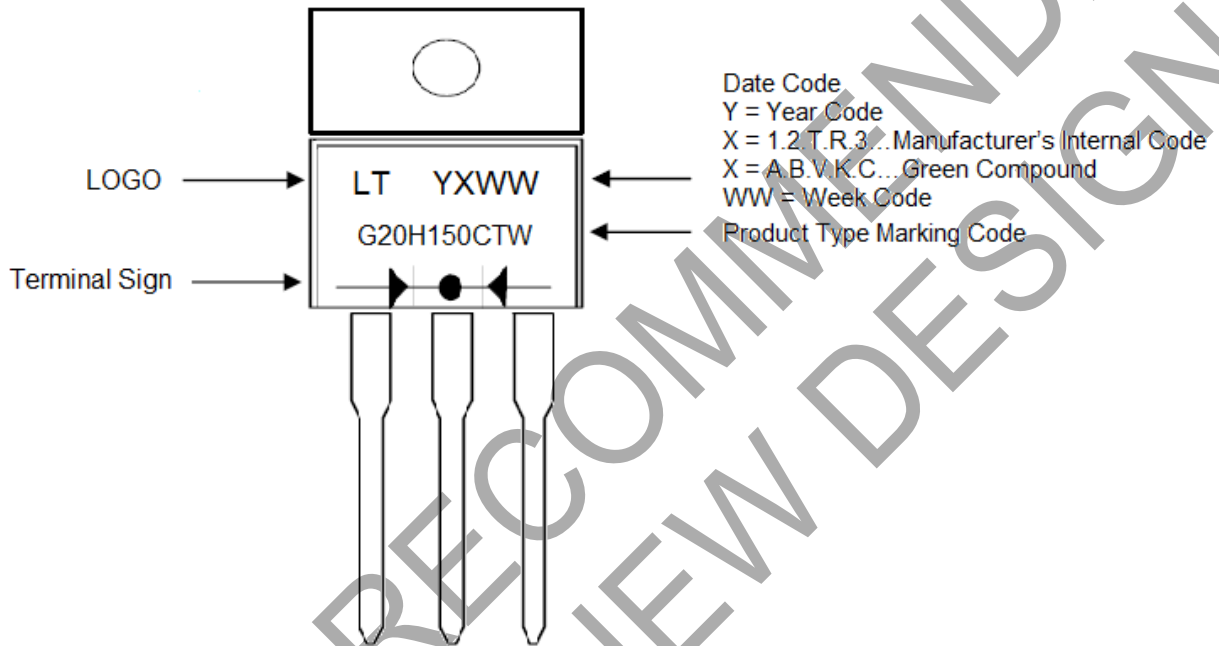


NOT RECOMMENDED
FOR NEW DESIGN

Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G20H150CTW	TO-220AB	50pcs	Tube

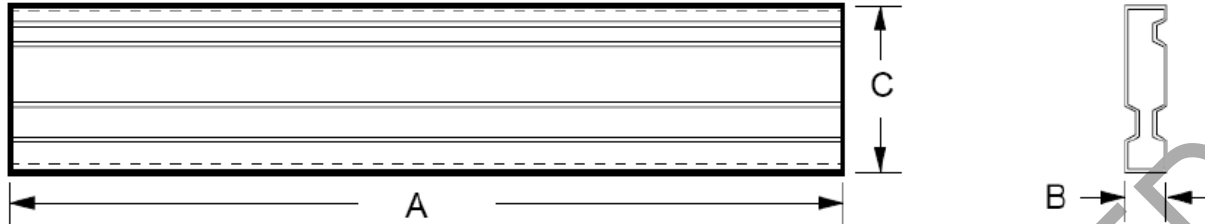
Marking Information:



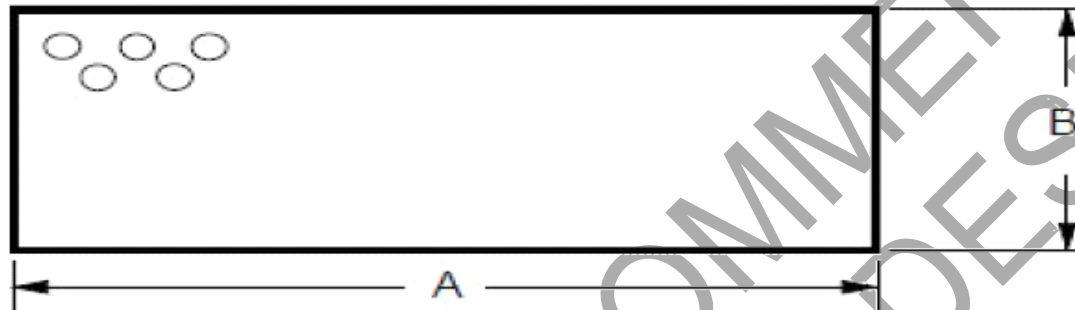
PACKAGING INFORMATION
G20H150CTW

Packaging Information:

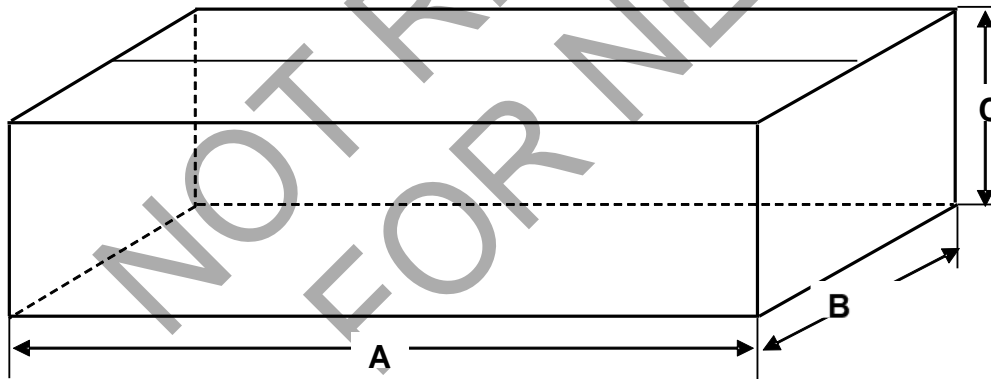
1. TUBE



2. AIR BAG

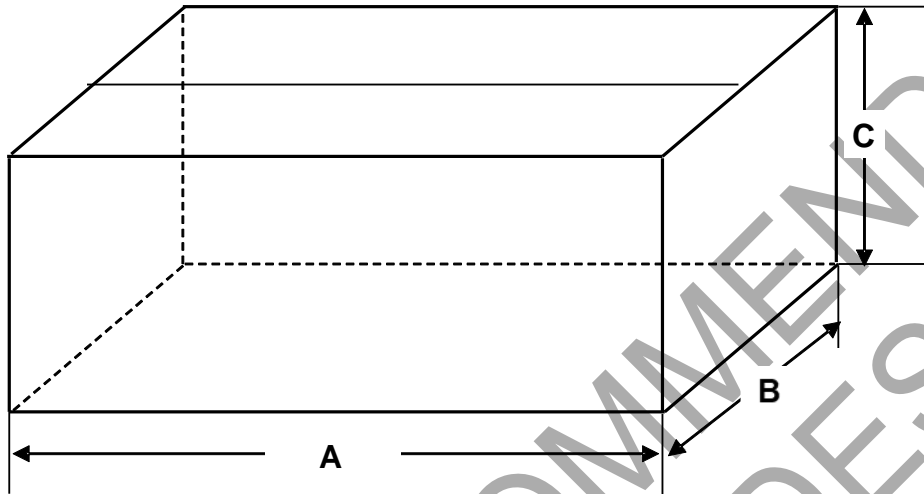


3. INNERBOX



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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