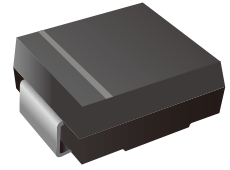


Surface Mount Ultrafast Recovery Rectifier

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- 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
- Approx. Weight: 0.24g

Ordering Information

| Part Number | Shipping | Reel |
|------------------------|-------------------|-----------|
| LTU3AC THRU LTU3MC-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 | Symbols | LTU3AC | LTU3BC | LTU3DC | LTU3GC | LTU3JC | LTU3KC | LTU3MC | Units |
|---|------------------------------------|------------|--------|--------|--------|--------|--------|--------|--------------------|
| 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 | $I_{F(AV)}$ | 3 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 90 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 3 A | V_F | 1.0 | | 1.3 | | 1.68 | | | 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 | 5 100 | | | | | | | μA |
| Maximum Reverse Recovery Time ⁽¹⁾ | t_{rr} | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ $R_{\theta JC}$ | 45 15 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Characteristics Curves

Fig.1 Maximum Average Forward Current Rating

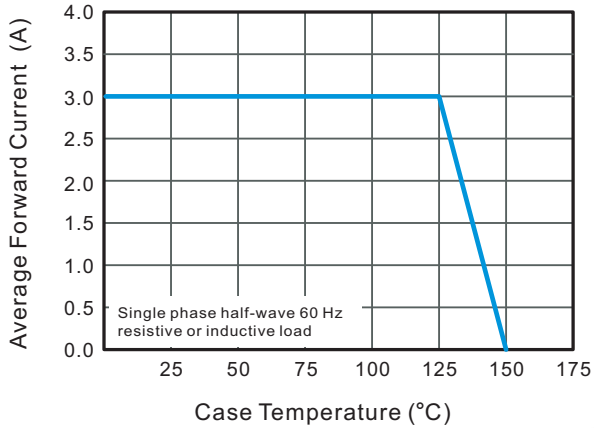


Fig.2 Typical Reverse Characteristics

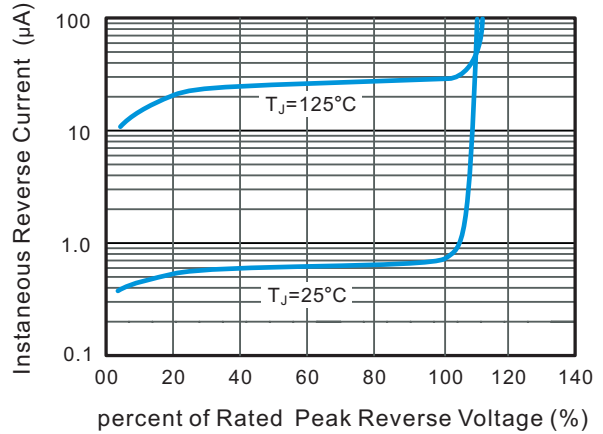


Fig.3 Typical Forward Characteristics

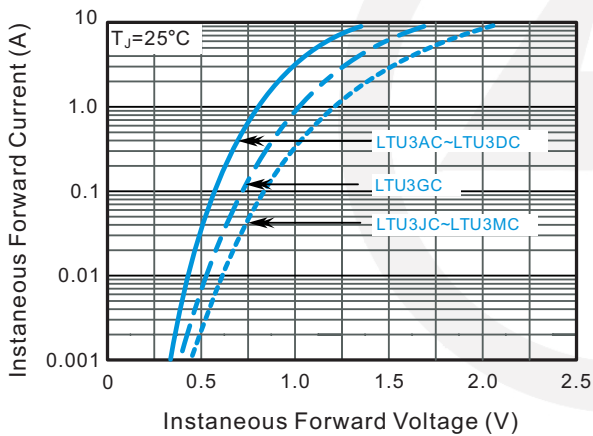
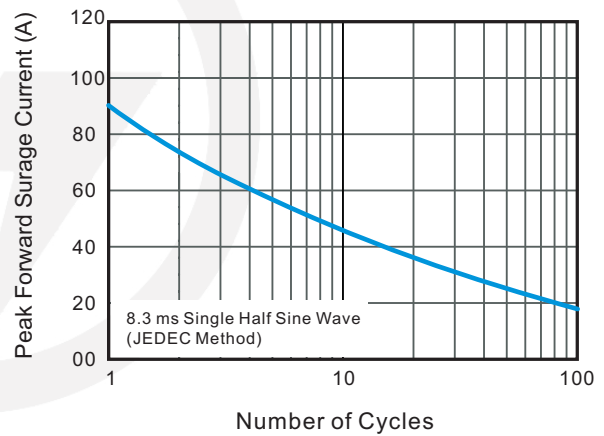
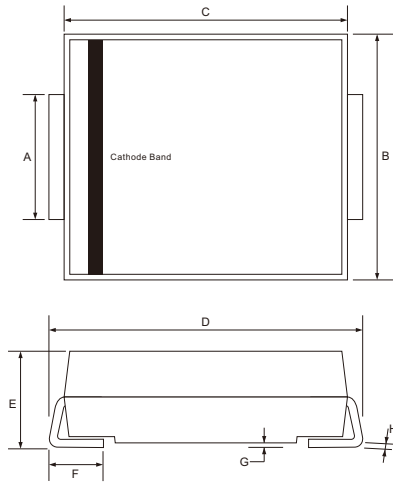


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current





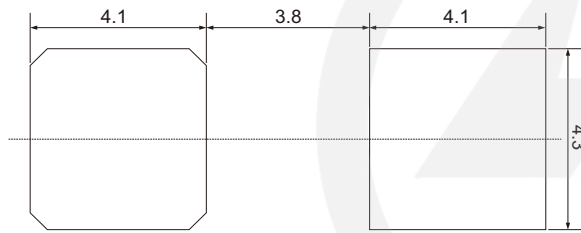
SMC Package Outline



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:

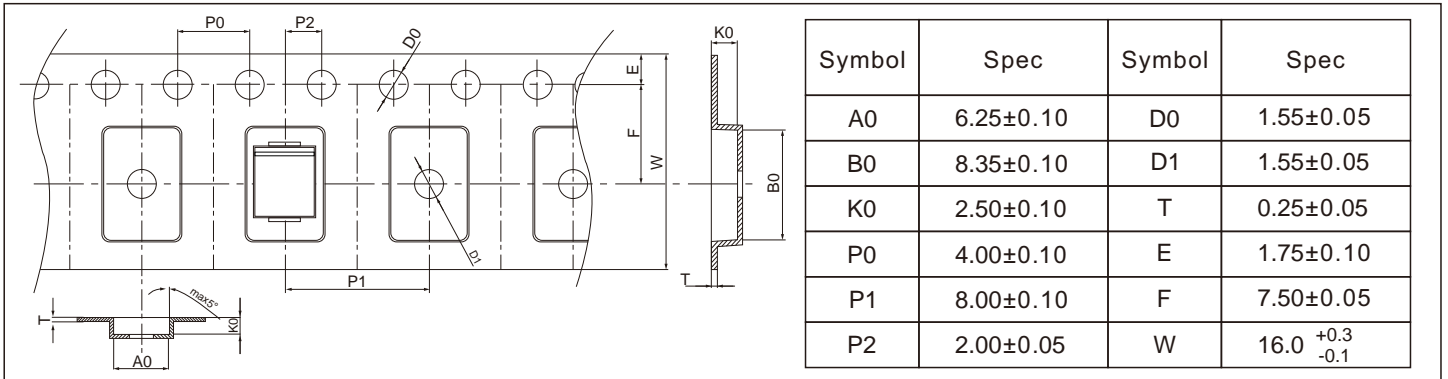
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

Marking

| Type number | Marking code |
|-------------|--------------|
| LTU3AC | US3A |
| LTU3BC | US3B |
| LTU3DC | US3D |
| LTU3GC | US3G |
| LTU3JC | US3J |
| LTU3KC | US3K |
| LTU3MC | US3M |

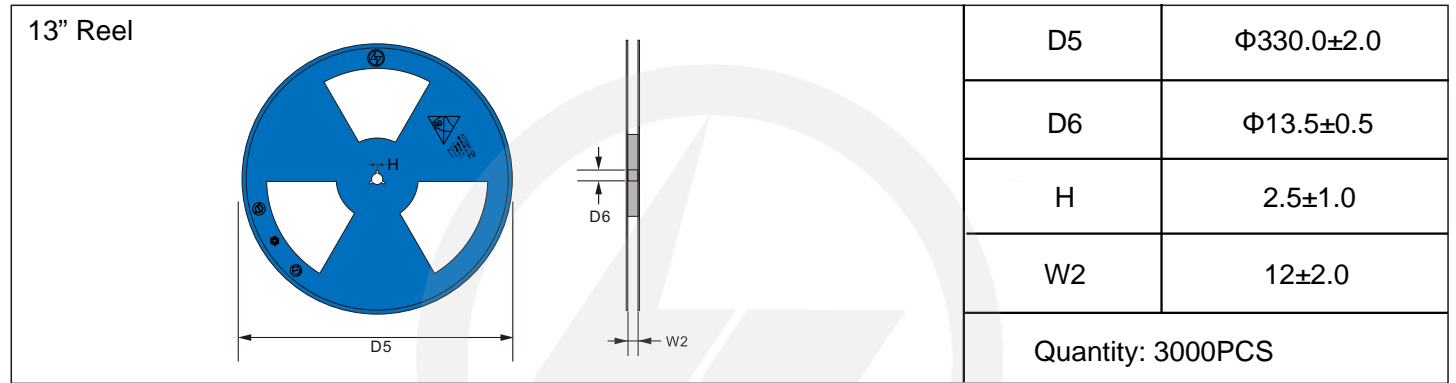
Carrier Tape Dimensions

Unit : mm

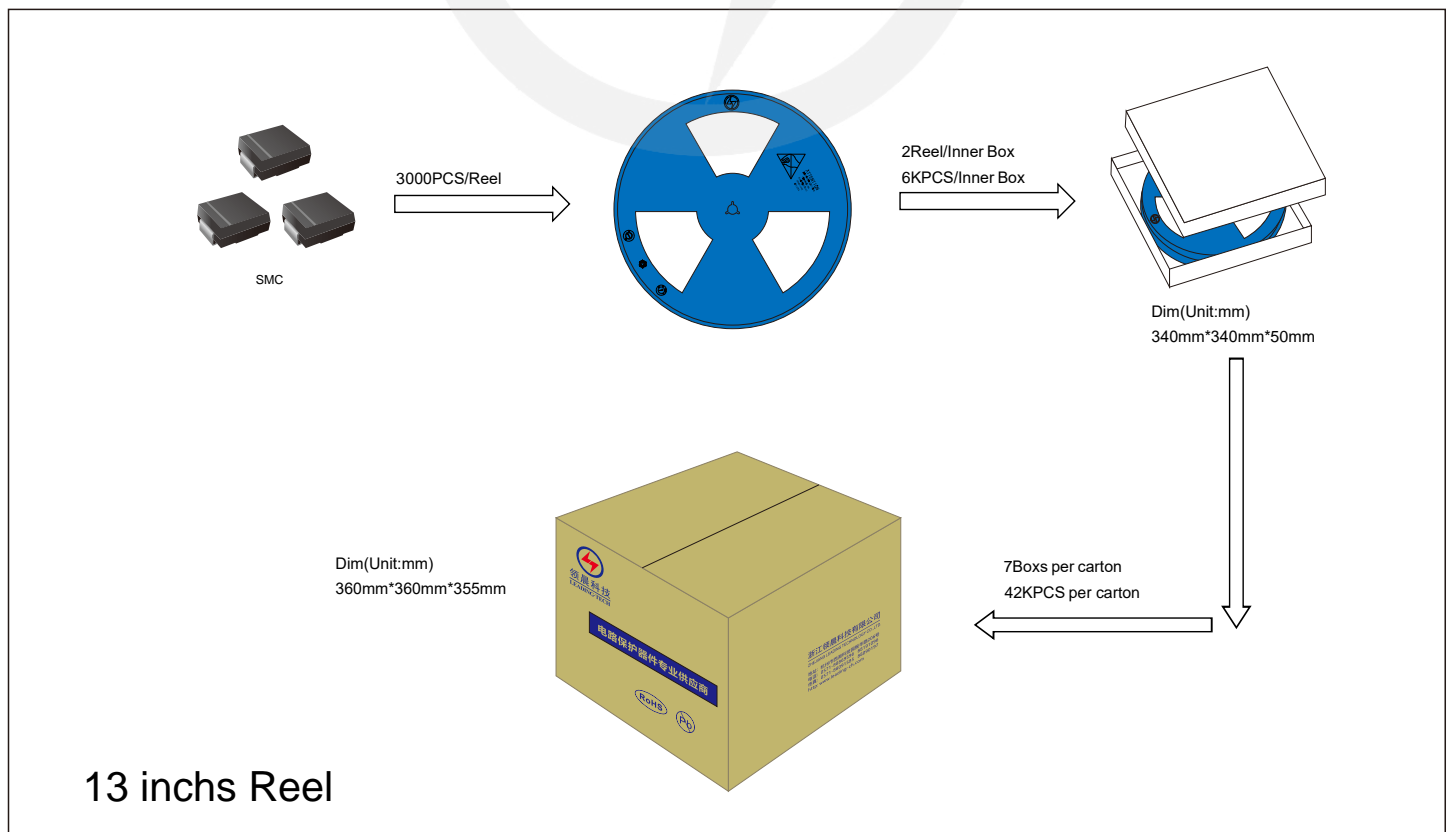


Reel Dimensions

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 | 2025.10.14 | 2025.10.14 | 3.0 | New file | / | Ding | |