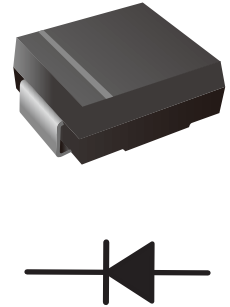


## Surface Mount Schottky Barrier Rectifier

### Features

- 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
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

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

### Ordering Information

Part Number	Shipping	Reel
LT52C THRU LT520C-TR3	3000PCS Tape&Reel	13 inches

### Maximum Ratings and Electrical Characteristics

Ratings 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%.

Parameter	Symbol	LT52C	LT54C	LT56C	LT58C	LT510C	LT512C	LT515C	LT520C	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	$V_{RMS}$	35	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	50	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	150								A
Maximum Forward Voltage at 5 A	$V_F$	0.55	0.7	0.85			0.95		V	
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$					1.0	50			mA
Typical Junction Capacitance (Note1)	$C_j$	600		400						pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	35								$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_j$	-55 ~ +150								$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ +150								$^\circ\text{C}$

Note: ( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

( 2 ) PCB mounted with 2.0" X 2.0" (5 cm X 5 cm) copper pad areas.



Characteristics Curves

Fig.1 Forward Current Derating Curve

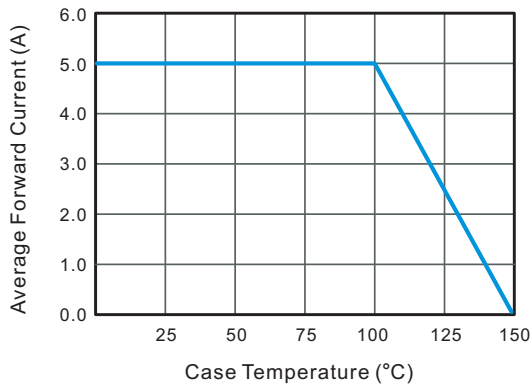


Fig.2 Typical Reverse Characteristics

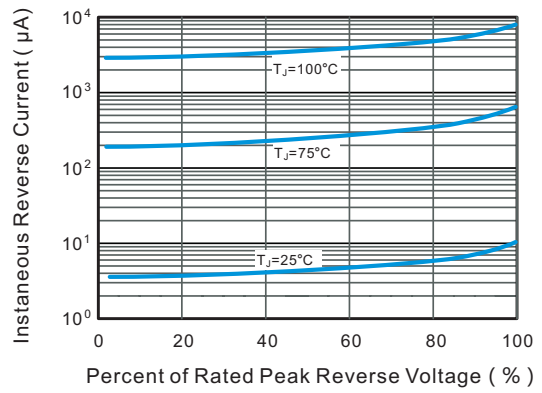


Fig.3 Typical Forward Characteristic

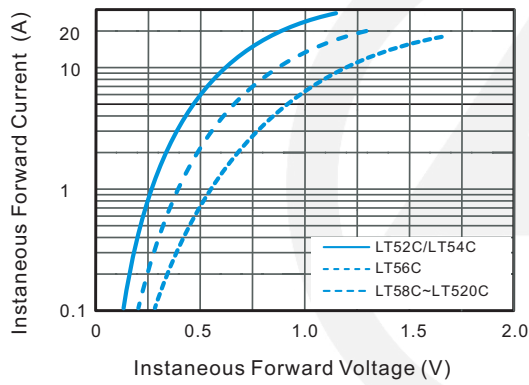


Fig.4 Typical Junction Capacitance

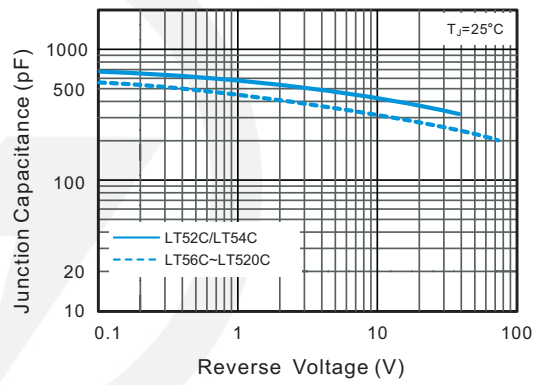


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

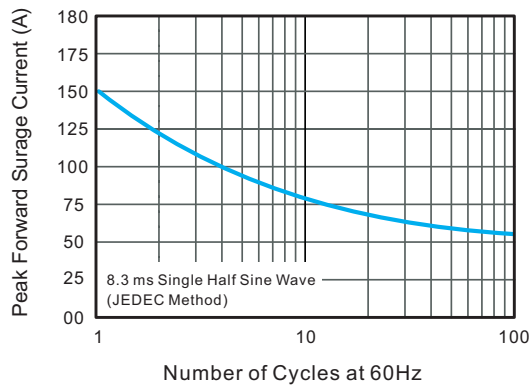
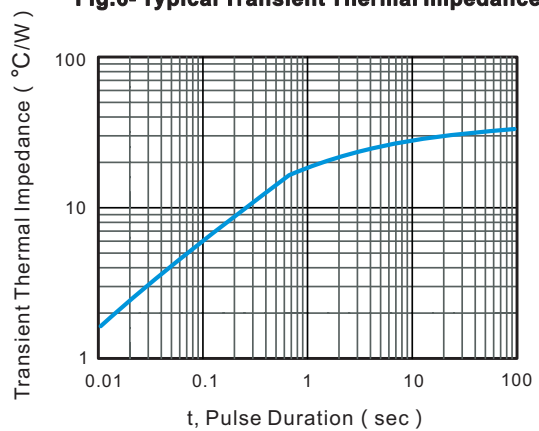
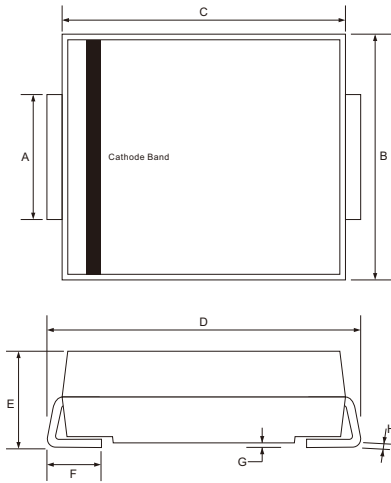


Fig.6- Typical Transient Thermal Impedance



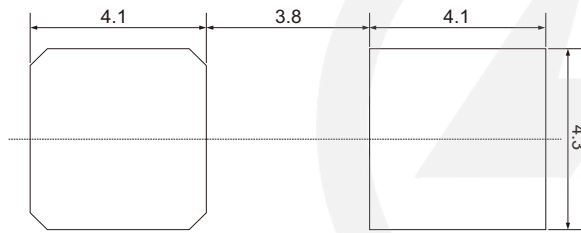
## SMC Package Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	2.75	3.27
B	5.59	6.22
C	6.50	7.11
D	7.60	8.13
E	1.99	2.80
F	0.76	1.60
G	0.05	0.31
H	0.10	0.31

## SMC Suggested Pad Layout



Note:

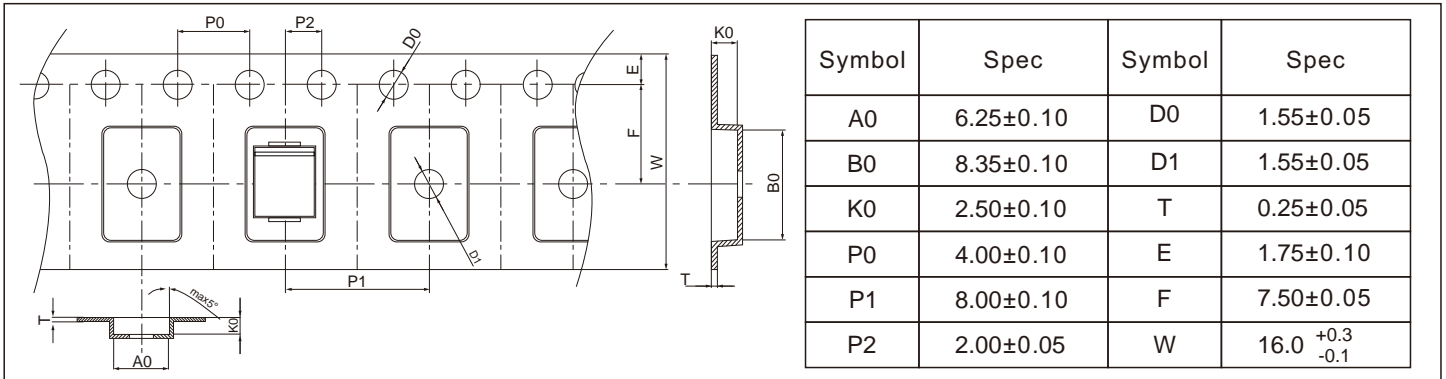
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

## Marking

Type number	Marking code
LT52C	SS52 or S52
LT54C	SS54 or S54
LT56C	SS56 or S56
LT58C	SS58 or S58
LT510C	SS510 or S510
LT512C	SS512 or S512
LT515C	SS515 or S515
LT520C	SS520 or S520

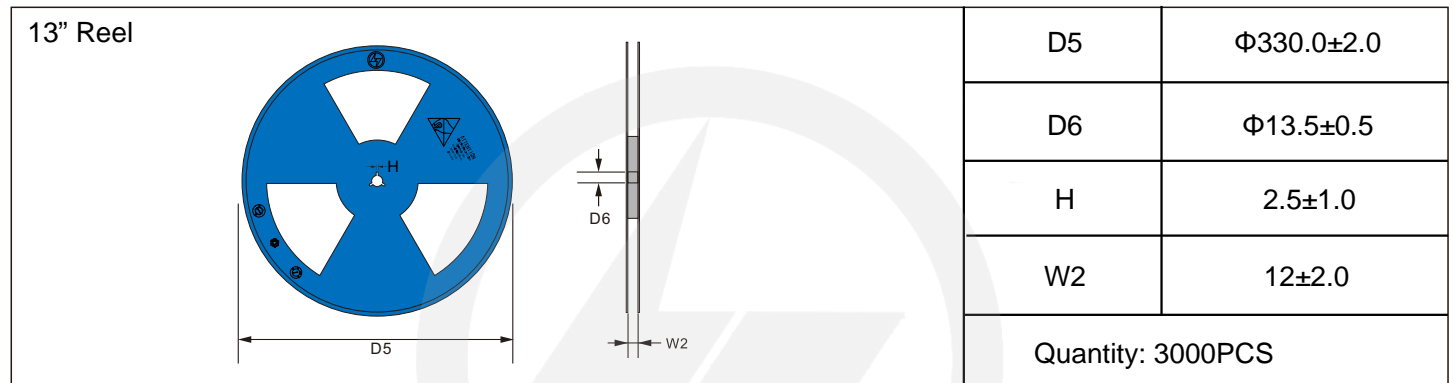
## Carrier Tape Dimensions

Unit : mm

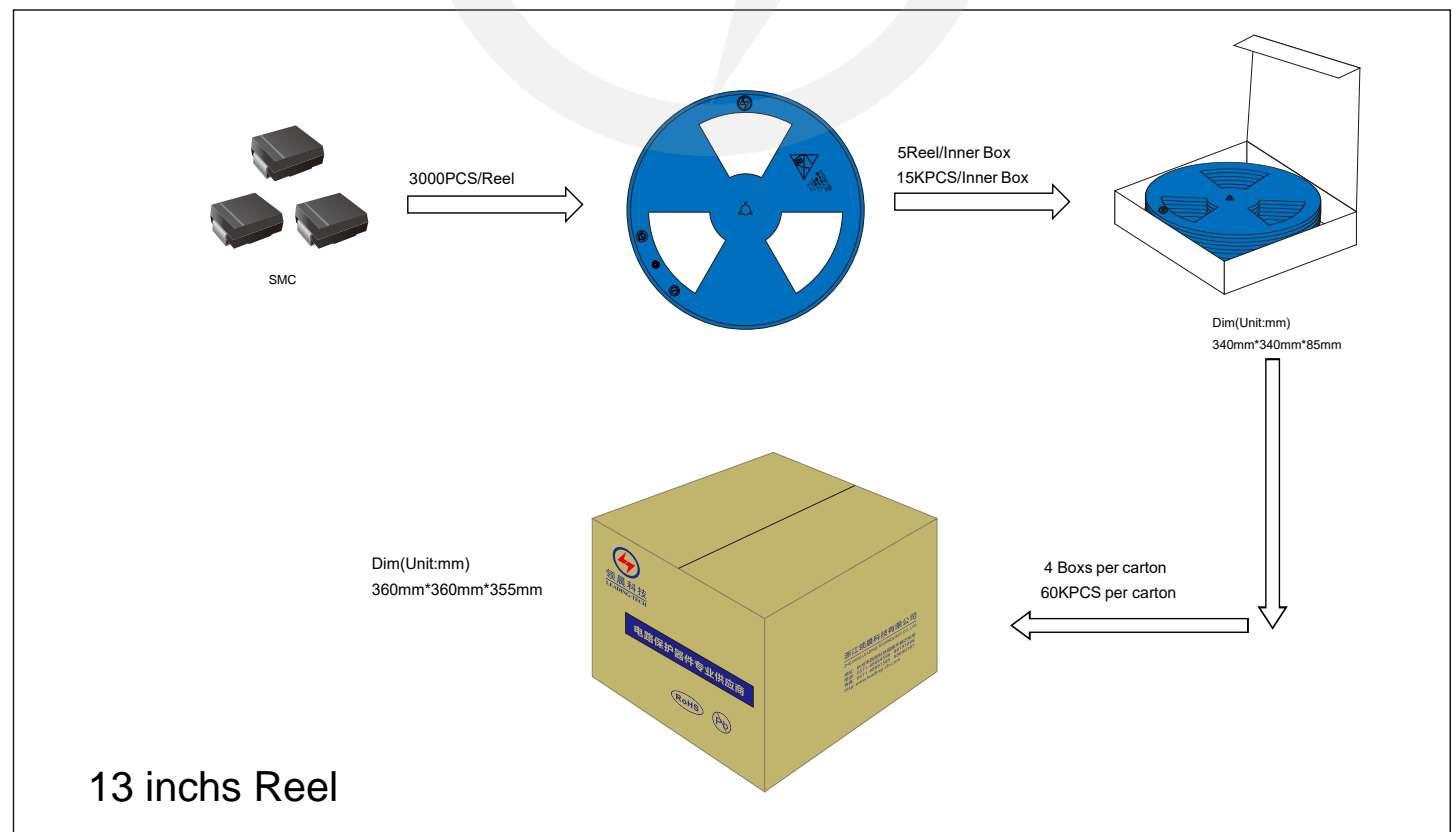


## Reel Dimensions

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	2024.5.18	2024.5.18	3.0	New File	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	