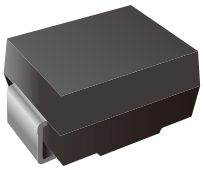
LTM520B3

Surface Mount Rectifiers

Features



- For surface mounted application
- Glass passivated junction chip.
- Low forward voltage drop
- High current capability
- Easy pick and place
- High surge current capability
- Plastic material used carries Underwriters Laboratory Classification 94V-0
- 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

Ordering Information

Part Number	Shipping	Reel
LTM520B3-TR3	3000PCS Tape&Reel	13 inchs

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbol	LTM520B3	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	2000	V
Maximum RMS Voltage	V_{RMS}	940	V
Maximum DC Blocking Voltage	V_{DC}	2000	V
Maximum Average Forward Rectified Current @T_L =75 °C	$I_{(AV)}$	3.0	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	80	A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.15	V
Maximum DC Reverse Current @ T_A =25 °C at Rated DC Blocking Voltage @ T_A=125 °C	I_R	10 250	μA
Typical Reverse Recovery Time (Note 1)	Trr	1.5	μS
Typical Junction Capacitance (Note 2)	C_j	40	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	10	°C/W
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Measured on P.C. Board with 0.4” x 0.4” (10mm x 10mm) Copper Pad Areas.

Characteristic Curves

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

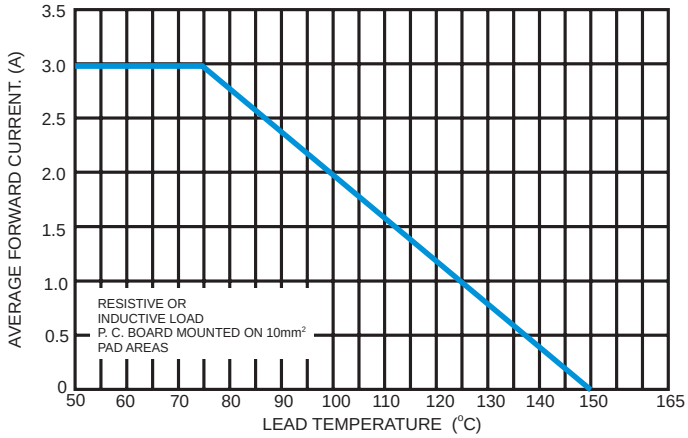


FIG.2 TYPICAL REVERSE CHARACTERISTICS

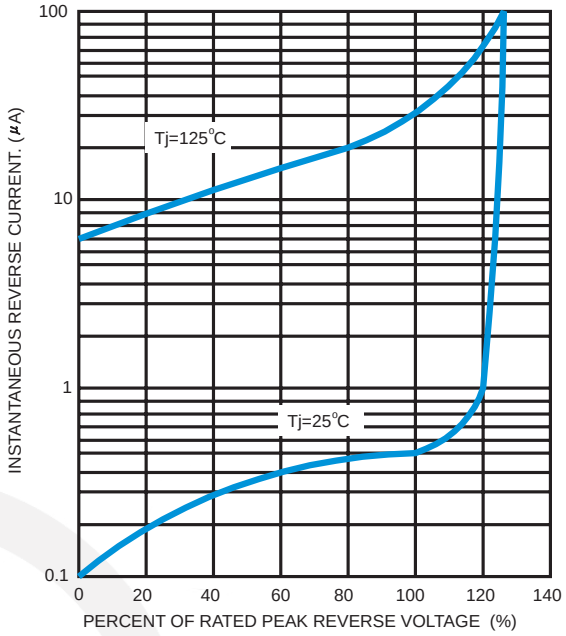


FIG.3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

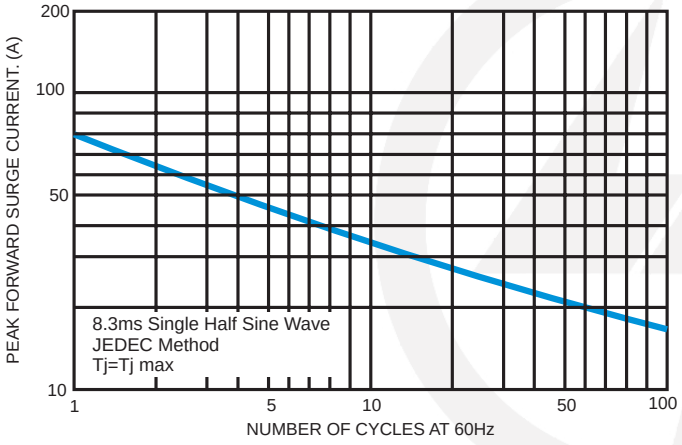


FIG.4 TYPICAL JUNCTION CAPACITANCE

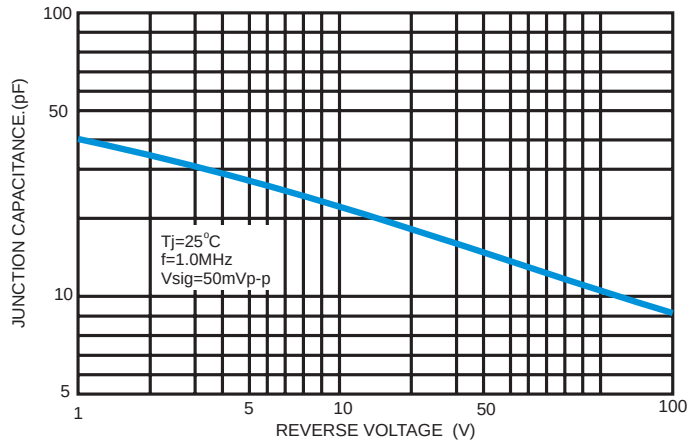
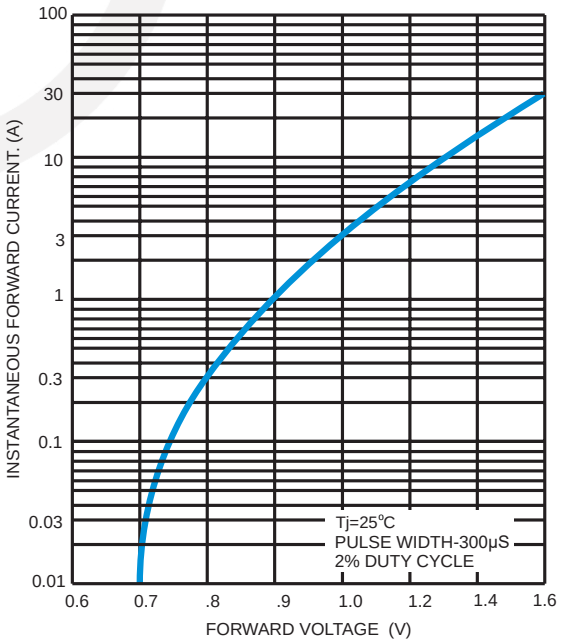
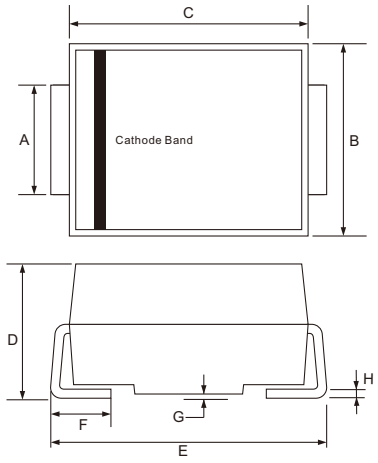


FIG.5 TYPICAL FORWARD CHARACTERISTICS



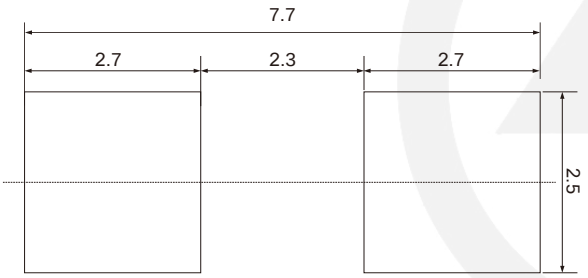
SMB Package Outline



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

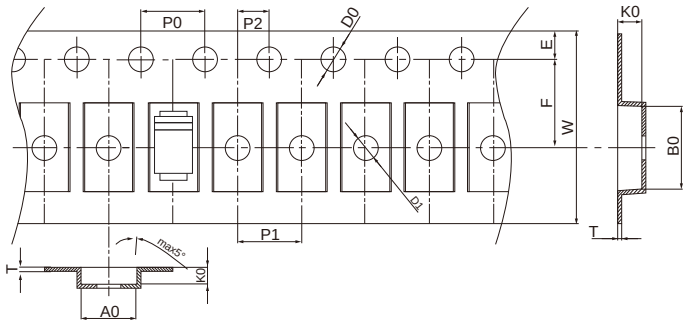
SMB Suggested Pad Layout



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

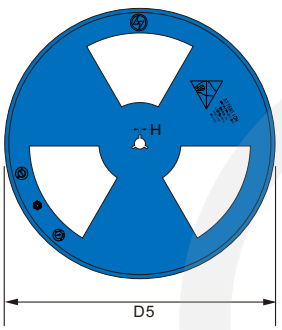


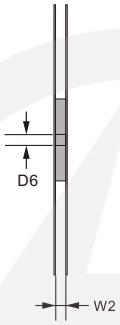
Symbol	Spec	Symbol	Spec
A0	3.80±0.10	D0	1.55±0.05
B0	5.45±0.10	D1	1.55±0.05
K0	2.50±0.10	T	0.25±0.05
P0	4.00±0.10	E	1.75±0.10
P1	8.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0 $^{+0.3}_{-0.1}$

Reel Diemensions

Unit：mm

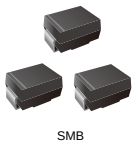
13” Reel



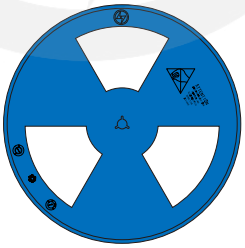


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

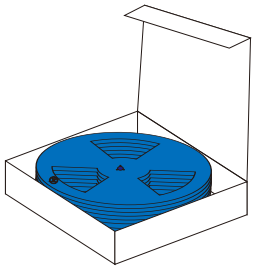
Packaging


SMB

3000PCS/Reel



5Reel/Inner Box
15KPCS/Inner Box



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

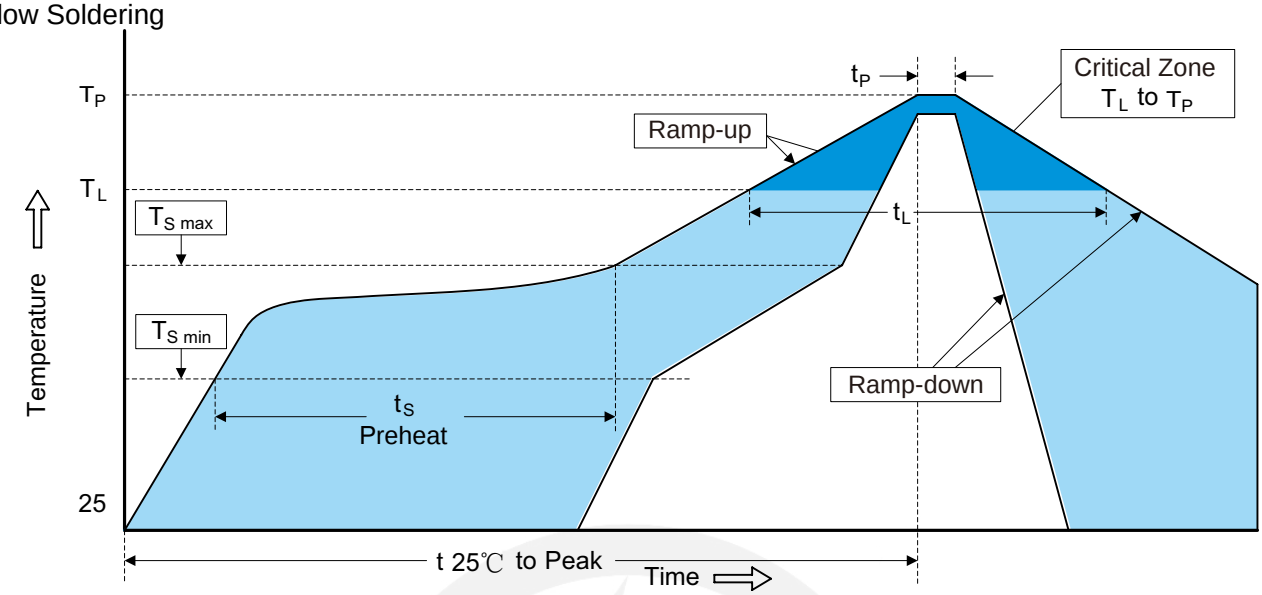
4 Boxs per carton
60KPCS per carton

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

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 Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.12.8	2024.12.8	3.0	New File	/	Ding	