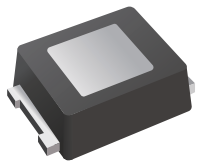
领晨科技
LEADING-TECH

LT12HS THRU LT120HS

Surface Mount Schottky Barrier Rectifier

Features



- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- High forward surge current capability
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SMHS
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Ordering Information

Part Number	Shipping	Reel
LT12HS THRU LT120HS	15000PCS 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	LT12HS	LT14HS	LT16HS	LT110HS	LT120HS	Unit
	Marking	S12	S14	S16	S110	S120	
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)	$I_{(AV)}$	1.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0					A
Maximum instantaneous forward voltage at 1.0A	V_F	0.55		0.65	0.80	0.85	V
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=100℃	I_R	20		5	2		uA
		5			3		mA
Typical junction capacitance (Note1)	C_J	140					pF
Typical thermal resistance (Note2)	$R_{\theta JA}$ $R_{\theta JC}$	65 7					°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) P.C.B. mounted with 0.08" × 0.08"(2mmx2mm) copper pad areas.

Characteristics Curves

Fig.1 Forward Current Derating Curve

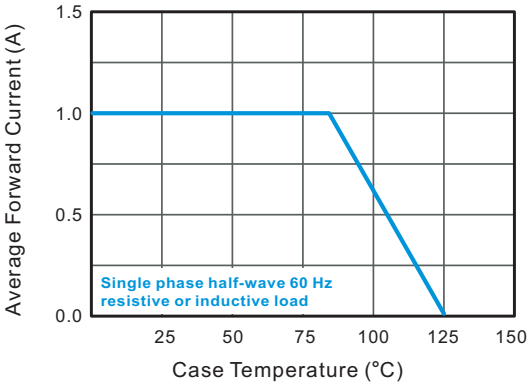


Fig.2 Typical Reverse Characteristics

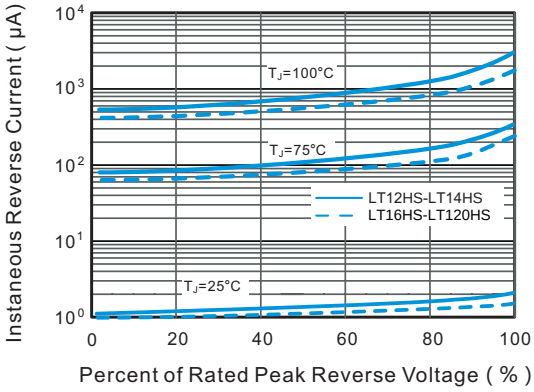


Fig.3 Typical Forward Characteristic

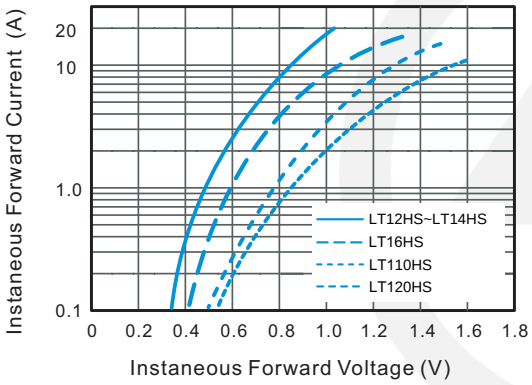


Fig.4 Typical Junction Capacitance

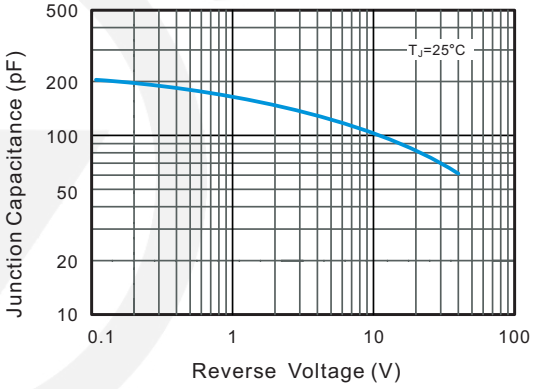
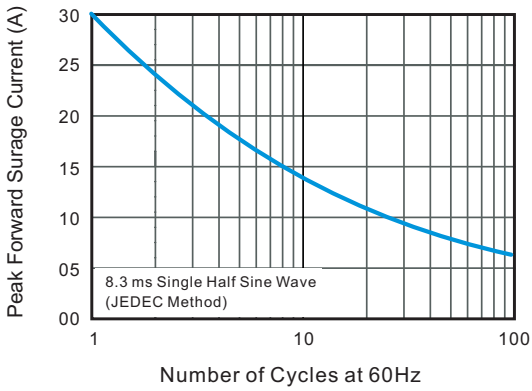


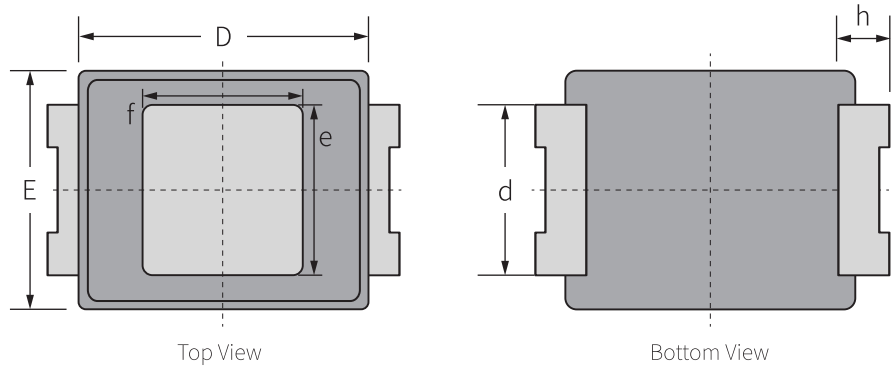
Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

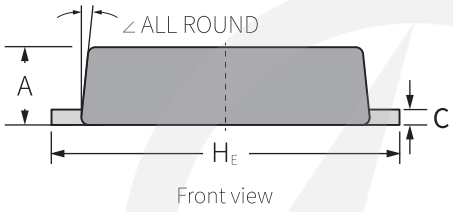


Package Outline

SMHS

Unit：mm



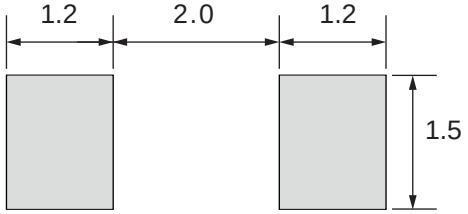


UNIT		A	C	D	E	H_E	d	e	f	h	∠
mm	max	0.99	0.25	2.90	2.10	3.50	1.30	1.30	1.25	0.70	6°
	min	0.83	0.15	2.50	1.70	2.90	1.10	1.10	1.05	0.50	

Suggested Pad Layout

SMHS

Unit：mm



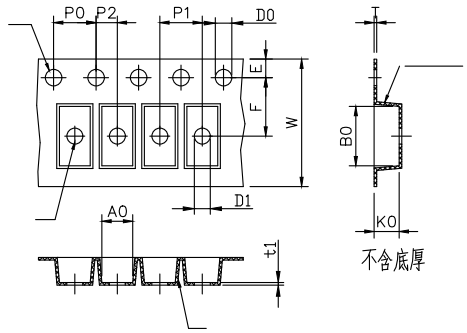
Note:

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

LT12HS THRU LT120HS

Carrier Tape Dimensions

Unit：mm

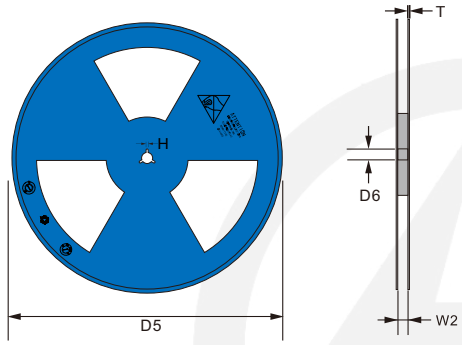


Symbol	Spec	Symbol	Spec
W	8.00±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.22±0.02
F	3.50±0.10	t1	Min. 0.05
D0	1.55±0.10	A0	2.15±0.10
D1	1.10±0.10	B0	3.40±0.10
P0	4.00±0.10	K0	1.15±0.10
P1	4.00±0.10		

Reel Dimensions

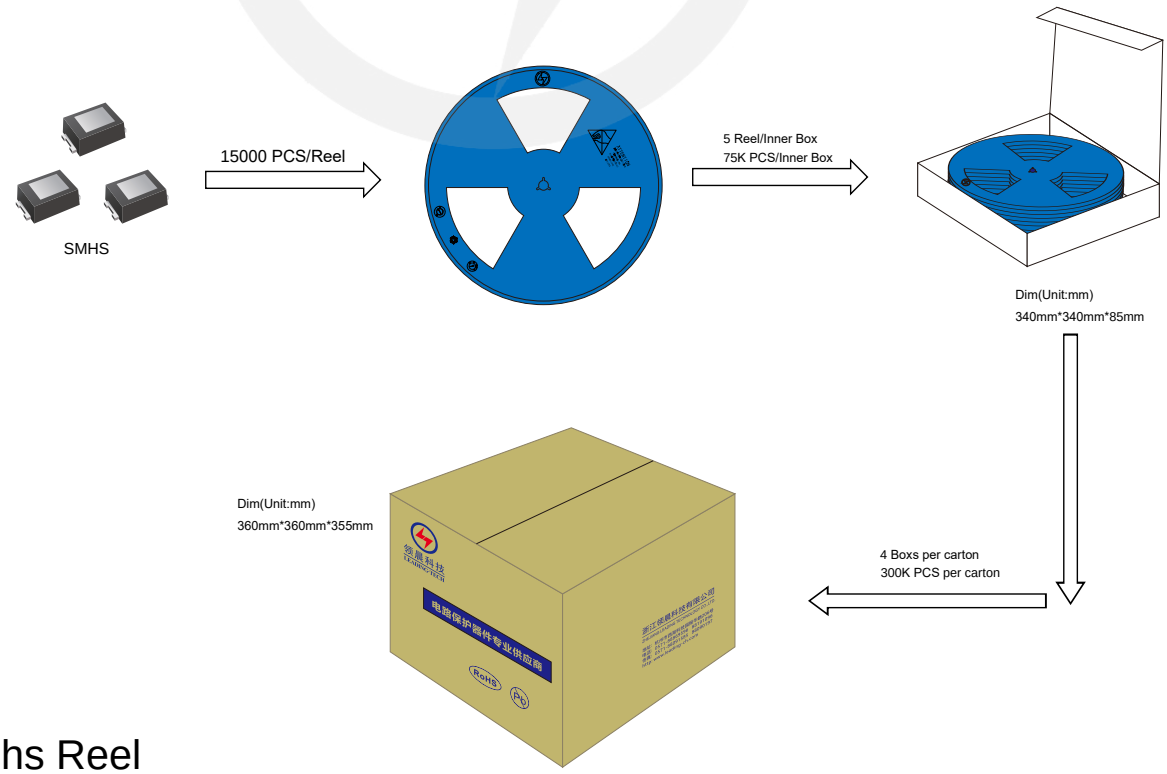
Unit：mm

13” Reel



D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.3±0.2
T	1.95±0.5
W2	8.0±2.0
Quantity: 15000PCS	

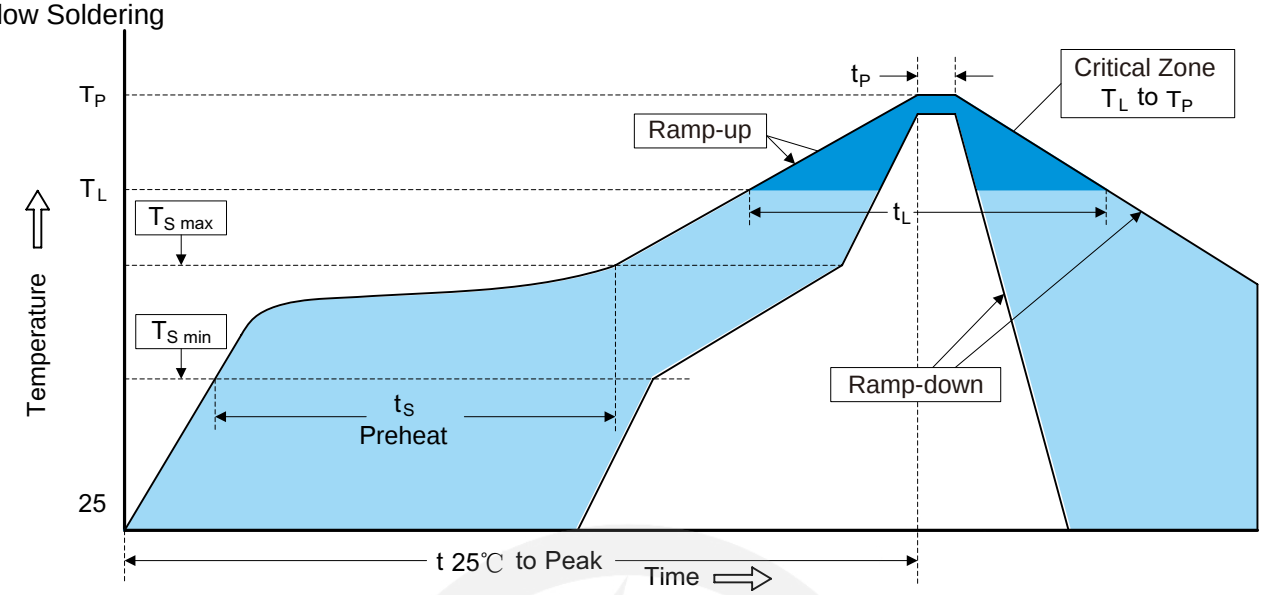
Packaging



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 Iformation

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision Content	Revision Reason	Revision Person	Note
01	2025.09.08	2025.09.08	1.0	New file	/	Ding	
02	2025.10.25	2025.10.25	1.1	1.Revise marking 2.Modify packaging 3.Modify the pad	/	Ding	
03	2025.12.31	2025.12.31	1.2	Modify pad parameters	/	Ding	