

LTTH3060PW

SUPER FAST RECTIFIER

REVERSE VOLTAGE – 600 Volts
FORWARD CURRENT – 30 Amperes

FEATURES

- Rating to 600V PRV
- High Reliability
- Max Forward Voltage
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

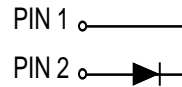
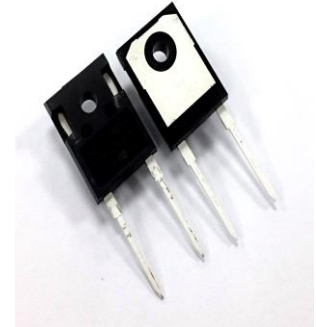
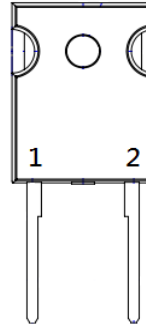
APPLICATION

- Switching power supplies
- Power Switching Circuits

MECHANICAL DATA

- Package: JEDEC TO-247
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 5.9 grams (Approximate)
- Marking code: LTTH3060PW

TO-247-2L



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}	600	V
Maximum DC blocking voltage	V_{DC}	600	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}	350	A
Avalanche Energy @ $L=15\text{mH}$	E_{AS}	20	mJ
Operating junction and Storage Temperature range	T_J, T_{STG}	-55 ~ +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note4)	$I_F=30\text{A}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	V_F	-- 1.53	2.4 2.1	V
Reverse Leakage current	$V_R=600\text{V}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	-- 0.09	100 1	uA mA

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Reverse recovery time	$I_F=1\text{A}, dI_F/dt=100\text{A}/\mu\text{s}, V_R=30\text{V}$ $T_J=25^\circ\text{C}$	T_{rr}	27.8	--	nS
	$I_F=30\text{A}, dI_F/dt=100\text{A}/\mu\text{s}, V_R=30\text{V}$		--	45	
Reverse recovery current	$I_F=30\text{A}, dI_F/dt=200\text{A}/\mu\text{s}, V_R=400\text{V}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_{RM}	3.57 9.23	-- --	A
Reverse recovery charges	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$		Q_{RR}	95.8 441.0	
Typical junction capacitance (Note 5)		C_J		155	

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJc}	1	°C/W

Note :

REV.-5 , Nov-2021, KTGA32

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 4.0VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on fin-type heatsink 100mm x 100mm x 5mm.

RATING AND CHARACTERISTIC CURVES
LTTH3060PW

FIG.1 FORWARD CURRENT DERATING CURVE

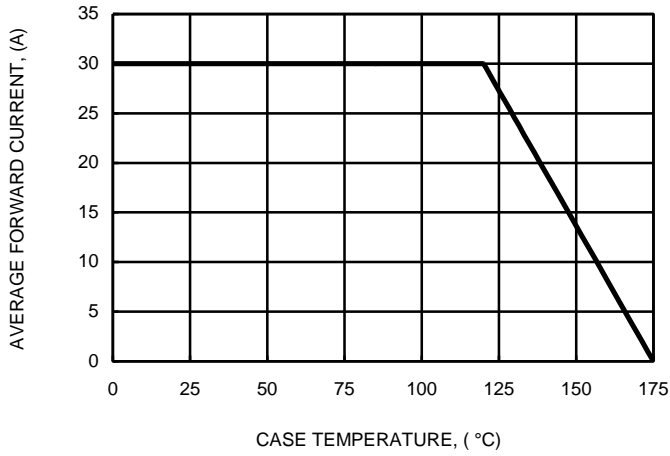


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

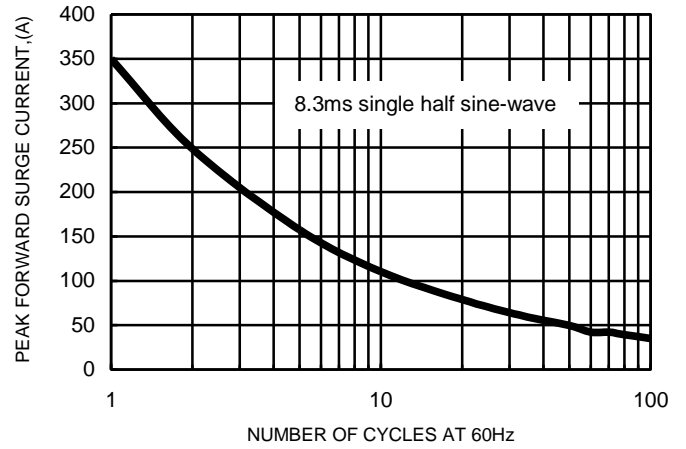


FIG.3 TYPICAL FORWARD CHARACTERISTICS

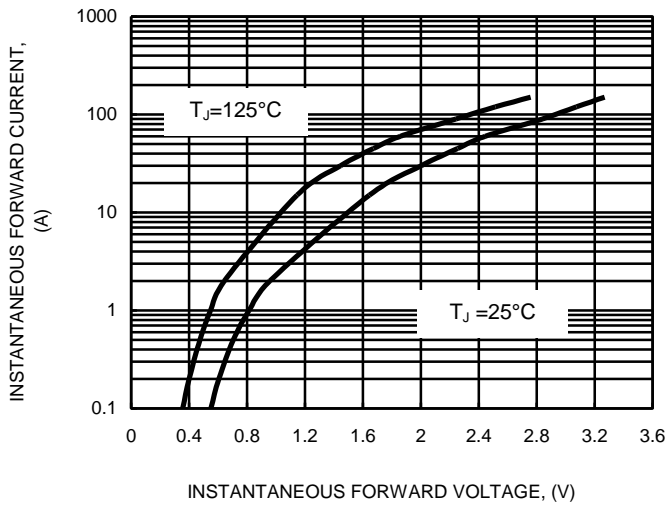


FIG.4 TYPICAL JUNCTION CAPACITANCE

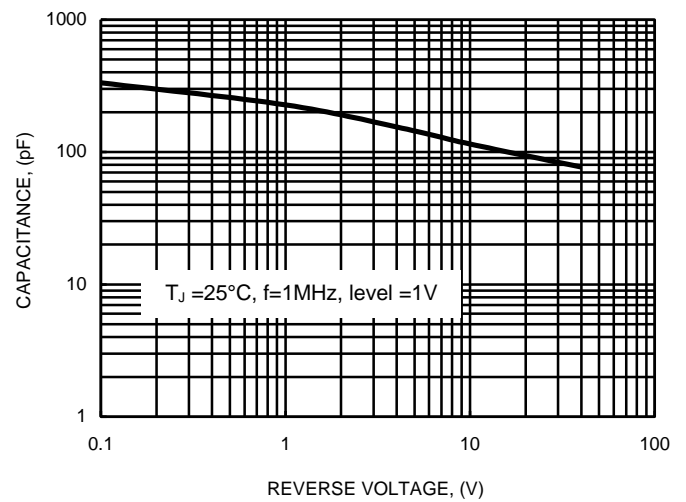
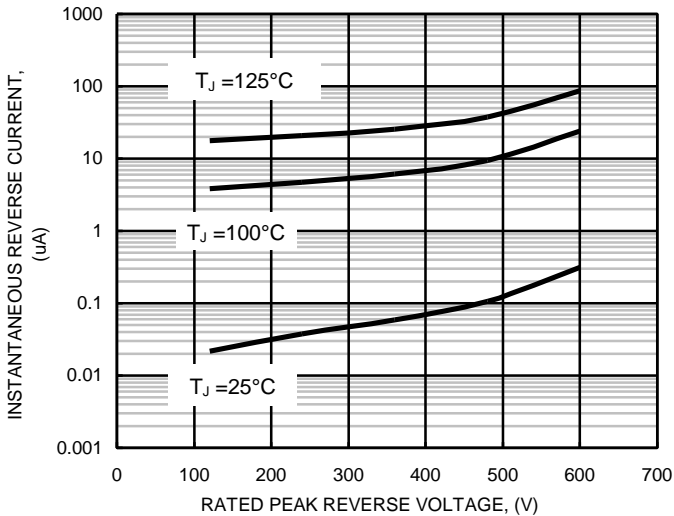


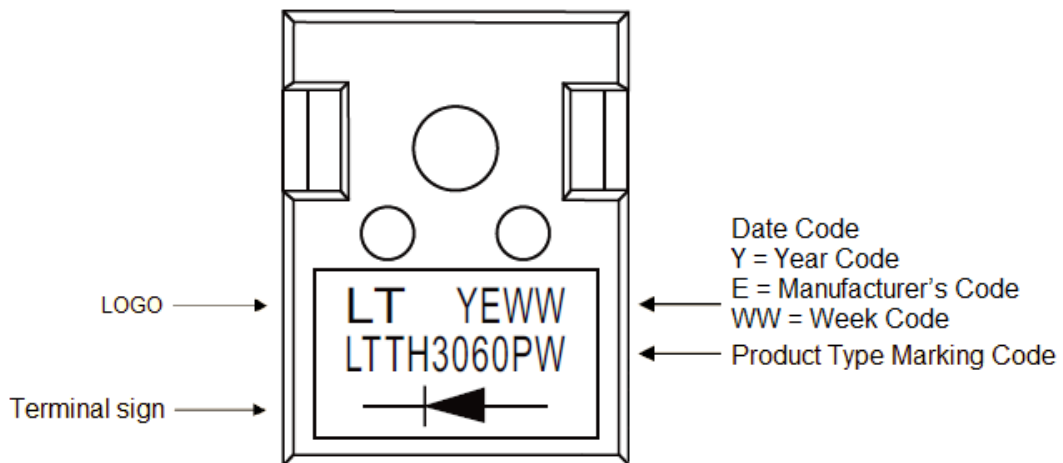
FIG.5 TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

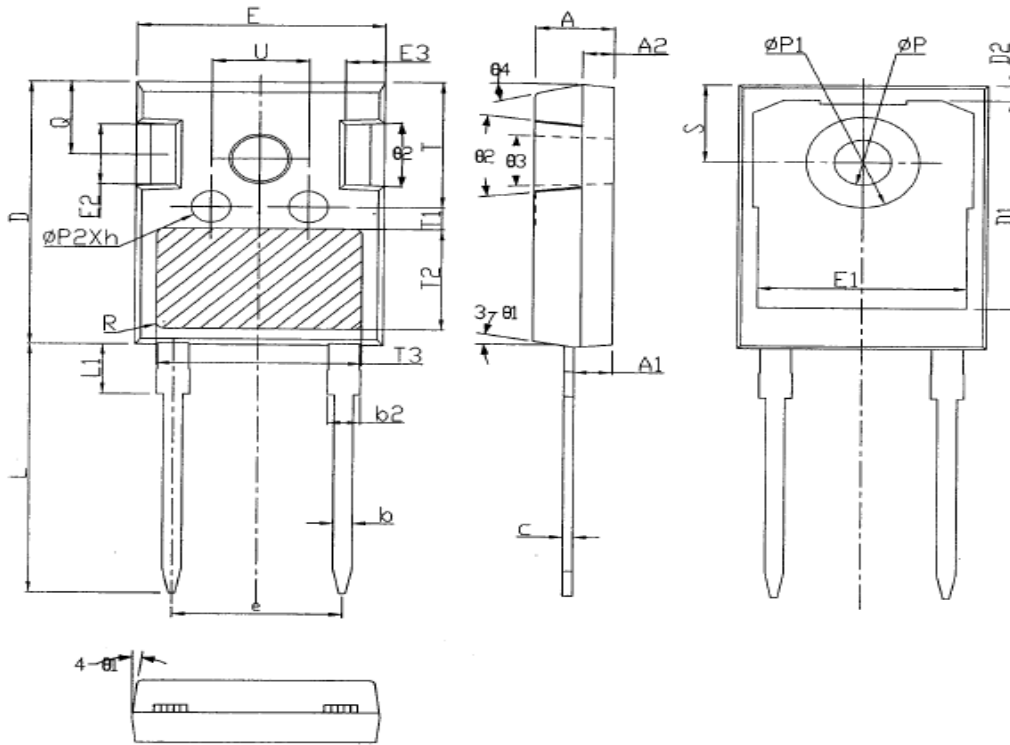
Part Number	Package	Packing	
		Qty.	Carrier
LTTH3060PW	TO-247-2L	30pcs	Tube

Marking Information :



MECHANICAL INFORMATION
LTTTH3060PW

Package Dimension :



TO-247-2L							
DIM.	MIN.	TYP	MAX	DIM	MIN	TYP	MAX
A	4.90	5.00	5.10	ΦP	3.50	3.60	3.70
A1	2.31	2.41	2.51	ΦP1	--	--	7.30
A2	1.90	2.00	2.10	ΦP2	2.40	2.50	2.60
b	1.16	1.21	1.26	Q	5.60	5.80	6.00
b2	1.91	2.01	2.21	S	6.15BSC		
c	0.59	0.61	0.66	R	0.50REF		
D	20.90	21.0	21.10	T	9.80	--	10.20
D1	16.25	16.55	16.85	T1	1.65REF		
D2	1.05	1.20	1.35	T2	8.00REF		
E	15.70	15.80	15.90	T3	12.80REF		
E1	13.10	13.30	13.50	U	6.00	--	6.40
E2	4.90	5.00	5.10	⊙1	6°	7°	8°
E3	2.40	2.50	2.60	⊙2	1°	5°	6°
e	10.88BSC			⊙3	1°	--	1.5°
h	0.05	0.10	0.15	⊙4	14°	15°	16°
L	19.80	19.92	20.10				
L1	--	--	4.30				

All dimension in millimeter

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