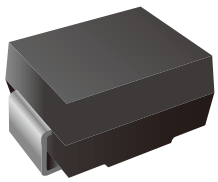
LTPB1601C

Thyristor Surge Suppresser

Features

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (nS Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: Level 1
- Non degenerative
- Lead free in comply with EU RoHS 2011/65/EU directives



Application

- Ethernet

Part Number and Electrical Parameter

Absolute maximum ratings measured at TA= 25ºC RH = 45%-75% (unless otherwise noted).

Part Number	I_{DRM}@ V_{DRM}①		V_S②@ I_S		V_T@ I_T		I_H	C_O③
	μA	V	V	mA	V	A	mA	pF
	MAX		MAX		MAX		MIN	MAX
LTPB1601C	5	1500	2000	800	8	2.2	50	50

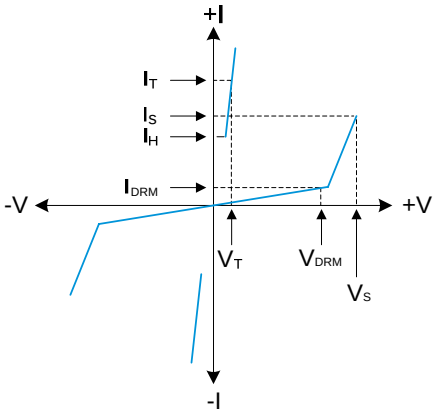
① Hi-pot:AC500V

② Vs is measured at 100KV/S.

③ Off-state Capacitance is measured at V_{DC}=2V, V_{RMS}=1V, f=1MHz.

V-I Curve

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_S	Switching voltage
I_S	Switching current
V_T	On-state voltage
I_T	On-state current
I_H	Holding current
C_O	Off-state capacitance



Surge Ratings

Current Waveform	Voltage Waveform	Ipp
5/320μs	10/700μs	150

Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product

Thermal Considerations

Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-40 to +150	℃
T_S	Storage Temperature Range	-40 to +150	℃

Product Characteristics

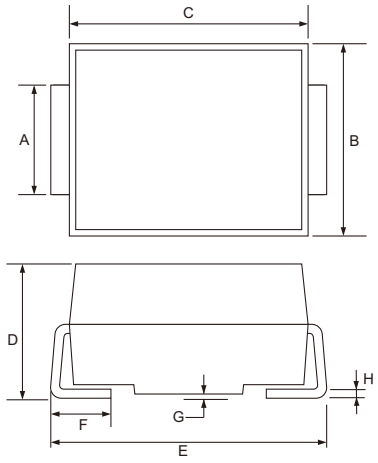
Lead Material	Body Material	Terminal Finish
Copper Alloy	UL recognized epoxy meeting flammability classifi cation 94V-0	100% Matte -Tin Plated

Characteristics

Testing items	Technical standards
High temperature Reverse Bias Test	Temperature: 150±3℃, Bias=80%V_{DRM} Time: 168H
High Temperature Life Test	Temperature: 150℃ Time: 168H
High-low Temperature Cycle test	Temperature: From -40℃ to125℃ Dwell time: 30min, 10cycles
High Temperature &High Humidity Test	Temperature: 85℃, Humidity: 85% Test time: 168H
Pressure cooker Test	Temperature: 121℃, 2atm, Humidity: 100% Test time: 24H
Resistance of soldering heat	Temperature: 260±5℃ Time of dip soldering: 10s, 3times

Note: The above testing items can be specified by customer's special request

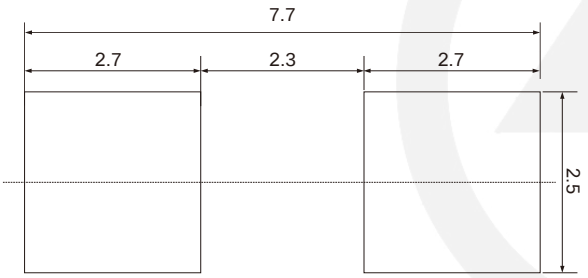
SMB Package Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.90	2.20
B	3.30	3.94
C	4.05	4.75
D	2.13	2.65
E	5.08	5.59
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

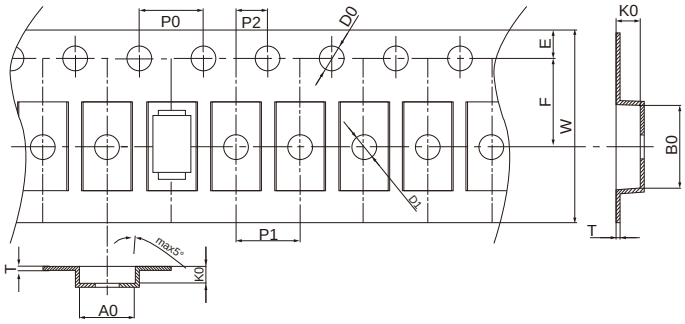
SMB Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

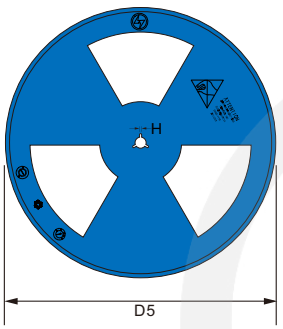


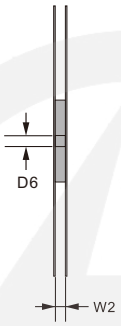
Symbol	Spec	Symbol	Spec
A0	3.80±0.10	D0	1.55±0.05
B0	5.45±0.10	D1	1.55±0.05
K0	2.50±0.10	T	0.25±0.05
P0	4.00±0.10	E	1.75±0.05
P1	8.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0 $^{+0.3}_{-0.1}$

Reel Dimensions

Unit：mm

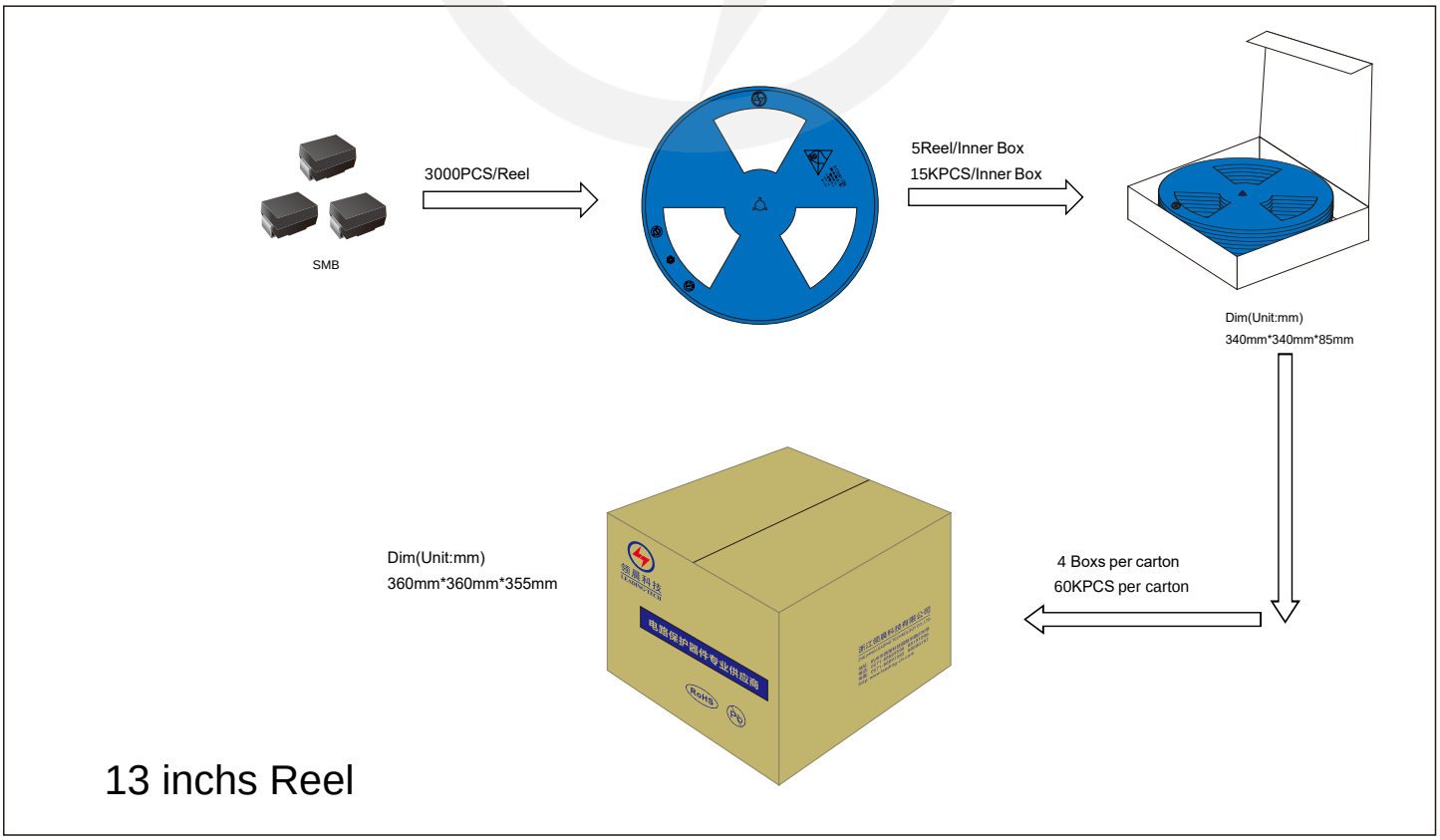
13” Reel





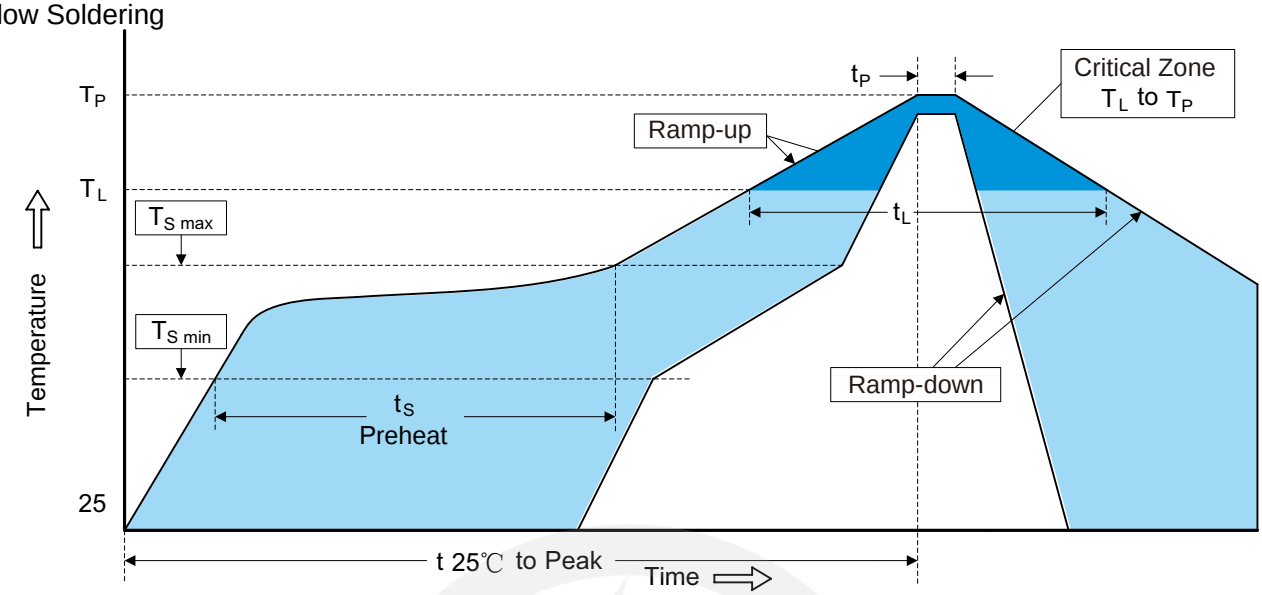
D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

Packaging



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	2024.12.30	2024.12.30	3.0	New File	/	Ding	