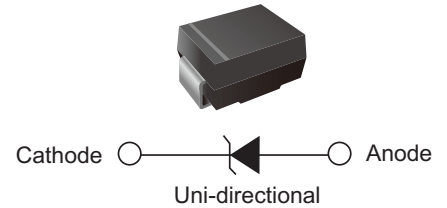


## Transient Voltage Suppressors (TVS) Data Sheet

### Features

- For surface mounted applications in order to optimize board space
- 600W peak pulse power capability at 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.01%
- Typical  $I_R$  less than 1 $\mu$ A above 10V
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Fast response time
- Plastic package has underwriters laboratory flammability 94V-0
- Meets MSL level 1, per J-STD-020
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.1g

### Applications

- I/O interface
- Vcc bus
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

### Ordering Information

Part Number	Shipping	Reel
LTVB200AJ-TR3	3000PCS Tape&Reel	13 inches

### Maximum Ratings and Characteristics

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

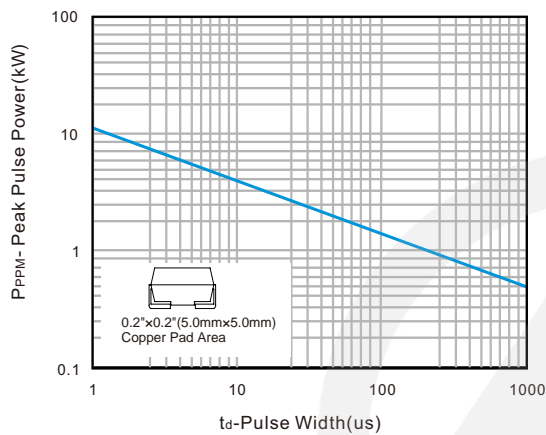
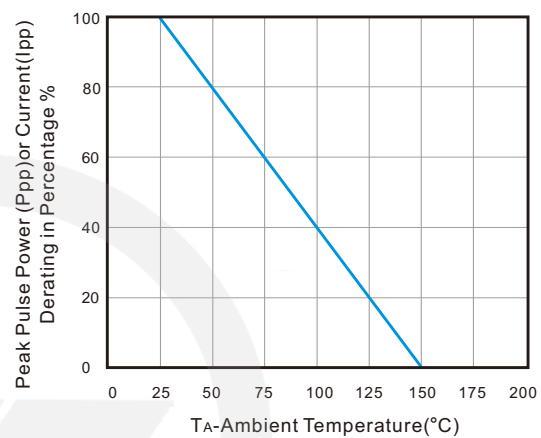
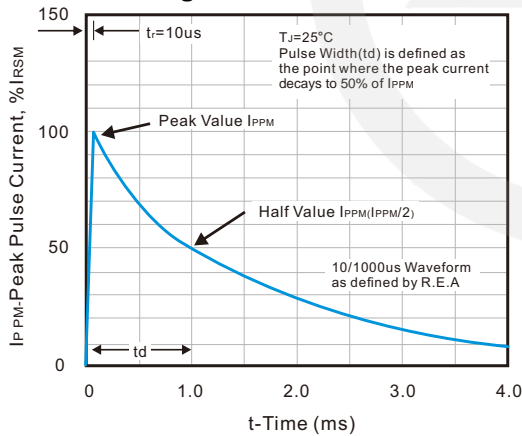
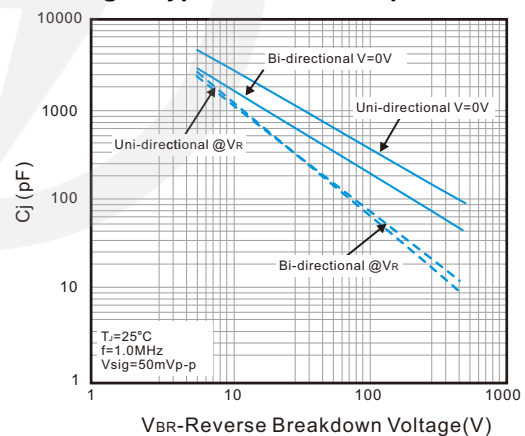
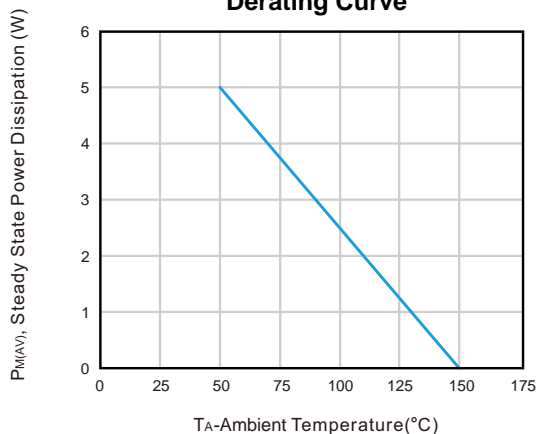
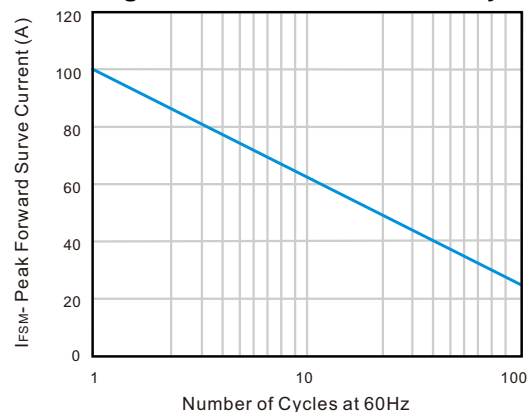
Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 $\mu$ s waveform (Note1, Note2, Fig.1)	$P_{PPM}$	Minimum 600	W
Peak pulse current of at 10/1000 $\mu$ s waveform (Note 1, Fig.3)	$I_{PPM}$	See Table	A
Steady state power dissipation at $T_A=50^{\circ}$ C (Fig.5)	$P_{M(AV)}$	5.0	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	$I_{FSM}$	100	A
Operating junction and Storage Temperature Range.	$T_J, T_{STG}$	-55 to +150	$^{\circ}$ C
Typical thermal resistance junction to lead	$R_{\theta JL}$	20	$^{\circ}$ C/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	100	$^{\circ}$ C/W

- Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^{\circ}$ C per Fig.2.  
 2. Mounted on 5.0mm $\times$ 5.0mm (0.03mm thick) copper pads to each terminal.  
 3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

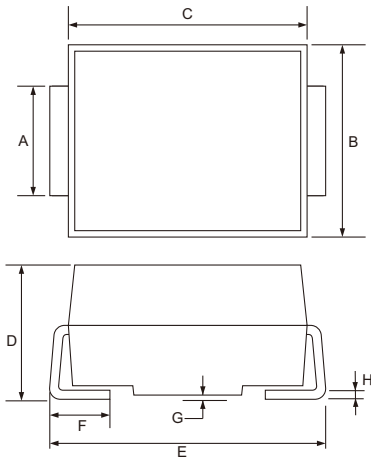
**Electrical Characteristics ( $T_A=25^\circ\text{C}$ )**

Part Number (Bi)	Marking	Reverse Stand off Voltage $V_R$ (Volts)	Breakdown Voltage $V_{BR}$ (Volts)@ $I_T$		Test Current $I_T$ (mA)	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)	Maximum Peak Pulse Current $I_{PP}$ (A)	Maximum Reverse Leakage $I_R$ @ $V_R$ ( $\mu\text{A}$ )
			Min	Max				
LTVB200AJ	SMBJ 200A	200	224	247	1	324	1.9	1

Notes: For bidirectional type having  $V_R$  of 10V and less, the  $I_R$  limit is double.

**Characteristics Curves ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**
**Fig.1 Peak Pulse Power Rating Curve**

**Fig.2 Pulse Derating Curve**

**Fig.3 Pulse Waveform**

**Fig.4 Typical Junction Capacitance**

**Fig.5 Steady State Power Dissipation Derating Curve**

**Fig.6 Maximum Non-Repetitive Forward Surge Current Uni-Directional Only**


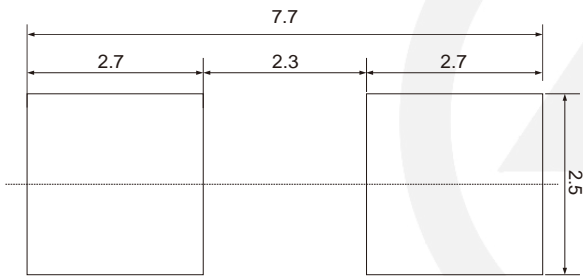
**SMB Package Outline**



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**

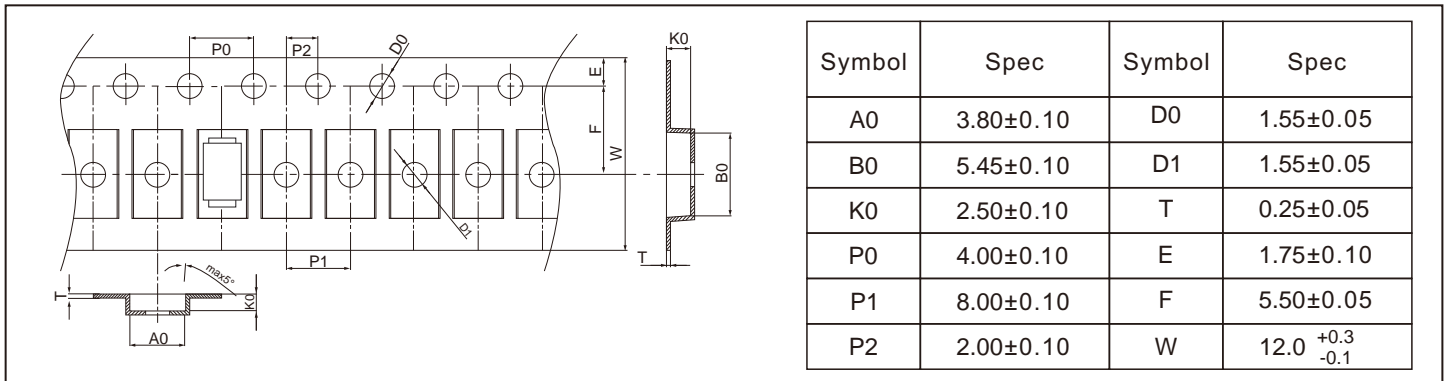


**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

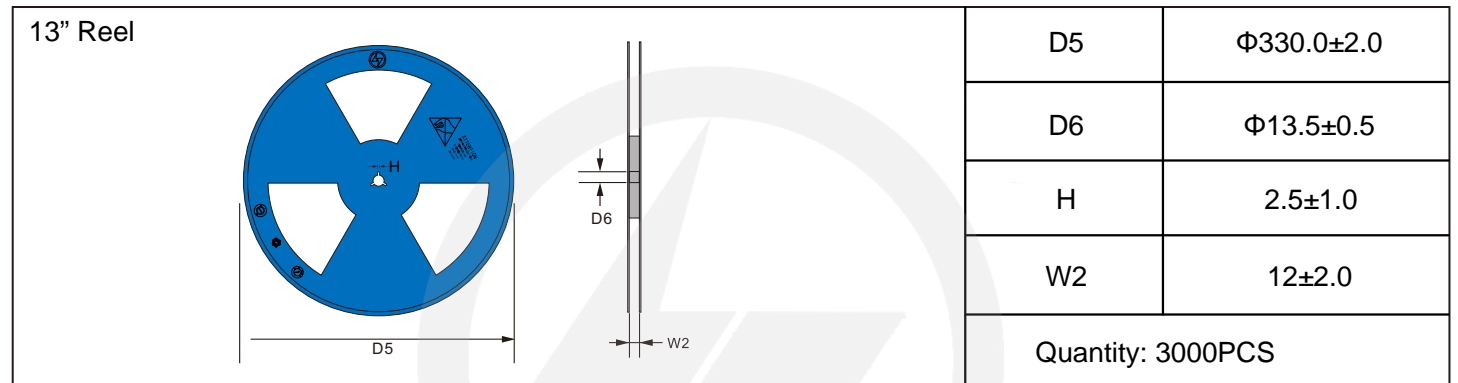
**Carrier Tape Dimensions**

Unit : mm

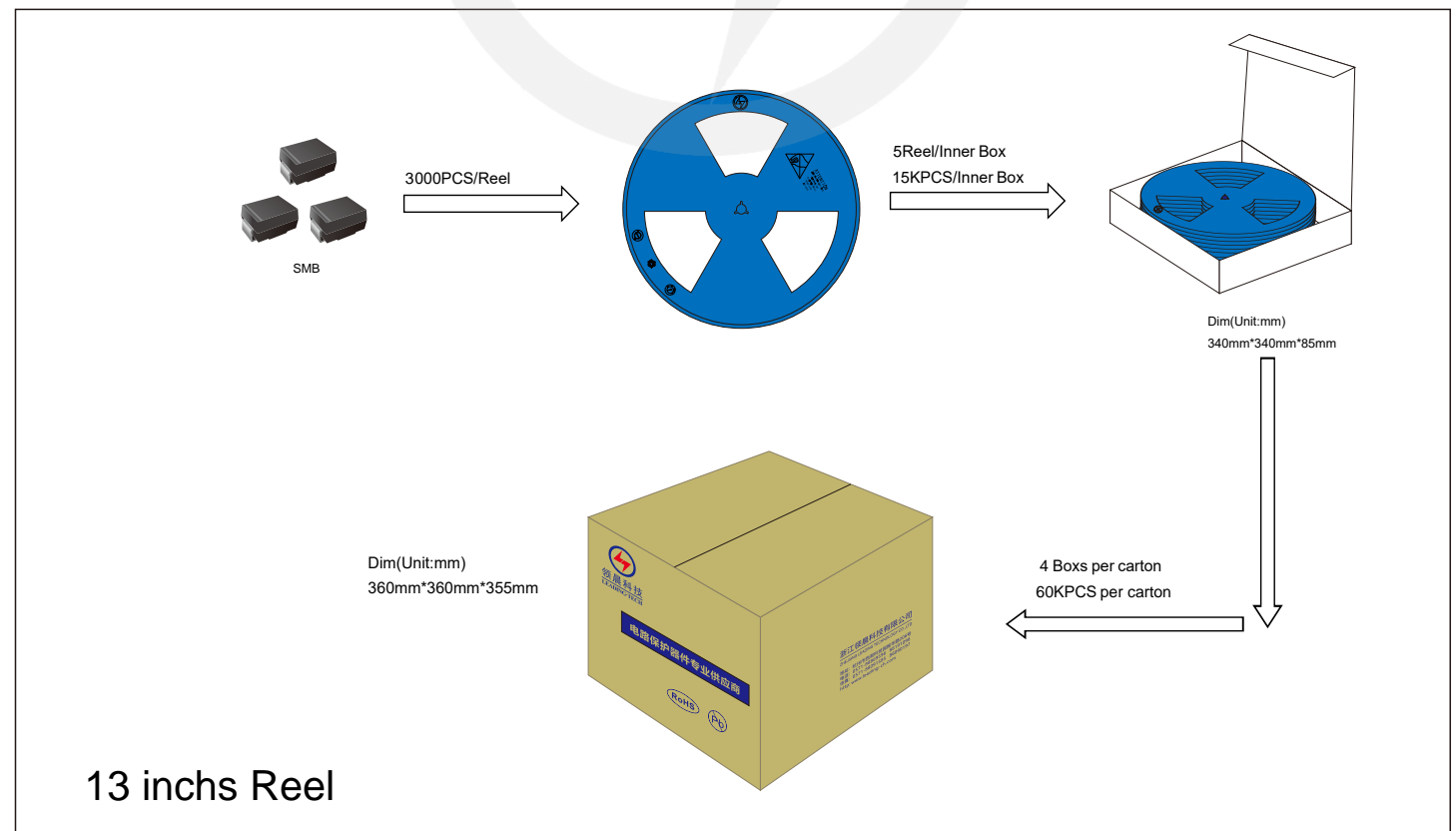


**Reel Dimensions**

Unit : mm

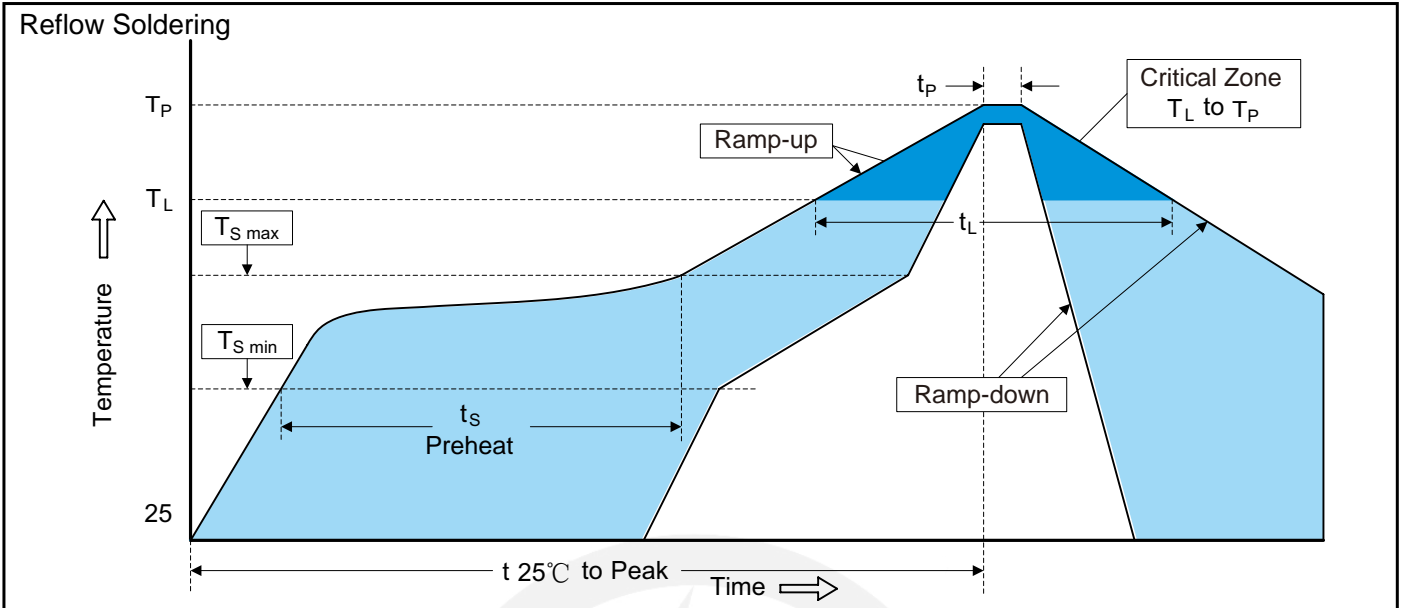


**Packaging**





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C 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	2024.10.17	2024.10.17	3.0	New File	/	Ding	
02	2025.04.18	2025.04.18	3.1	Increase capacitance value	/	Ding	
03	2025.10.29	2025.10.29	3.2	Modify Marking	/	Ding	