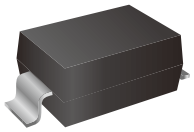
领晨科技
LEADING-TECH

LTU1AW THRU LTU1MW

Surface Mount Ultrafast Recovery Rectifier

Features



- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case:SMAW
- Terminal:Leads solderable per MIL-STD-750 Method 2026
- Polarity:Color band denotes cathode end
- Mounting Position:Any

Ordering Information

Part Number	Shipping	Reel
LTU1AW THRU LTU1MW	8000PCS Tape&Reel	13 inchs

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

Parameter	Symbol	LTU1AW	LTU1BW	LTU1DW	LTU1GW	LTU1JW	LTU1KW	LTU1MW	Unit
	Marking	U1AW	U1BW	U1DW	U1GW	U1JW	U1KW	U1MW	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T_c = 110 °C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.0			1.3	1.7			V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a =125 °C	I_R	5 100							μA
Maximum Reverse Recovery Time (Note1)	T_{RR}	50				75			ns
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	75							°C/W
Typical Junction Capacitance (Note3)	C_J	15							pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150							°C

Note：(1) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.
(2) P.C.B. mounted with 2.0" X 2.0" (5cm X 5cm) copper pad areas.
(3) Measured at 1 MHz and applied reverse voltage of 4 V D.C.

Characteristics Curves

FIG. 1 FORWARD CURRENT DERATING CURVE

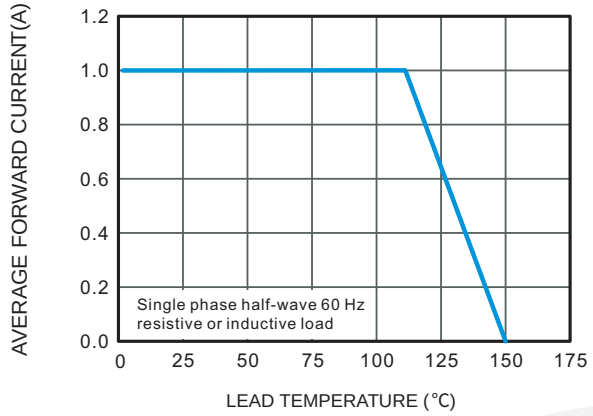


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

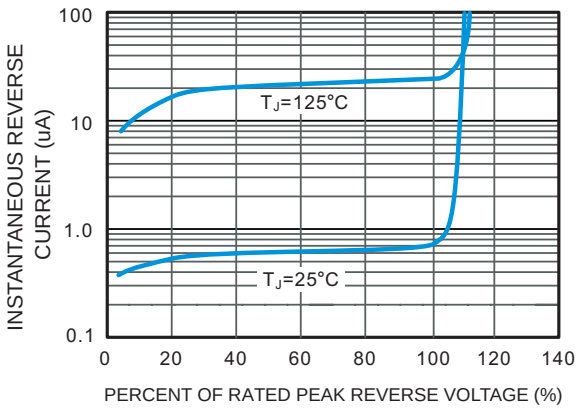


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

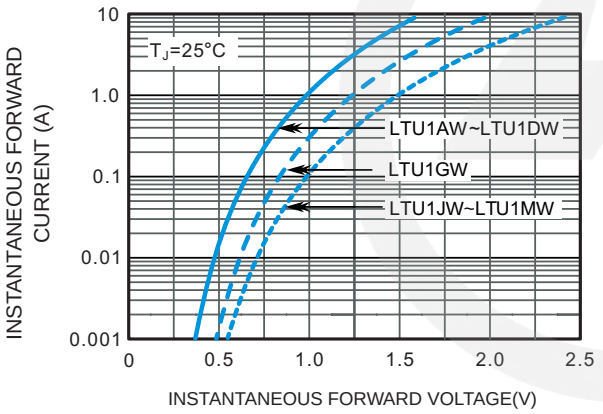


FIG. 4 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

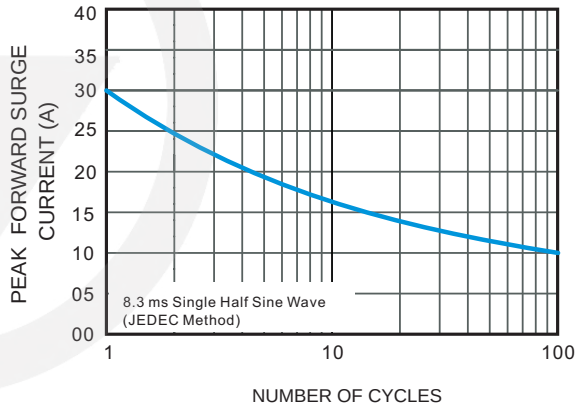


FIG. 5 TYPICAL TRANSIENT THERMAL IMPEDANCE

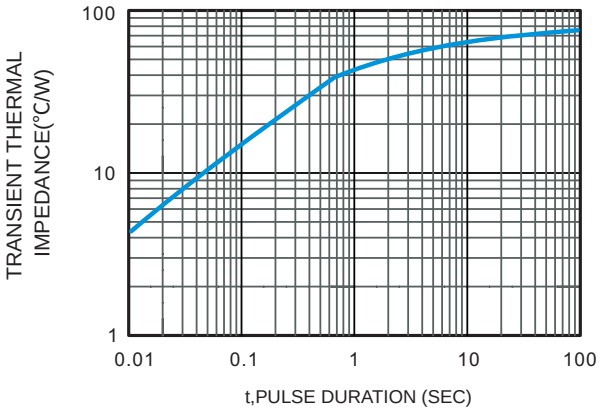
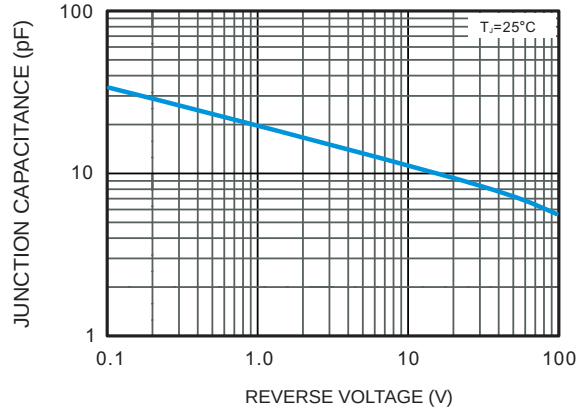


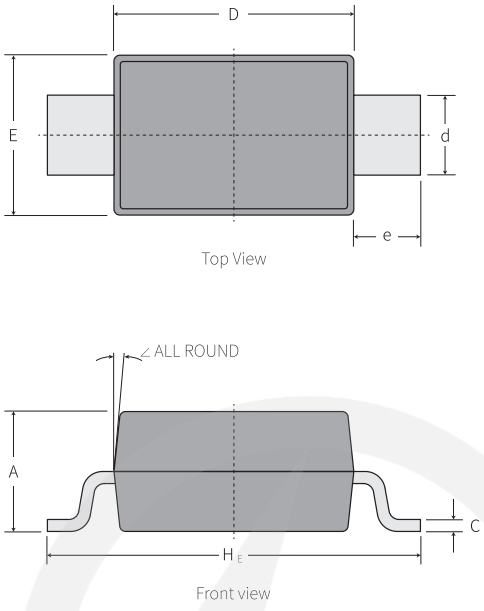
FIG. 6 TYPICAL JUNCTION CAPACITANCE



Package Outline

SMAW

Unit：mm

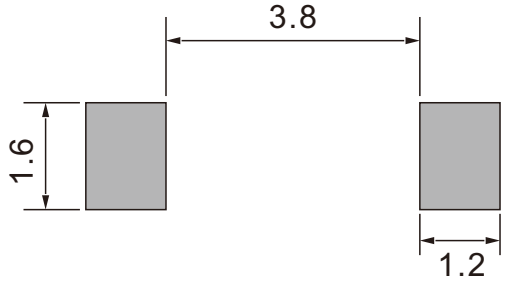


UNIT		A	C	D	E	H_E	d	e	∠
mm	max	2.00	0.28	3.80	2.60	5.80	1.40	1.20	6°
	min	1.60	0.10	3.40	2.20	5.40	1.00	0.80	

Suggested Pad Layout

SMAW

Unit：mm



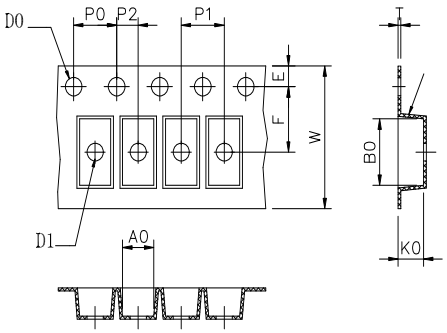
Note:

1. Controlling dimension:in millimeters.
2. General tolerance:±0.05mm
3. The pad layout is for reference purpose only.

LTU1AW THRU LTU1MW

Carrier Tape Dimensions

Unit：mm

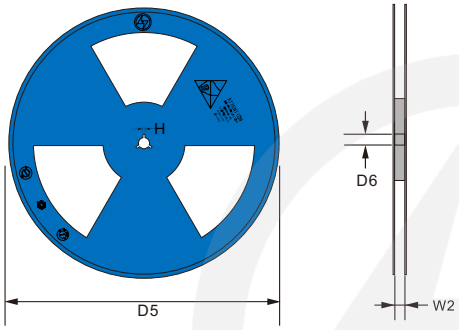


Symbol	Spec	Symbol	Spec
W	12.00±0.10	P1	4.00±0.10
E	1.75±0.10	P2	2.00±0.05
F	5.50±0.05	T	0.25±0.02
D0	1.55±0.05	A0	2.60±0.10
D1	1.50±0.10	B0	5.70±0.10
P0	4.00±0.10	K0	2.00±0.05

Reel Dimensions

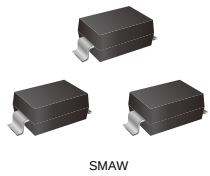
Unit：mm

13” Reel

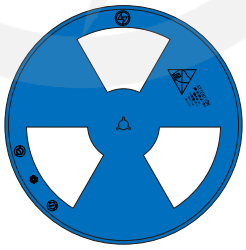


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 8000PCS	

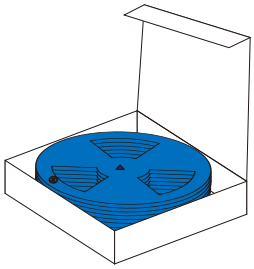
Packaging



8000PCS/Reel

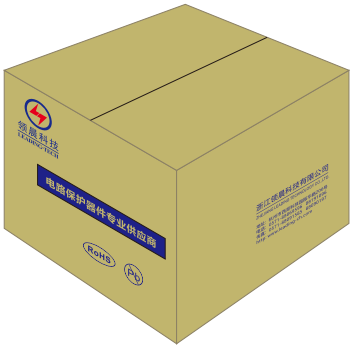


5Reel/Inner Box
40KPCS/Inner Box



Dim(Unit:mm)
340mm*340mm*85mm

4 Boxs per carton
160KPCS per carton

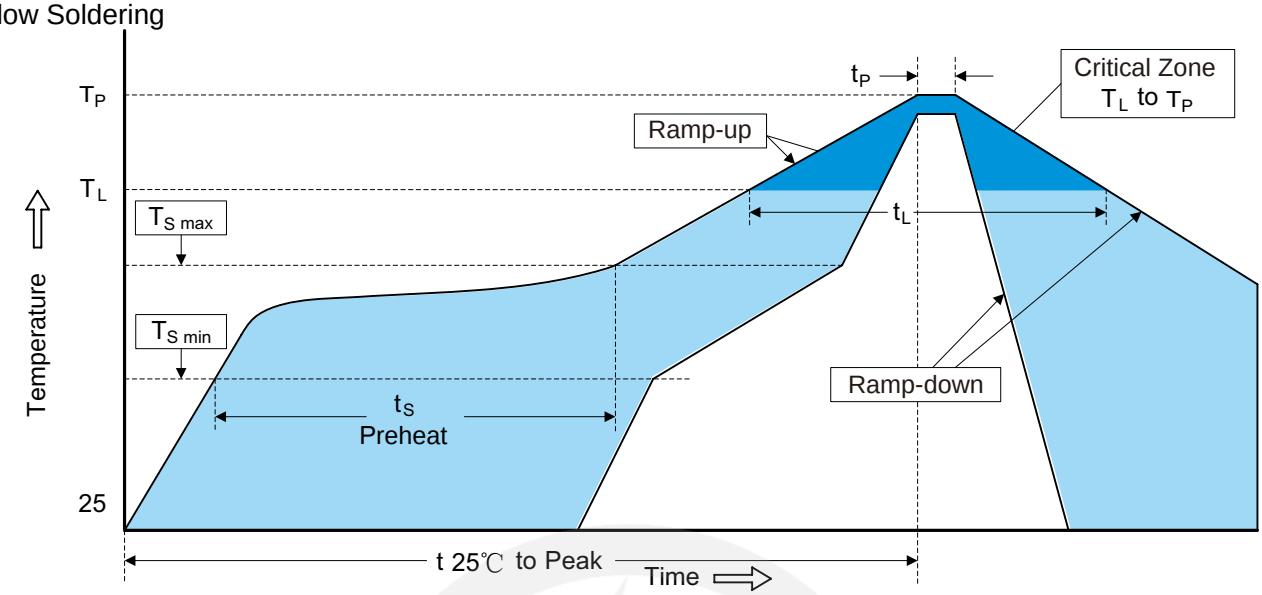


Dim(Unit:mm)
360mm*360mm*355mm

13 inchs Reel

Recommended Soldering Conditons

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2023.11.29	2023.11.29	1.0	New File	/	Ding	
02	2025.06.27	2025.06.27	1.1	Update packaging information	/	Ding	