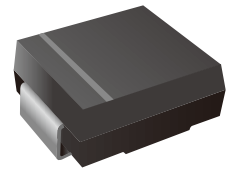


Surface Mount Fast Recovery Rectifier

Features

- Fast switching for high efficiency
- Glass passivated chip junction
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- The plastic package carries Underwriters Laboratory
- Flammability Classification 94V-0
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SMC
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Shipping	Reel
LTR5AC THRU LTR5MC-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	LTR5AC	LTR5BC	LTR5DC	LTR5GC	LTR5JC	LTR5KC	LTR5MC	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ $T_L=75^\circ C$	$I_{(AV)}$	5							A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120							A
Maximum instantaneous forward voltage at 5.0A	V_F	1.3							V
Maximum DC Reverse Current $T_a = 25^\circ C$ at Rated DC Blocking Voltage $T_a = 125^\circ C$	I_R	5 100							μA
Maximum reverse recovery time (Note1)	t_{rr}	150				250	500		ns
Typical Junction Capacitance (Note2)	C_J	50							pF
Typical Thermal Resistance (Note3)	$R_{\theta JA}$	50							$^\circ C/W$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ C$

Note: 1. Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. P.C.B. mounted with 0.2"x0.2" (5.0mmx5.0mm) copper pad areas



Characteristics Curves

FIG. 1 FORWARD CURRENT DERATING CURVE

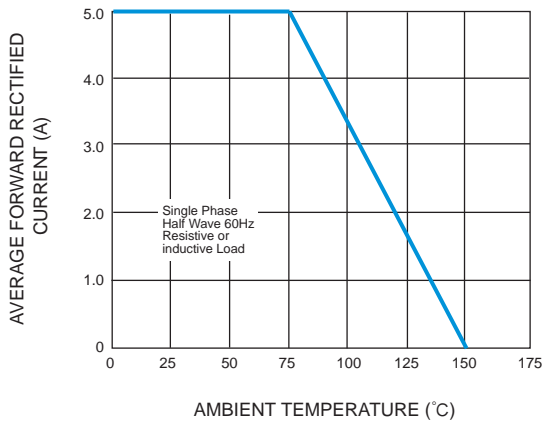


FIG. 2 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

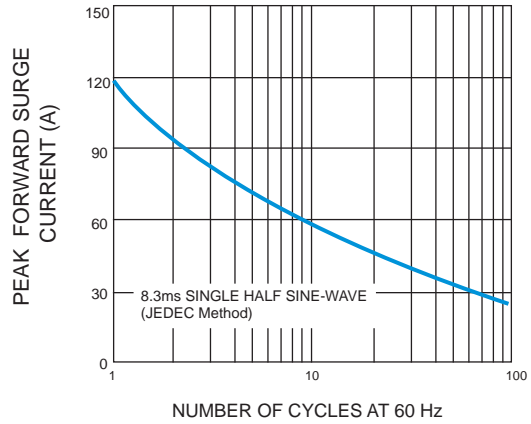


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

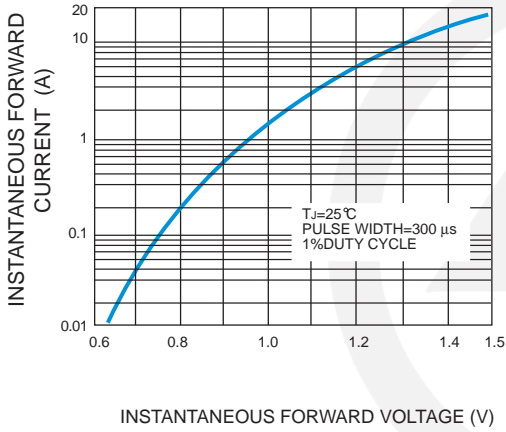


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

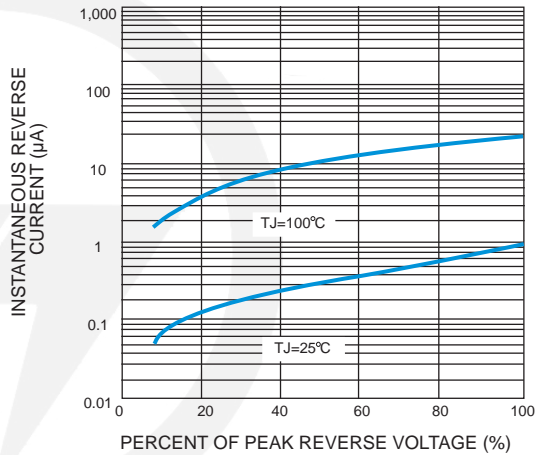


FIG. 5 TYPICAL JUNCTION CAPACITANCE

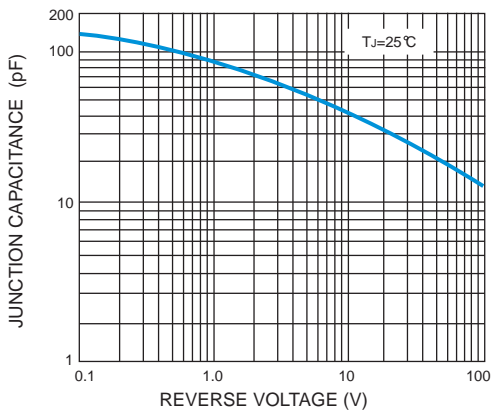
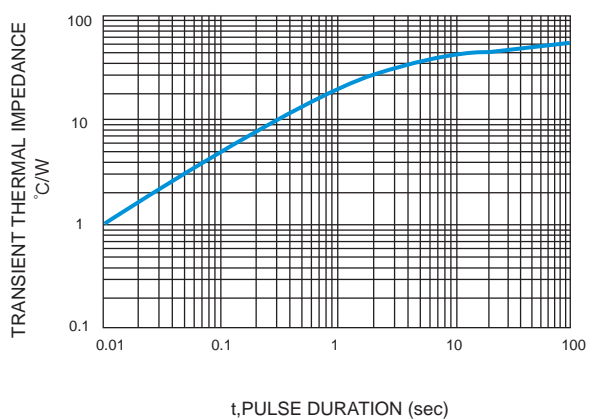
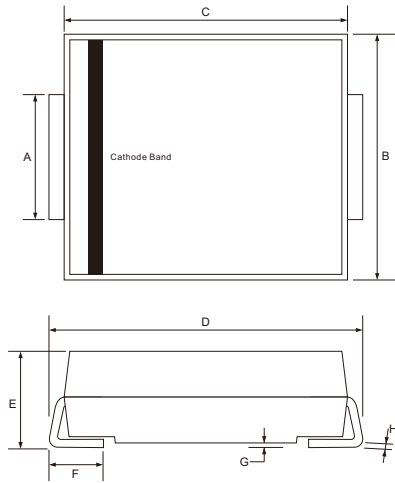


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE





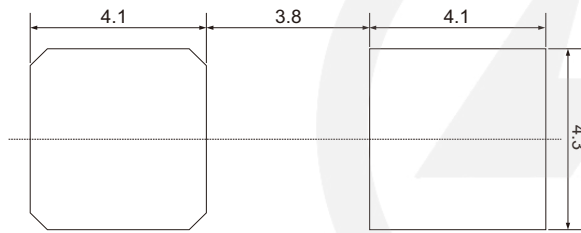
SMC Package Outline



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:

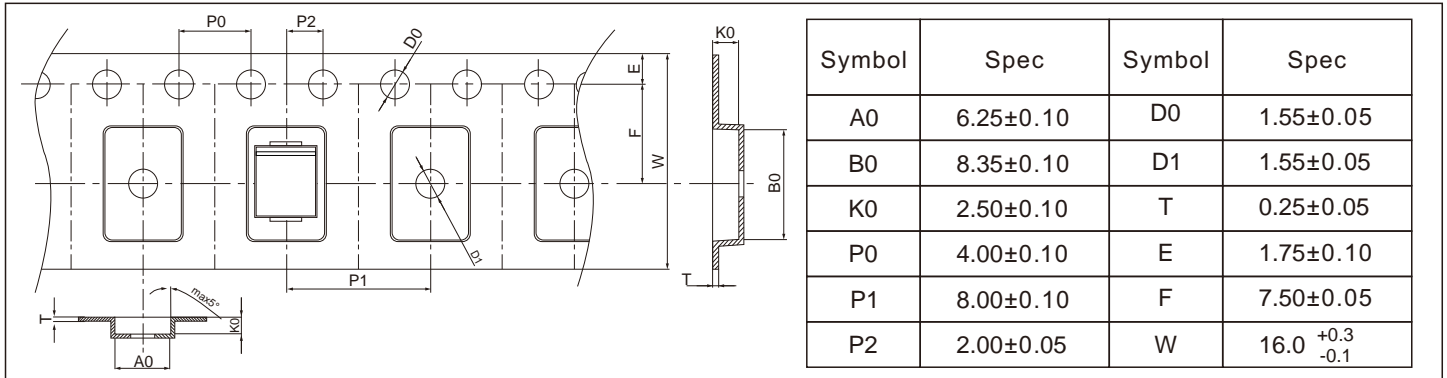
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

Marking

Type number	Marking code
LTR5AC	RS5A
LTR5BC	RS5B
LTR5DC	RS5D
LTR5GC	RS5G
LTR5JC	RS5J
LTR5KC	RS5K
LTR5MC	RS5M

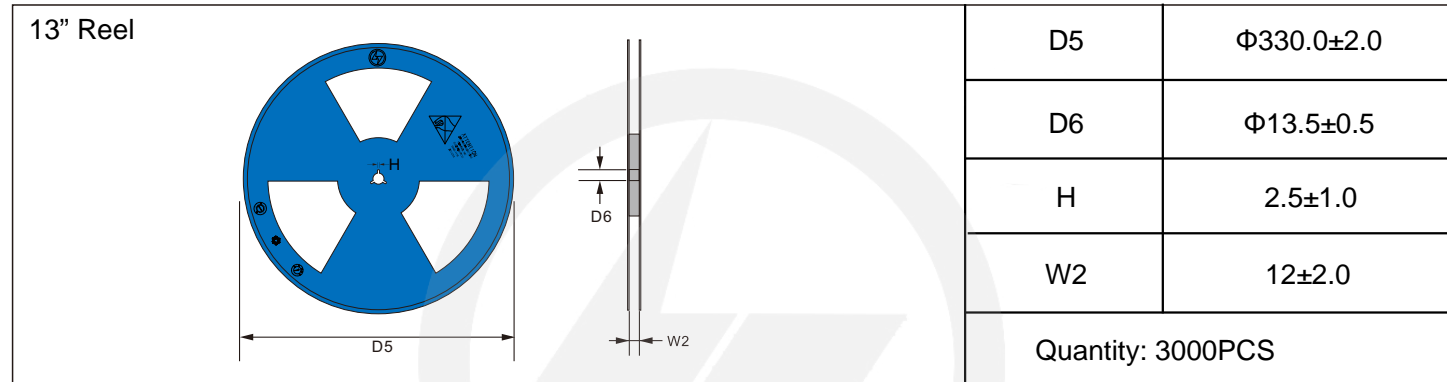
Carrier Tape Dimensions

Unit : mm

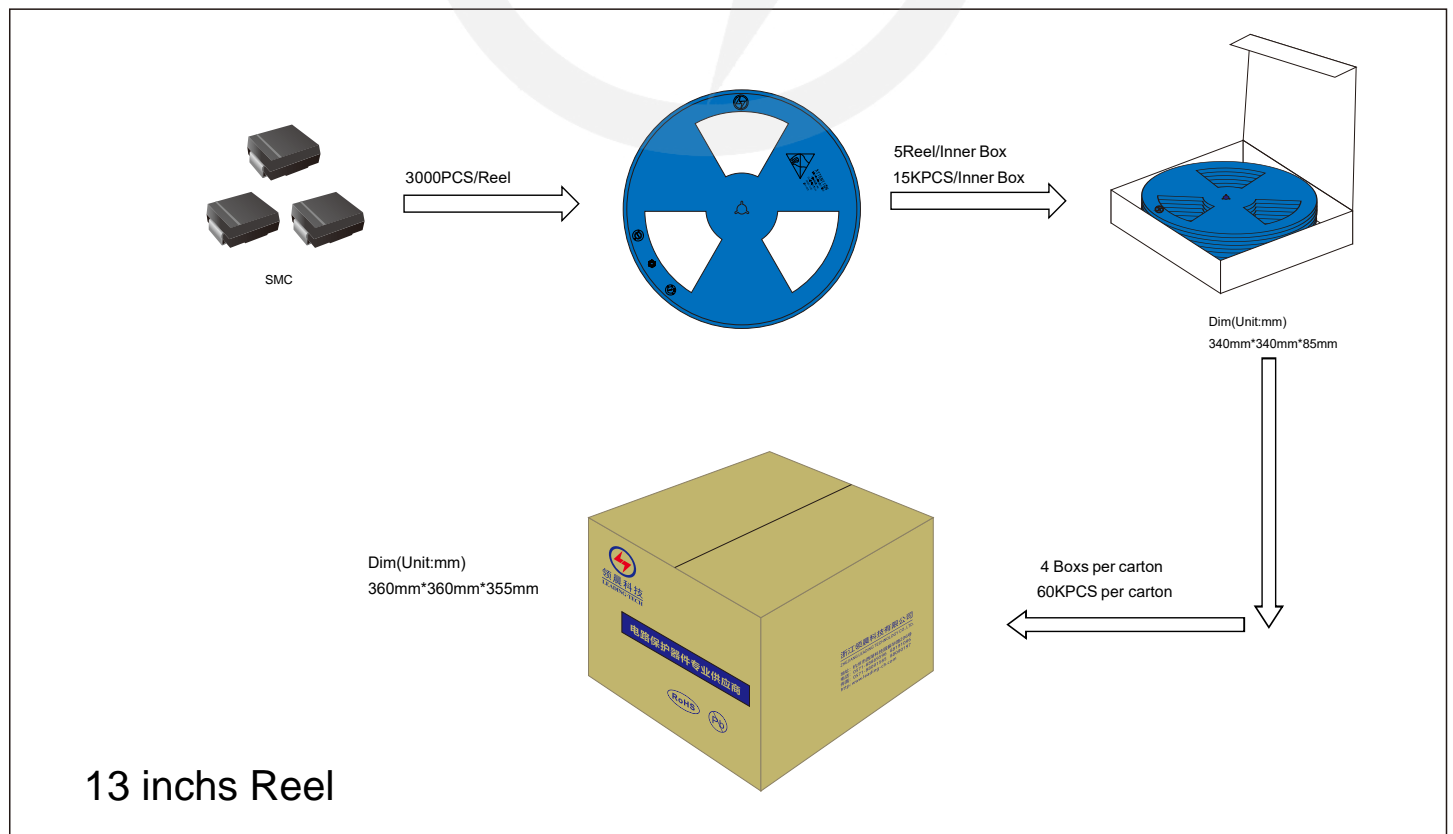


Reel Dimensions

Unit : mm



Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _p)	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	2024.8.20	2024.8.20	3.0	New File	/	Ding	
02	2025.06.12	2025.06.12	3.1	Update packaging information	/	Ding	