

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE – 120 Volts
FORWARD CURRENT – 20 Amperes

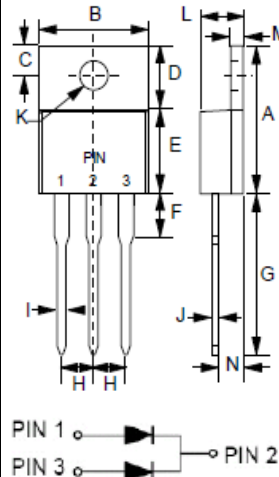
FEATURES

- Trench Schottky technology
- Low power loss, high efficiency
- Low forward drop voltage
- Qualified according to AEC-Q101 Rev_C
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

- Case: TO-220AB molded plastic
- Case Material: "Green" molding compound, UL Flammability classification 94V-0, "Halogen-free".
- Plastic package has UL flammability classification 94V-0
- Terminals: Matte Tin
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- Polarity: As marked on the body
- Weight: 0.072 ounces, 2.0275 grams (Approximate)
- Mounting position: Any
- Max. mounting torque = 0.5 N.m (5.1 Kgf-cm)

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	1.14
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	1.70

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
Average Rectified Output Current per device @ $T_c=130^\circ\text{C}$	I_F	20	A
Non-repetitive Peak Forward Surge Current single half sine-wave $t_p=8.3\text{ms}$	I_{FSM}	120	A
Operating and Storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

Parameter	Test condition	Symbol	Typ.	Max.	Unit
Maximum Forward Voltage Note (4)	$I_F=10\text{A}$ @ $T_j=25^\circ\text{C}$	VF	0.82	0.84	V
	$I_F=10\text{A}$ @ $T_j=125^\circ\text{C}$		0.64	0.72	
Maximum DC Reverse Current	$V_R=120\text{V}$ @ $T_j=25^\circ\text{C}$ @ $T_j=125^\circ\text{C}$	IR	-	150	uA
			4	25	mA
Junction Capacitance per element	1MHz, $V_R=4\text{V}$	C_j	430	-	pF

THERMAL CHARACTERISTICS

Parameter	SYMBOL	VALUE	UNIT
Typical thermal resistance Junction (Note 5 & 6)	$R_{\theta JC}$	1.3	°C/W
	$R_{\theta JL}$	2.0	
	$R_{\theta JA}$	8.0	

Note :

REV.-5, Sep-2021, KTHC115

- (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) Thermal Resistance Junction to Case, Lead and Ambient.
- (6) Device mounted on 100 x 100 x 2 mm Copper plate.

RATING AND CHARACTERISTIC CURVES
G20120CTW

FIG.1- FORWARD CURRENT DERATING CURVE

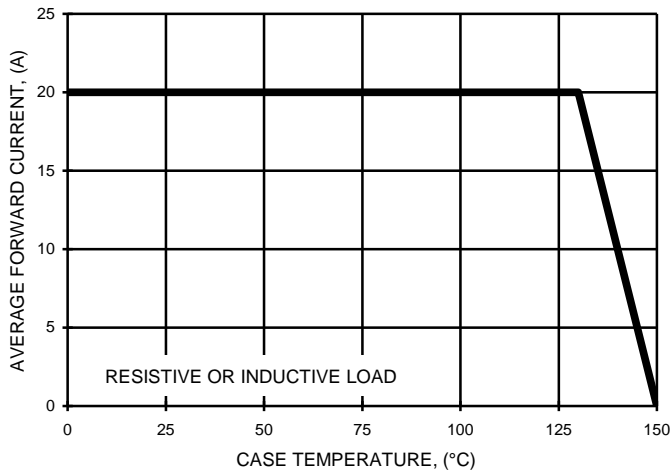


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

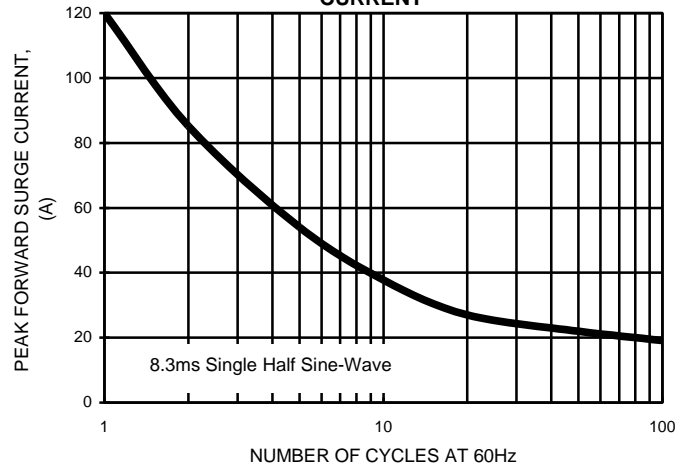


FIG.3- TYPICAL JUNCTION CAPACITANCE

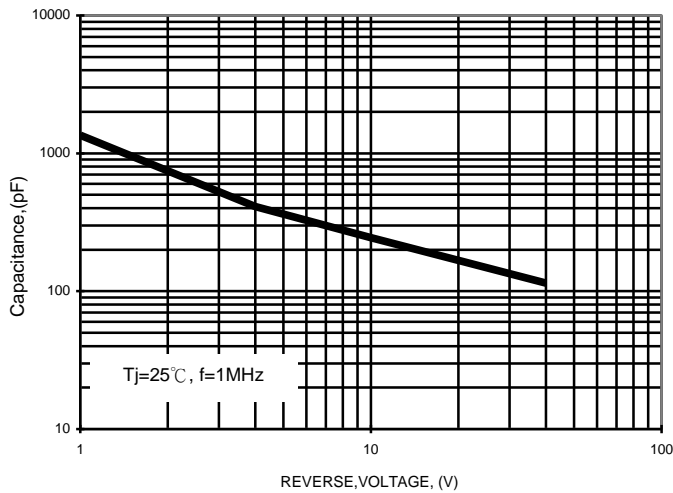


FIG.4- TYPICAL FORWARD CHARACTERISTICS

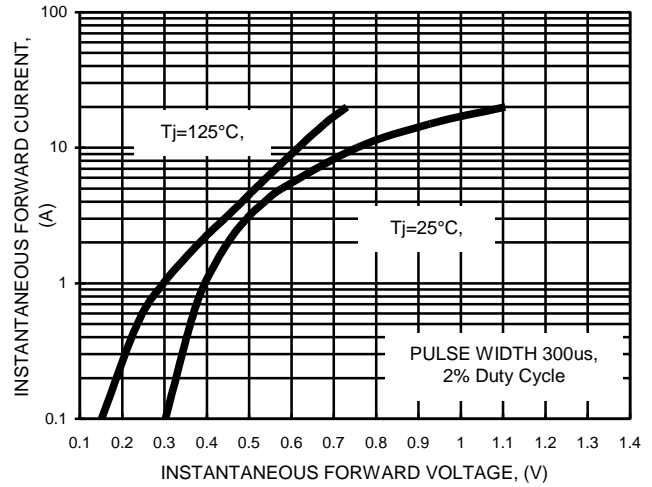
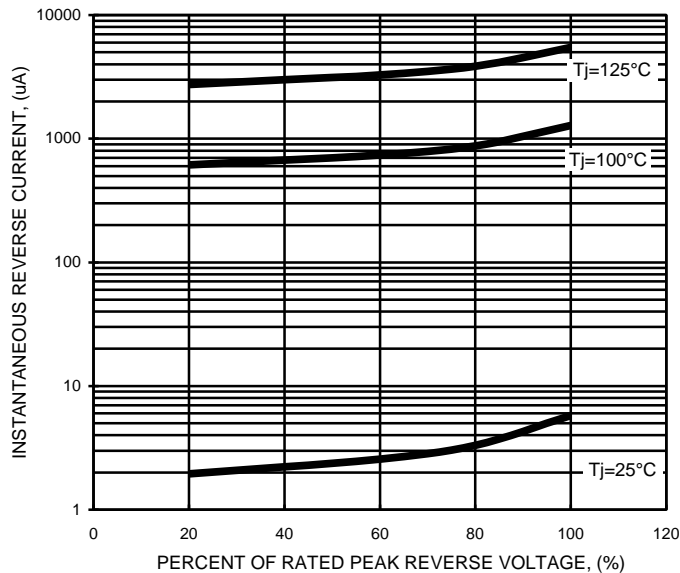


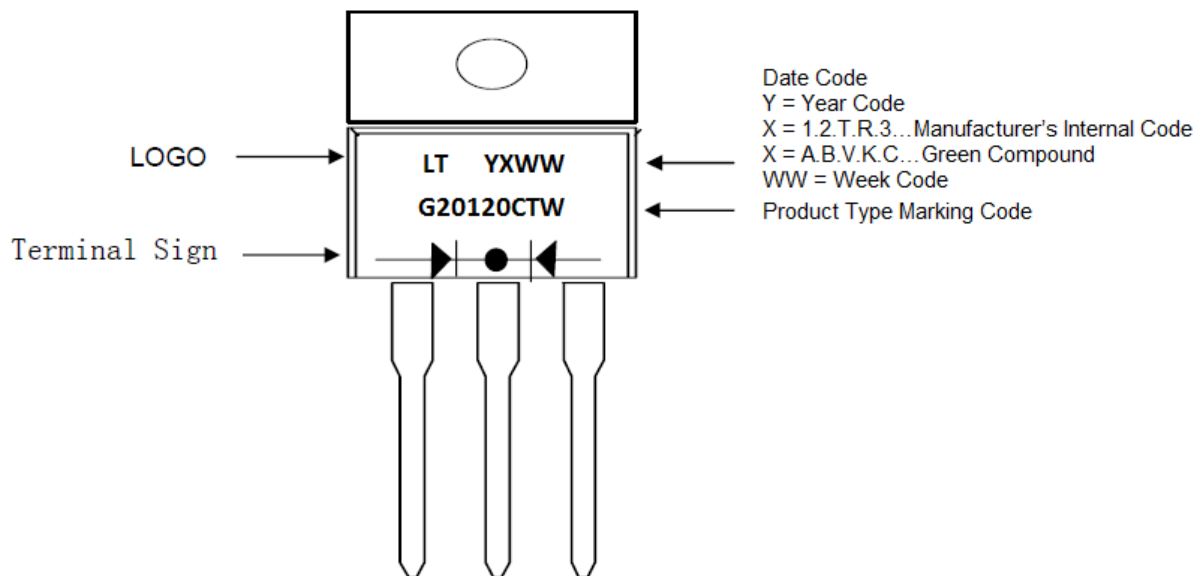
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Case	Packaging
G20120CTW	TO-220AB	50 pieces/tube

Marking Information :



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