

**SURFACE MOUNT
TRENCH SCHOTTKY RECTIFIER**

**REVERSE VOLTAGE – 120 Volts
FORWARD CURRENT – 10 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)**

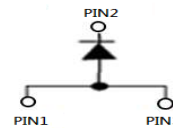
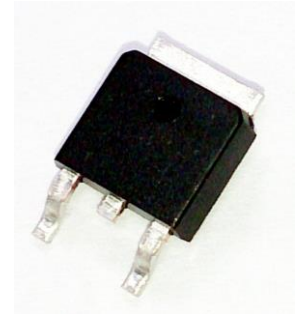
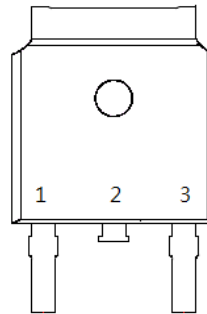
APPLICATION

- Adapters
- Chargers

MECHANICAL DATA

- Package: JEDEC TO-252
- Package Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.347 grams (Approximate)
- Marking code: G10E120DW

DPAK



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	@ $T_C=110^\circ\text{C}$ $I_{(AV)}$	10	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load.	I_{FSM}	220	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)	$I_F=10\text{A}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	V_F	-- 0.65	0.83 0.76	V
Reverse Leakage current	$V_R=120\text{V}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	-- 5.18	30 17	μA mA

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical junction capacitance (Note 5)	C_J	360	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6, 7)	R_{thJC}	5	°C/W
	R_{thJA}	4	

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. 300 μs 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 copper heatsink 35mm x 35mm x 1.5mm.

RATING AND CHARACTERISTIC CURVES
G10E120DW

FIG.1 FORWARD CURRENT DERATING CURVE

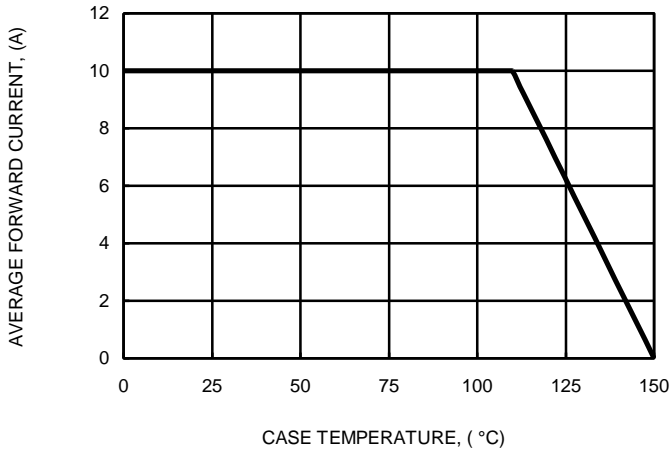


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

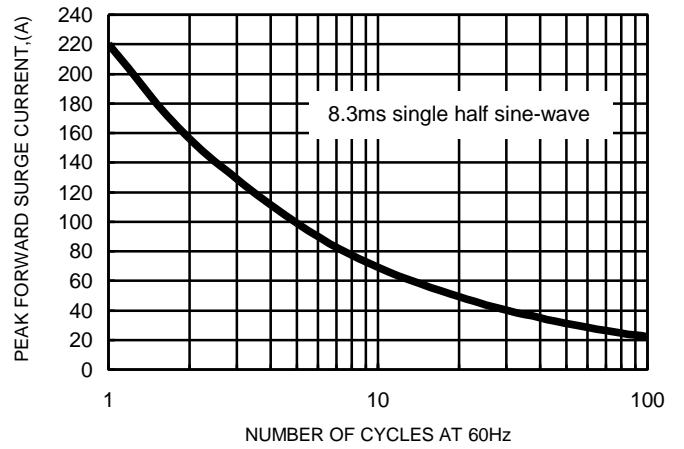


FIG.3 TYPICAL FORWARD CHARACTERISTICS

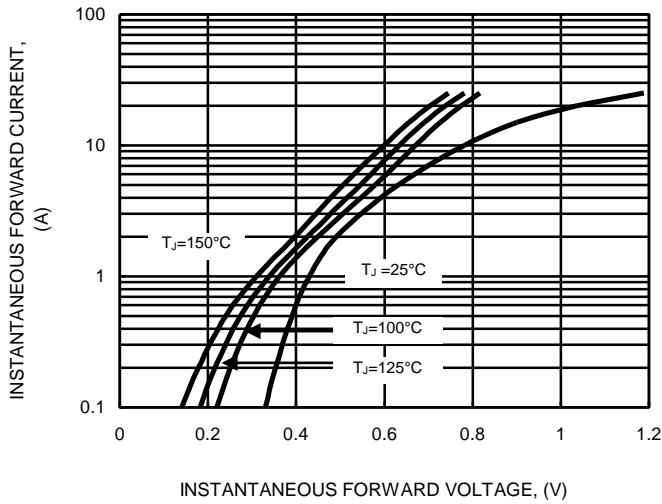


FIG.4 TYPICAL JUNCTION CAPACITANCE

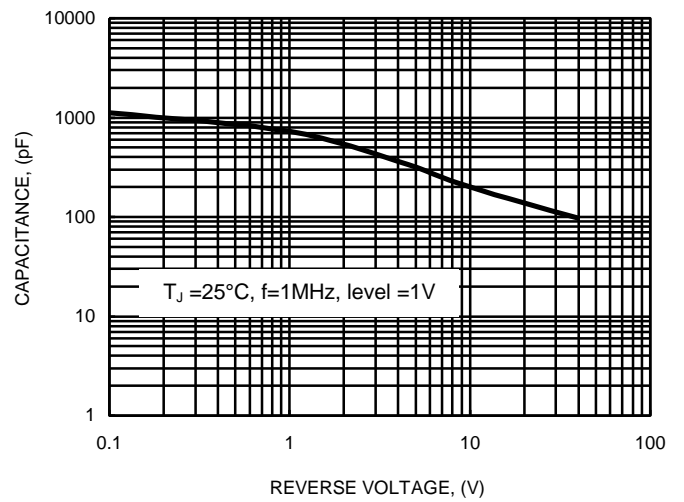
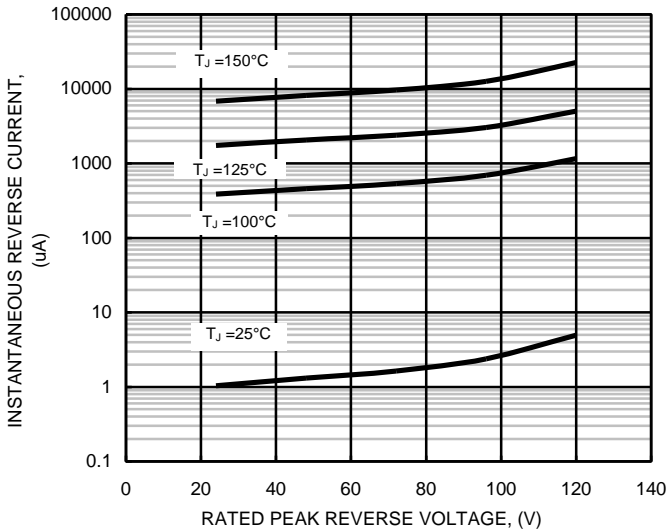


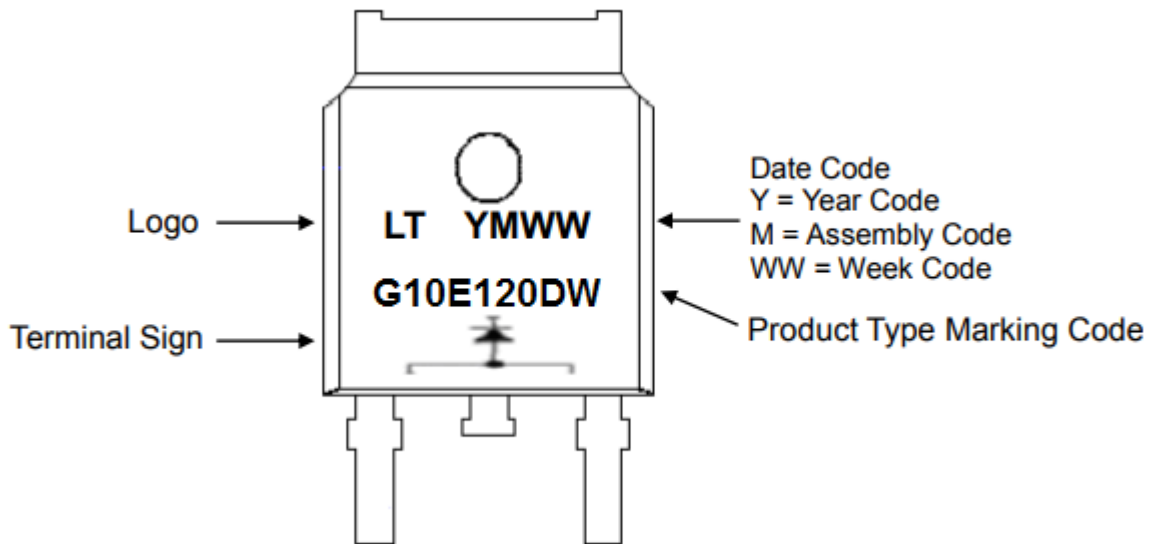
FIG.5 TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

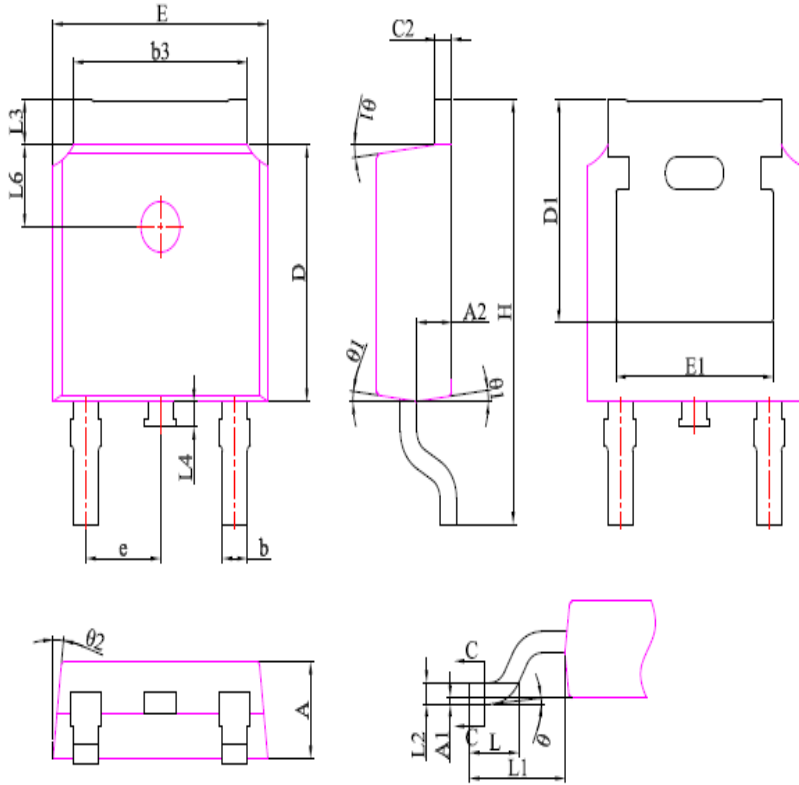
Part Number	Package	Packing	
		Qty.	Carrier
G10E120DW	DPAK	2500 pcs	Tape & Reel

Marking Information:



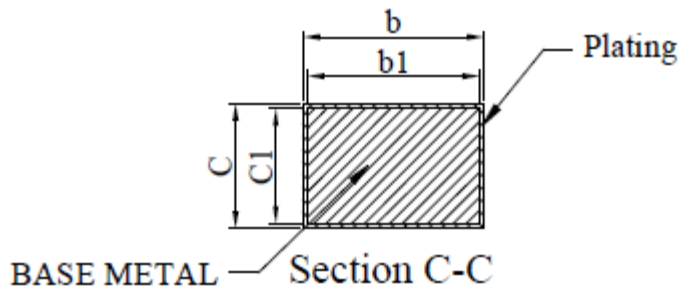
Package Dimension :

TO-252



TO-252			
DIM	MIN	TYP	MAX
A	2.20	2.30	2.40
A1	0.00	--	0.15
A2	0.97	1.07	1.17
b	0.68	0.78	0.90
b1	0.66	0.76	0.88
b3	5.20	5.33	5.50
C	0.43	0.53	0.63
C1	0.41	0.51	0.61
C2	0.43	0.53	0.63
D	5.98	6.10	6.22
D1	5.30 REF		
E	6.40	6.60	6.80
E1	4.63	4.83	5.03
e	2.286 REF		
H	9.40	10.10	10.50
L	1.38	1.50	1.75
L1	2.90 REF		
L2	0.51 BSC		
L3	0.88	--	1.28
L4	--	--	1.00
L6	1.65	1.80	1.95
Ø	0°	--	8°
Ø1	5°	7°	9°
Ø2	5°	7°	9°

All dimension in millimeter



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