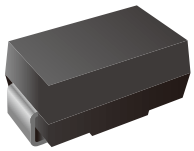
LTPA08AL

Thyristor Surge Suppressors (TSS) Data Sheet

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

Applications

- Video

Ordering Information

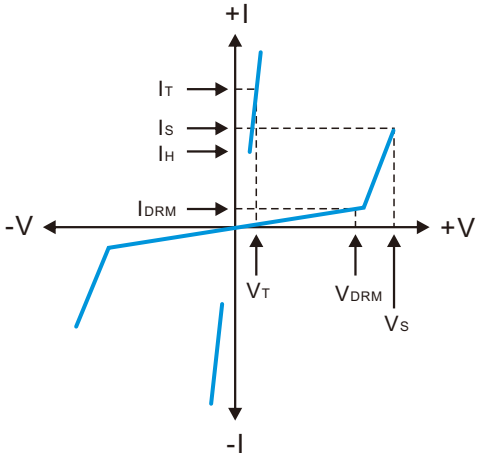
Part Number	Marking	Shipping	Reel
LTPA08AL-TR5	P08A xxxx	5000PCS Tape&Reel	13 inchs
LTPA08AL-TR7K5	P08A xxxx	7500PCS Tape&Reel	13 inchs

Thermal Considerations

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-40 to +150	℃
Storage Temperature Range	T_S	-40 to +150	℃
Junction to Ambient on printed circuit	$R_{\theta JA}$	90	℃/W

Electrical Parameters

Parameter	Definition
V_{DRM}	**Peak Off-state Voltage –** maximum voltage that can be applied while maintaining off state
V_S	**Switching Voltage –** maximum voltage prior to switching to on state
V_T	**On-state Voltage –** maximum voltage measured at rated on-state current
I_{DRM}	**Leakage Current –** maximum peak off-state current measured at V_{DRM}
I_S	**Switching Current –** maximum current required to switch to on state
I_T	**On-state Current –** maximum rated continuous on-state current
I_H	**Holding Current –** typical current required to maintain on state
C_O	**Off-state Capacitance –** typical capacitance measured in off state
I_{PP}	**Peak Pulse Current –** maximum rated peak impulse current
I_{TSM}	**Peak One-cycle Surge Current –** maximum rated one-cycle AC current
di/dt	**Rate of Rise of Current –** maximum rated value of the acceptable rate of rise in current over time



Electrical Characteristics

Part Number	V_{DRM} (V)	V_S (V)	V_T (V)	I_{DRM} (μA)	I_S (mA)	I_T (A)	I_H (mA)	C_O(pF) Max	Marking
LTPA08AL	6	13	4	5	800	2.2	10	20	P08A XXXX

Notes:

- All measurements are made at an ambient temperature of 25℃. I_{PP} applies to -40℃ through +85℃ temperature range.
- Off-state capacitance(C_O) is measured at 1 MHz with a 2V bias and is typical value.
- Rating Surge Voltage: 4KV, ±5 times (10/700μs)

Surge Ratings

I_{PP} 2×10μs (A)	I_{PP} 8×20μs (A)	I_{PP} 10×160μs (A)	I_{PP} 10×560μs (A)	I_{PP} 10×1000μs (A)	I_{TSM} 60Hz (A)	di/dt (A/μs)
150	150	90	50	45	20	500

Characteristics Curves

Fig.1 tr × td Pulse Wave-form

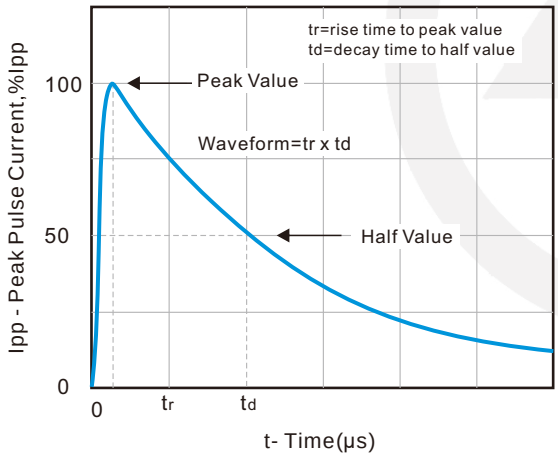


Fig.2 Normalized Vs Change versus Junction Temperature

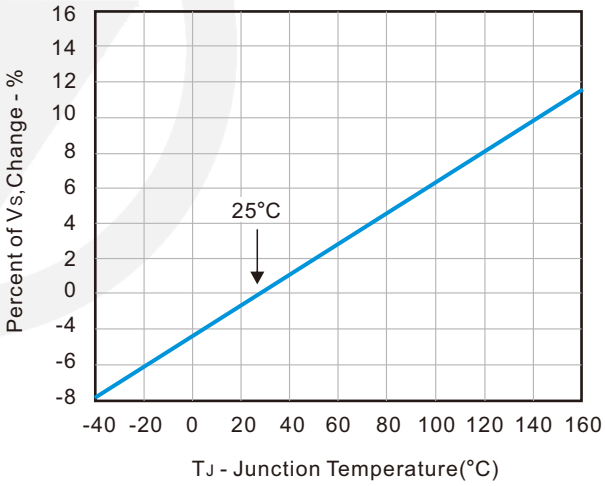
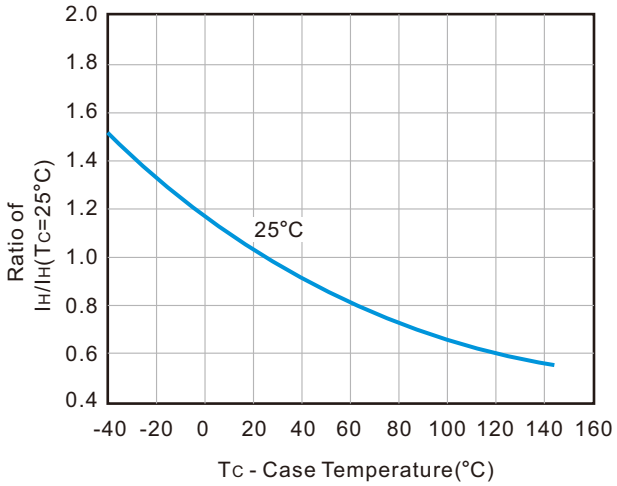
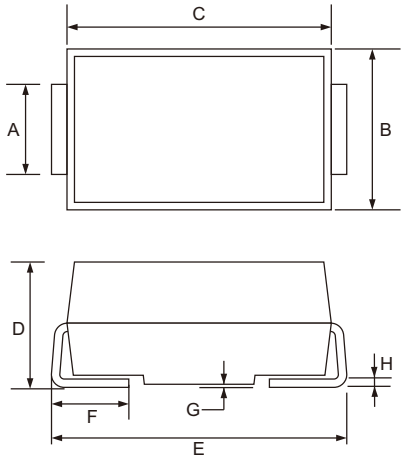


Fig.3 Normalized DC Holding Current versus Case Temperature



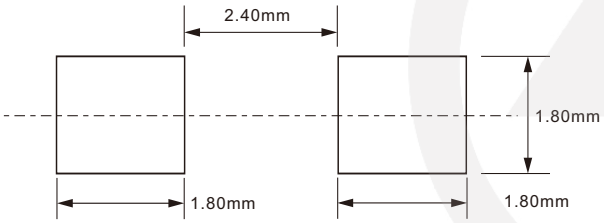
SMA Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.25	1.65
B	2.30	2.79
C	4.00	4.75
D	1.90	2.50
E	4.70	5.28
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

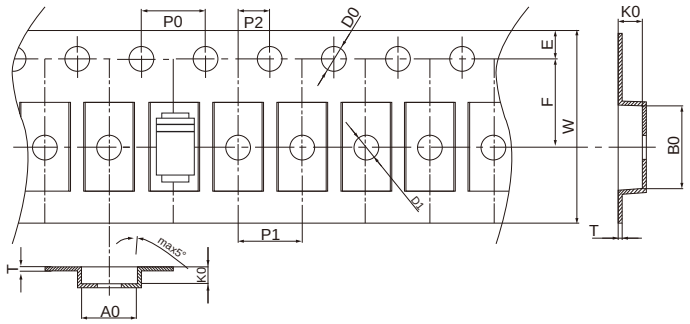
SMA Suggested Pad Layout



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

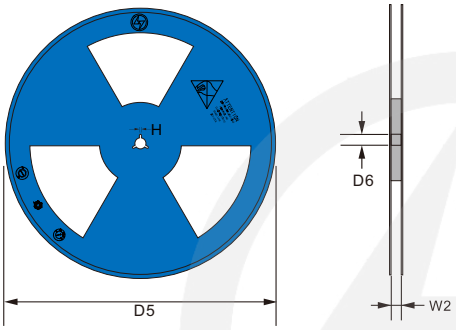


Symbol	Spec	Symbol	Spec
A0	2.70±0.10	D0	1.55±0.05
B0	5.33±0.10	D1	1.55±0.05
K0	2.35±0.10	T	0.20±0.03
P0	4.00±0.10	E	1.75±0.10
P1	4.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0±0.30

Reel Dimensions

Unit：mm

13” Reel

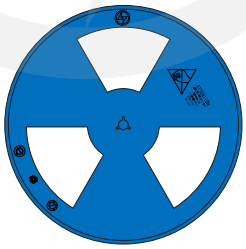


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 5000/7500PCS	

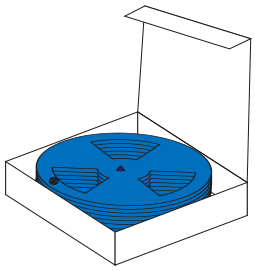
Packaging

SMA

5000PCS/Reel
7500PCS/Reel



5Reel/Inner Box
25KPCS/Inner Box
37.5KPCS/Inner Box



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

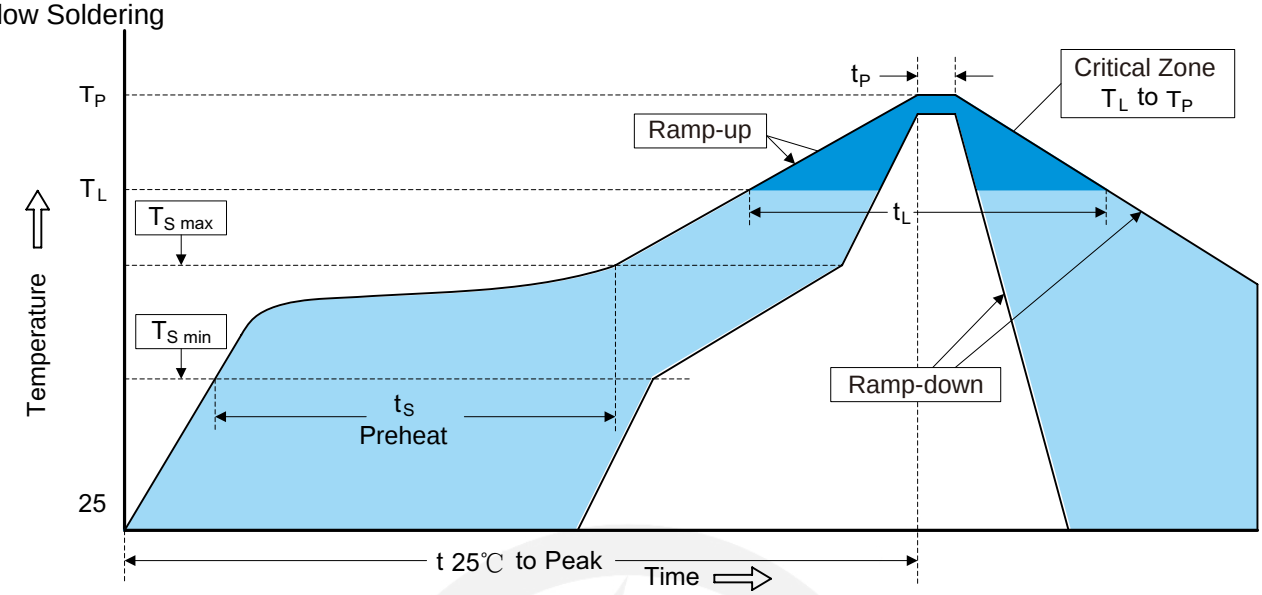
4 Boxs per carton
100KPCS per carton
150KPCS per carton

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

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	2025.01.21	2025.01.21	3.0	New File	/	Ding	