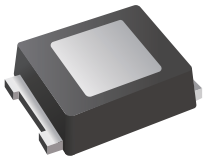
领晨科技
LEADING-TECH

LT52HL THRU LT520HL

Surface Mount Schottky Barrier Rectifier

Features







- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Meets MSL level 1, per J-STD-020
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case:SMHL
- Terminals: leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Shipping	Reel
LT52HL THRU LT520HL	6000PCS 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	LT52HL	LT54HL	LT56HL	LT510HL	LT520HL	Unit
	Marking	S52	S54	S56	S510	S520	
Maximum repetitive peak reverse voltage	V_{RRM}	20	40	60	100	200	V
Maximum RMS voltage	V_{RMS}	14	28	42	70	140	V
Maximum DC blocking voltage	V_{DC}	20	40	60	100	200	V
Maximum average forward rectified current at T_L(see fig.1)	$I_{(AV)}$	5.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	120.0					A
Maximum instantaneous forward voltage at 5.0A	V_F	0.55		0.65	0.80	0.85	V
Maximum DC reverse current at rated DC blocking voltage T_A=25℃	I_R	20			5		uA
T_A=100℃		5			3		mA
Typical junction capacitance (Note1)	C_J	500			300		pF
Typical thermal resistance (Note2)	$R_{\theta JA}$ $R_{\theta JC}$	48 4					°C/W
Operating junction temperature range	T_J	-55 to +125					°C
Storage temperature range	T_{STG}	-55 to +125					°C

Note: (1) Measured at 1MHz and applied reverse voltage of 4.0V D.C.
(2) PCB mounted with 0.2"x0.2"(5mmx5mm) copper pad areas.

Characteristics Curves

Fig.1 Forward Current Derating Curve

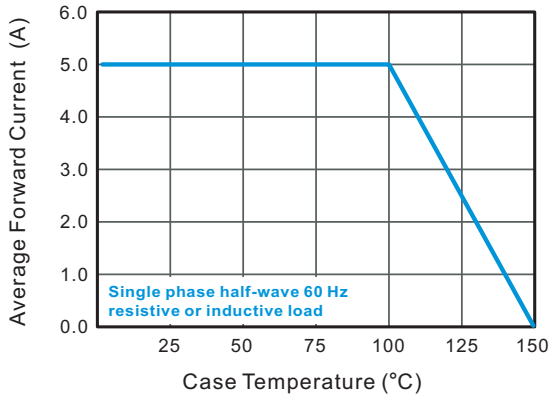


Fig.2 Typical Reverse Characteristics

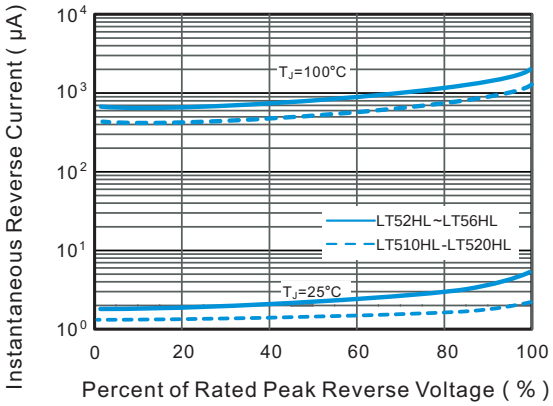


Fig.3 Typical Forward Characteristic

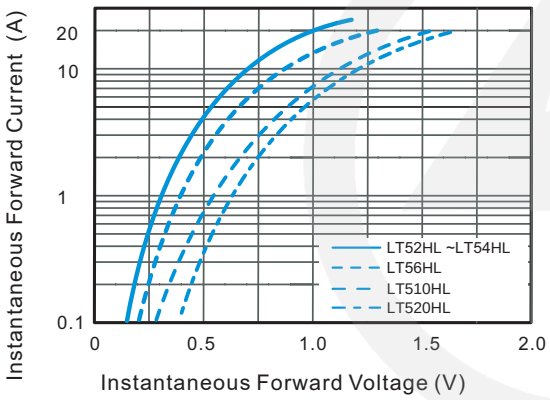


Fig.4 Typical Junction Capacitance

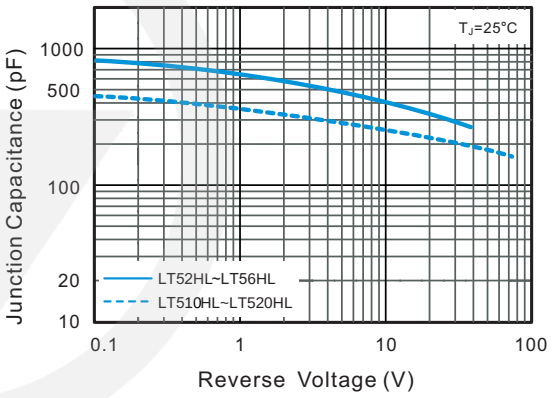
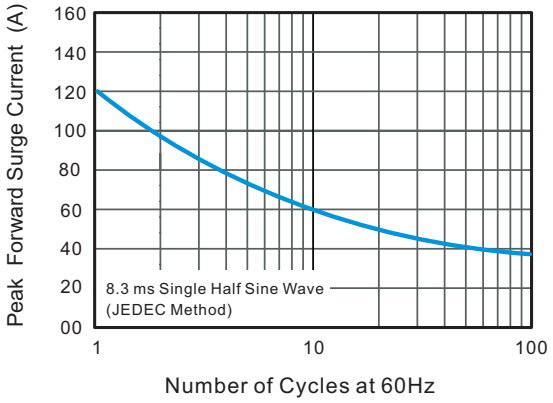


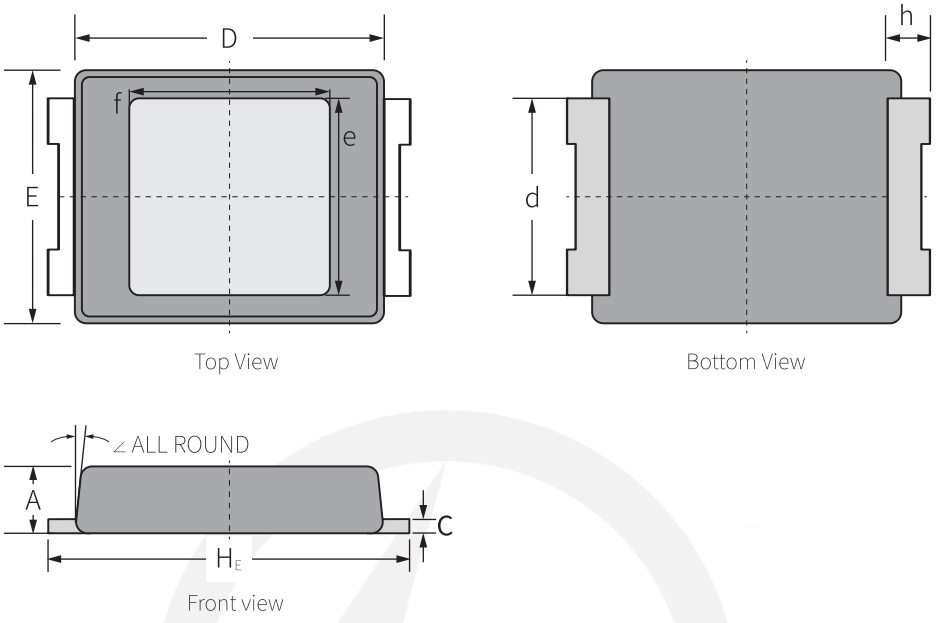
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

SMHL

Unit：mm

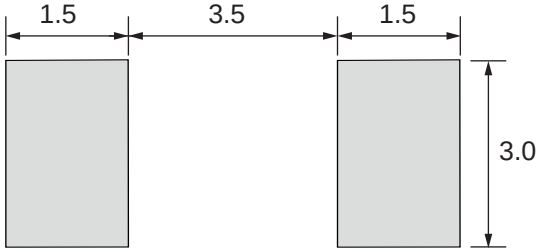


UNIT		A	C	D	E	H_E	d	e	f	h	∠
mm	max	1.00	0.25	4.60	3.80	5.30	2.90	2.90	2.95	0.60	6°
	min	0.90	0.15	4.20	3.40	4.70	2.70	2.70	2.75	0.40	

Suggested Pad Layout

SMHL

Unit：mm



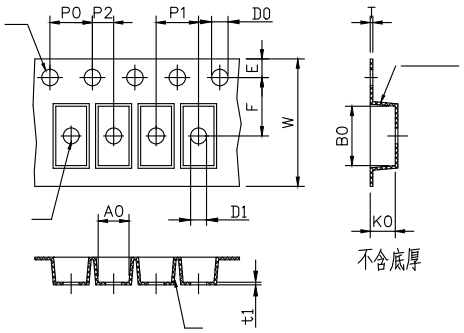
Note:

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

LT52HL THRU LT520HL

Carrier Tape Dimensions

Unit：mm

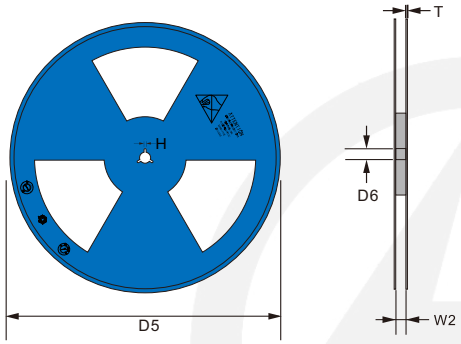


Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.85±0.10
D1	1.50±0.10	B0	5.35±0.10
P0	4.00±0.10	K0	1.20±0.10
P1	8.00±0.10		

Reel Dimensions

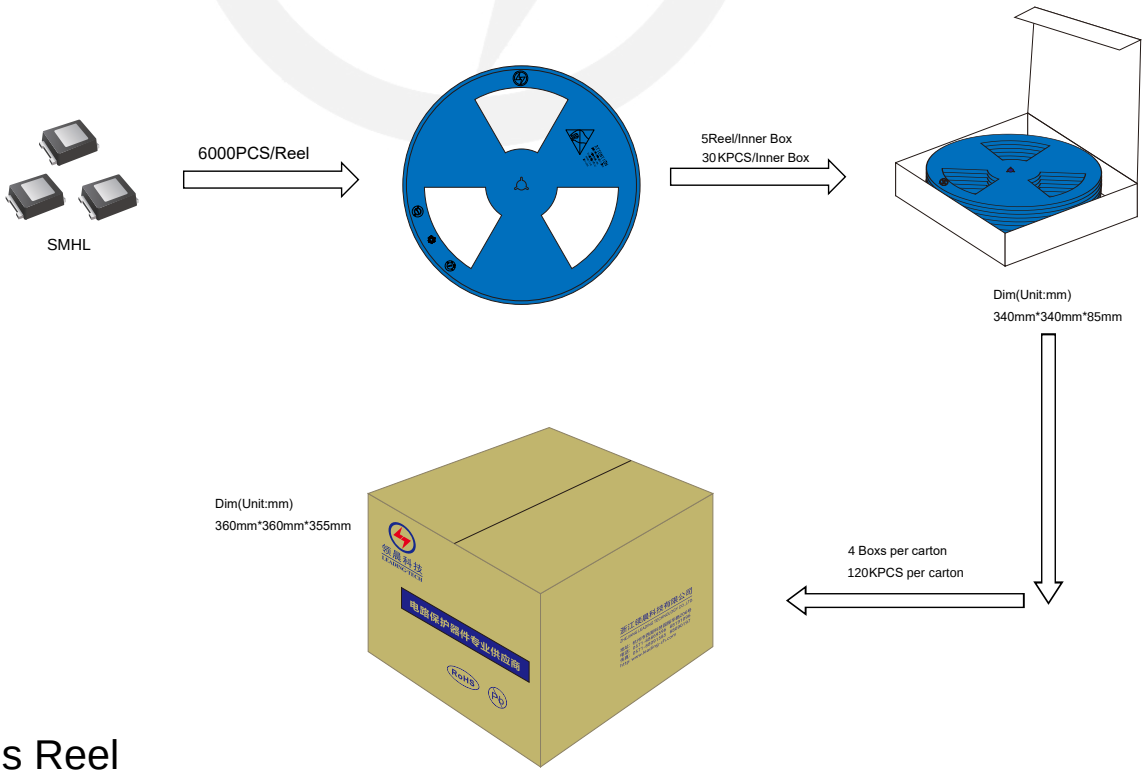
Unit：mm

13” Reel



D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.3±0.2
T	1.95±0.5
W2	12±2.0
Quantity: 6000PCS	

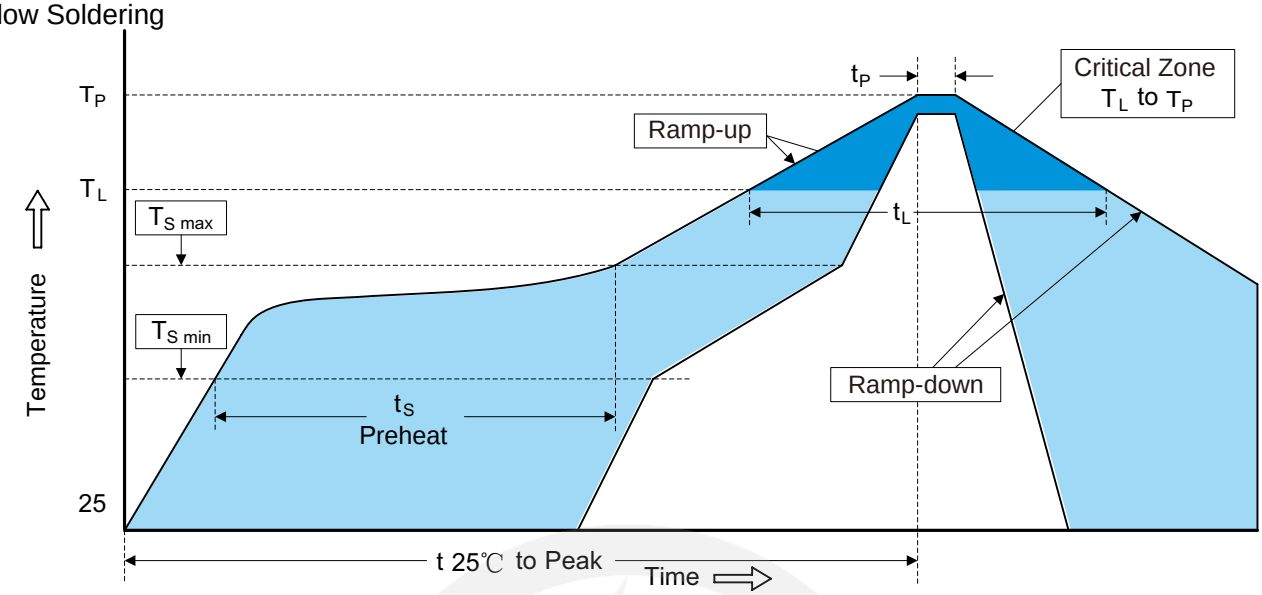
Packaging



13 inchs Reel

Recommended Soldering Conditions

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	2025.09.27	2025.09.27	1.0	New file	/	Ding	