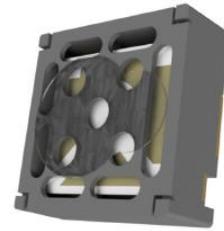




PUIaudio



Data Sheet

SMUTR-0540K-T

Key Features:

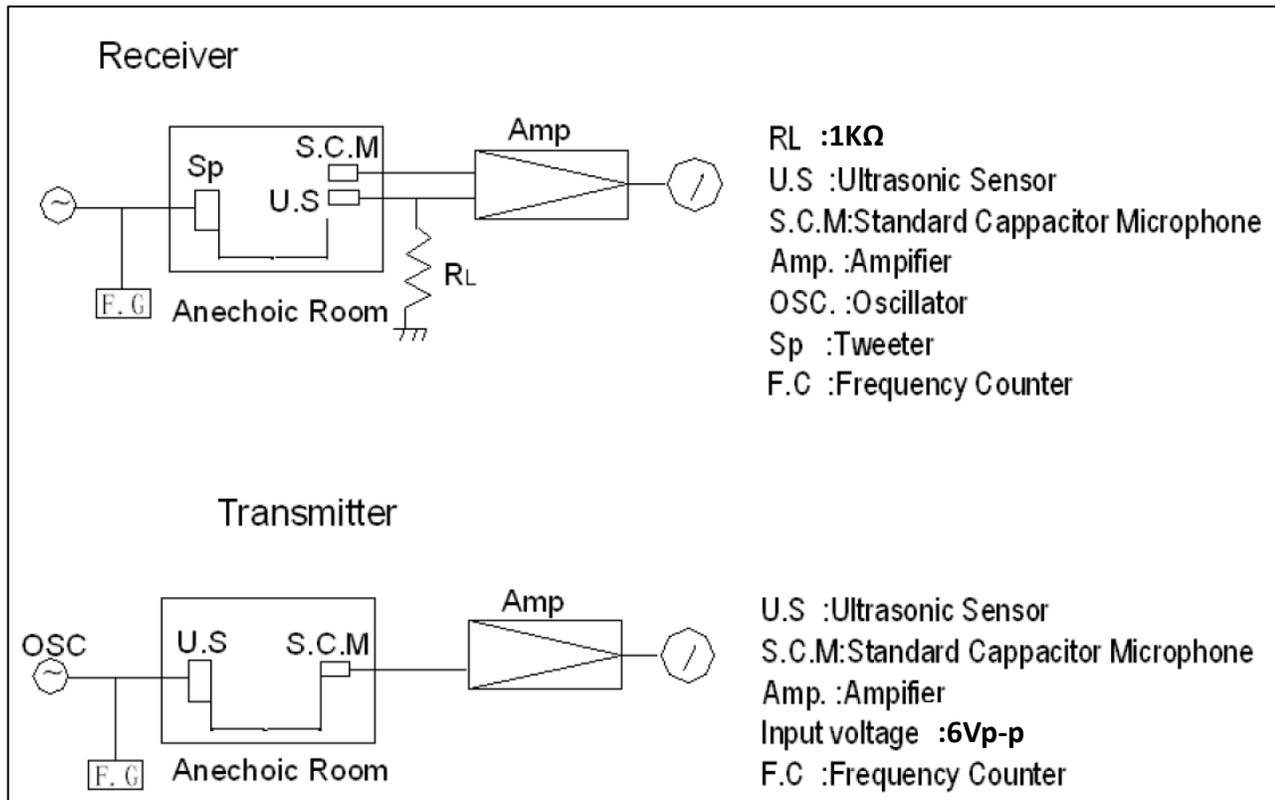
- 5.4mm X 5.4mm Surface Mount
- Transmitter and Receiver Dual Mode
- 40KHz Nominal Frequency

Specifications

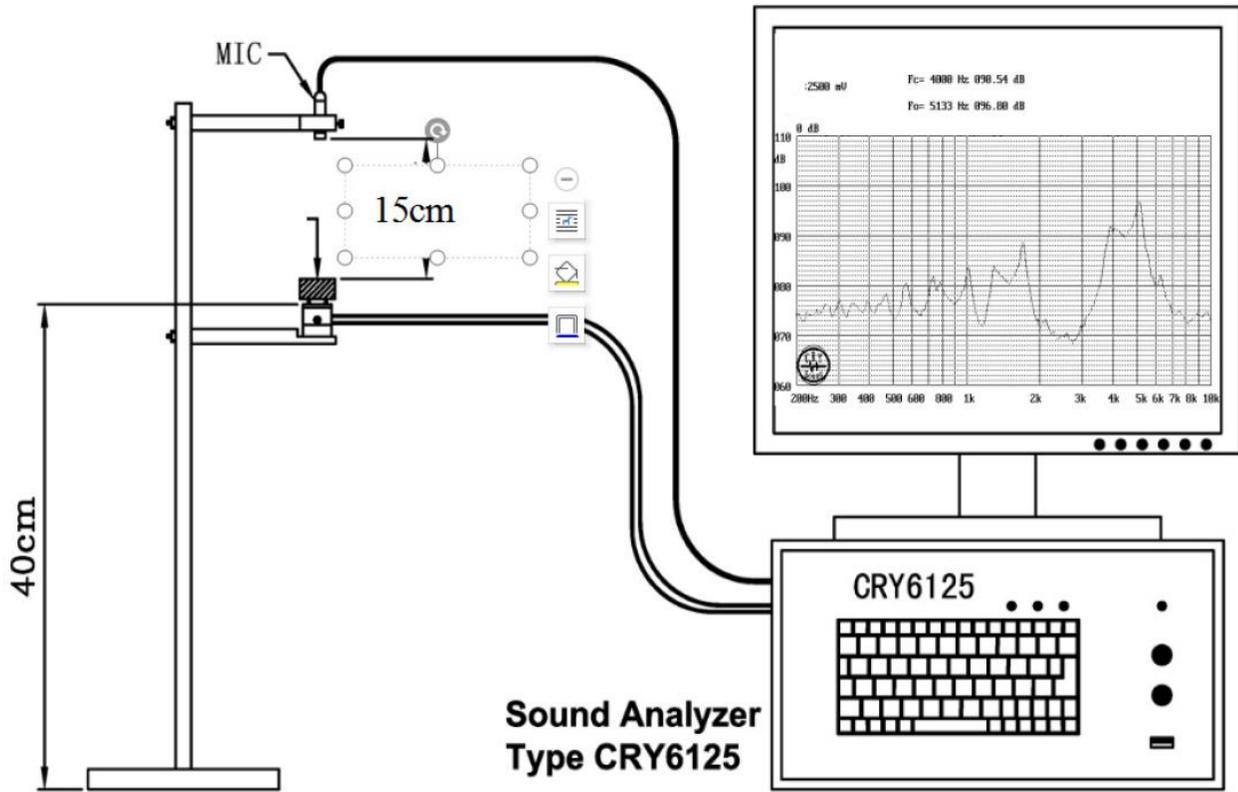
Parameters	Values	Units
Maximum Input Voltage	10	Vp-p
Capacitance @ 1kHz	4500 ± 20%	pF
Nominal Frequency	40 ± 1	KHz
Directivity	88 ± 5	°
Function	Transmitter and Receiver	Dual mode
SPL	>95	dB at 40KHz 6Vp-p 15cm/0dB=20uPa
Receiving Sensitivity	≥-65	dB at 40KHz 6Vp-p/ 15cm/ 0dB=1V/Pa
Housing Material	304 stainless steel and LCP	-
Terminal Material	Gold Plated Brass	-
Environmental Compliances	ROHS/REACH	-
Operating Temperature	-20 ~ +70	°C
Storage Temperature	-30 ~ +75	°C

Measurement Method (Temperature: 25 ± 2 °C; Humidity: 45-65%)

The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below.

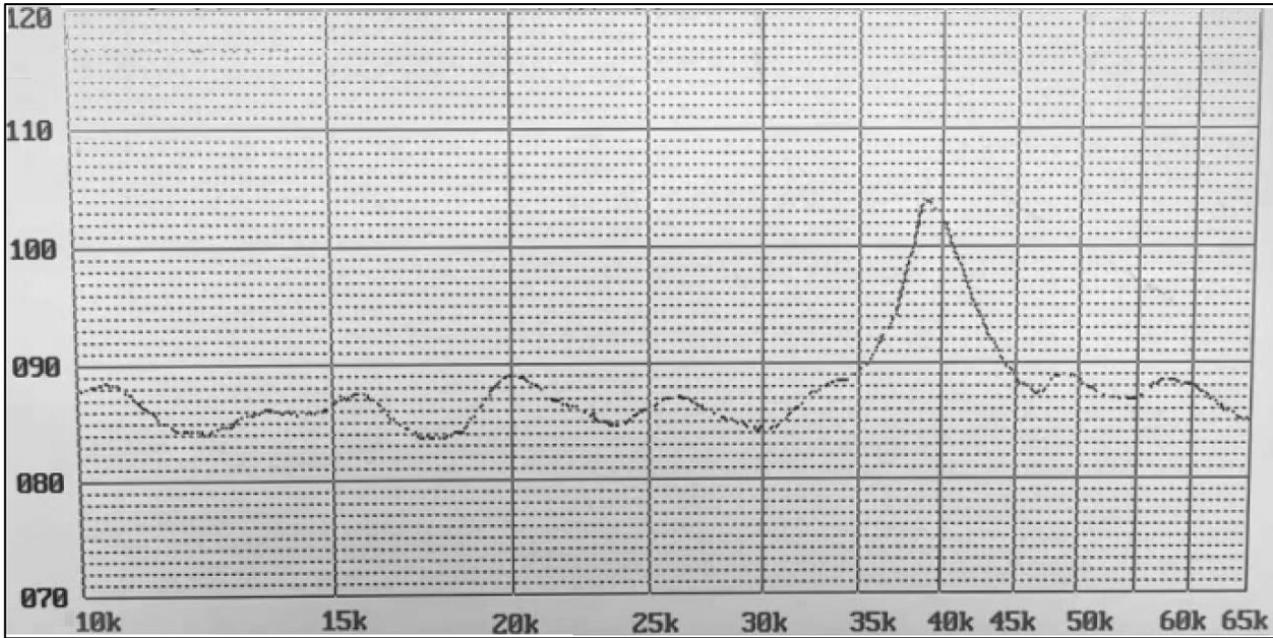


In the measuring test, Sensor is placed as follows:

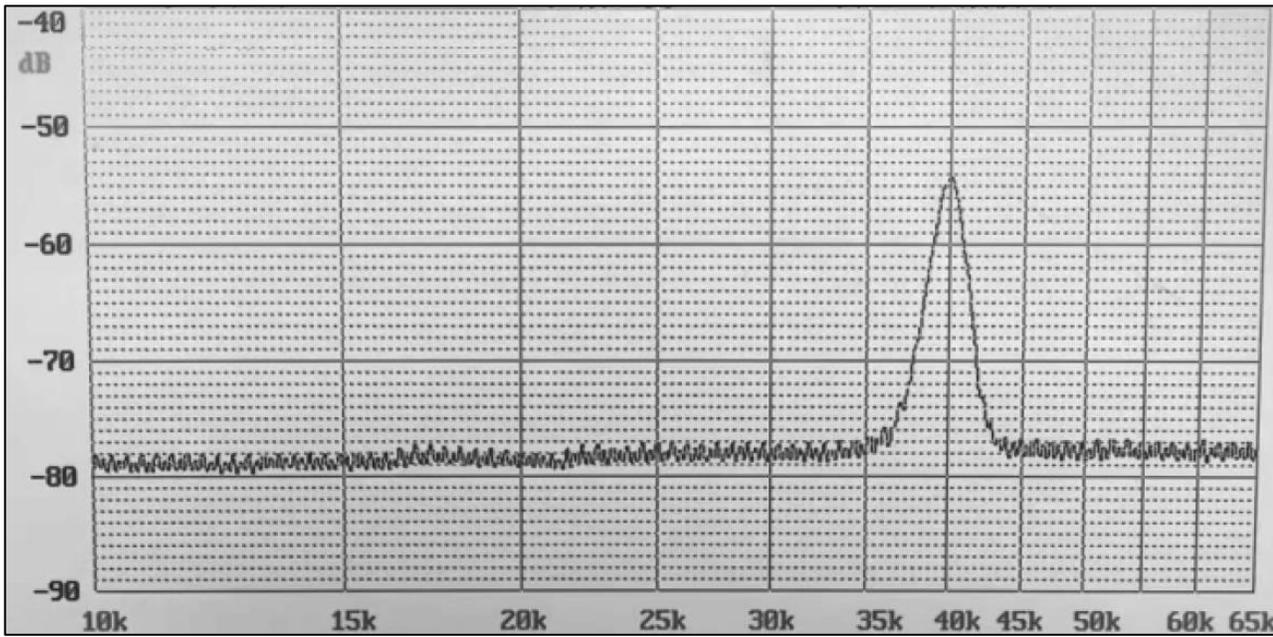


Typical Frequency Response

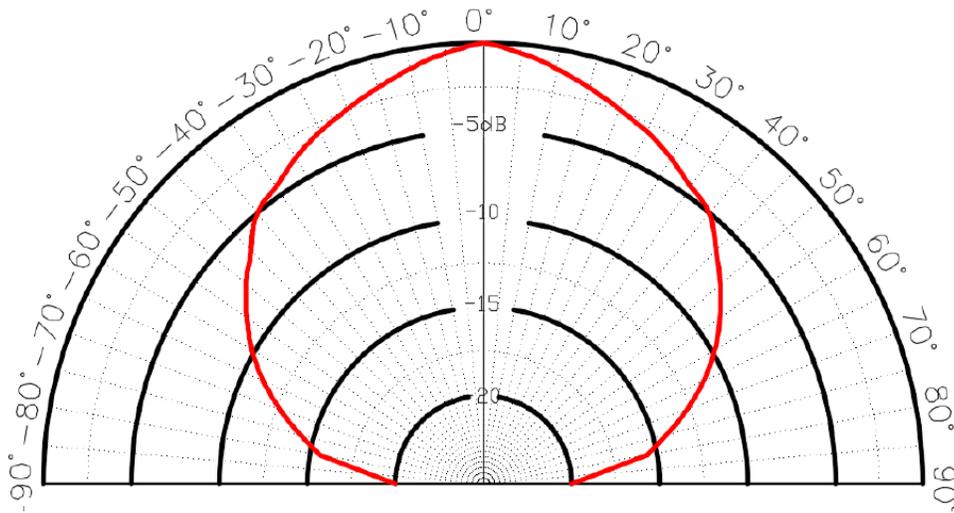
SPL - Frequency



Sensitivity - Frequency



Directivity

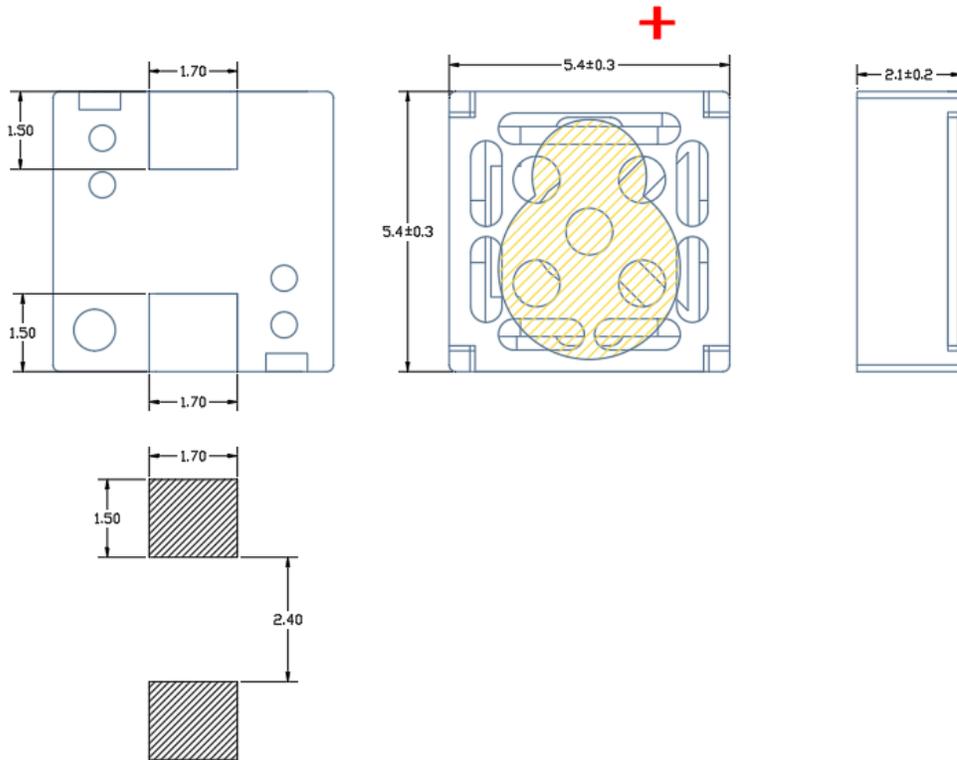


Reliability Testing

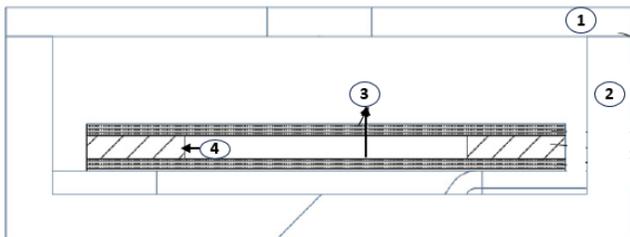
Type of Test	Test Specifications
High Temperature Test	96 hours at $75 \pm 2^\circ\text{C}$ and then placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$
Low Temperature Test	96 hours at $-30 \pm 2^\circ\text{C}$ and then placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$
Humidity Test	96 hours at $40 \pm 2^\circ\text{C}$ with relative humidity at 90-95% Allowable variation of SPL after test: $\pm 10\text{dB}$.
Temperature Cycle Testing	The part is subject to 5 cycles consisting of: Allowable variation of SPL after test: $\pm 10\text{dB}$.

Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours. Allowable variation of SPL after test: ± 10 dB.
Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm. Allowable variation of SPL after test: ± 10 dB.

Dimensions



*This land pattern is advisory only and its use or adaptation is entirely voluntary. PUI Audio disclaims all liability of any kind associated with the use, application, or adaptation of this land pattern.

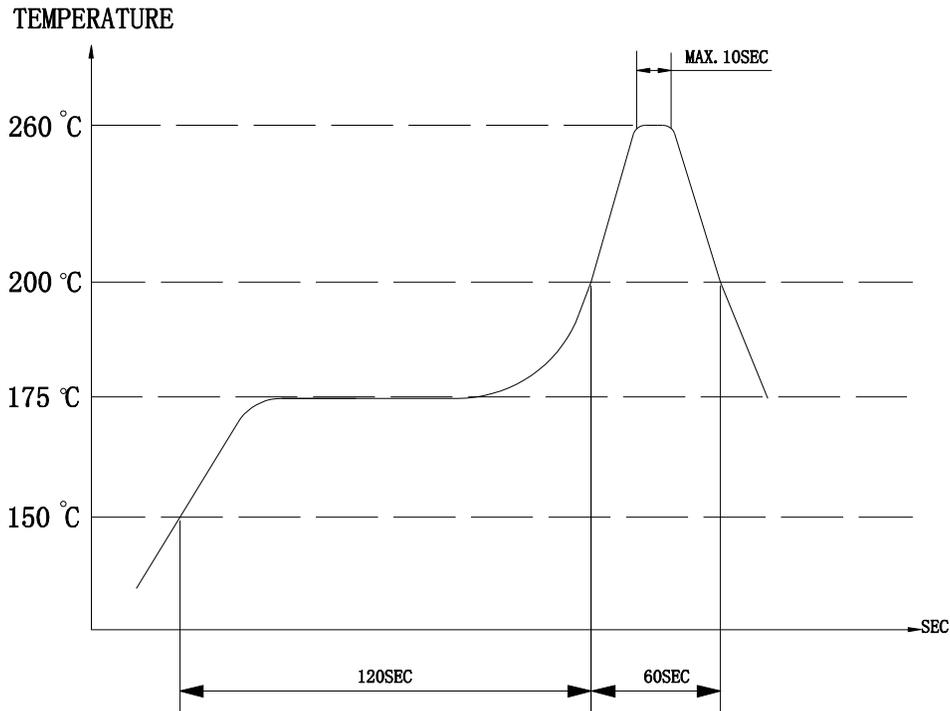


S.No	Part Name	Material	Quantity
1	Dustcover	Steel	1
2	House	Plastic	1
3	Oscillating Plate	PZT	2
4	Gasket	epoxy	1

Soldering Profile

(1) Recommendation for reflow soldering is as follows

Reflow soldering is twice. It is requested that reflow soldering should be executed after heat of product goes down to normal.

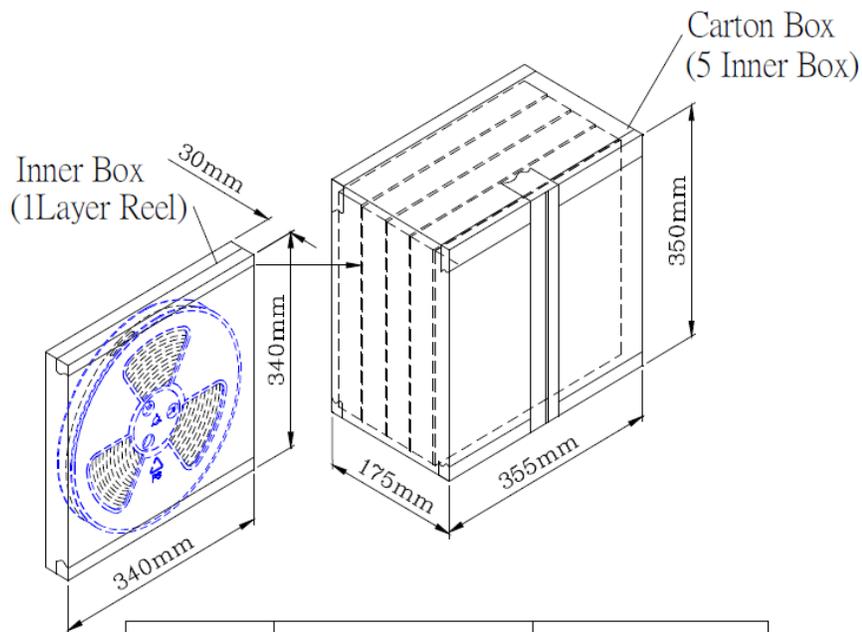
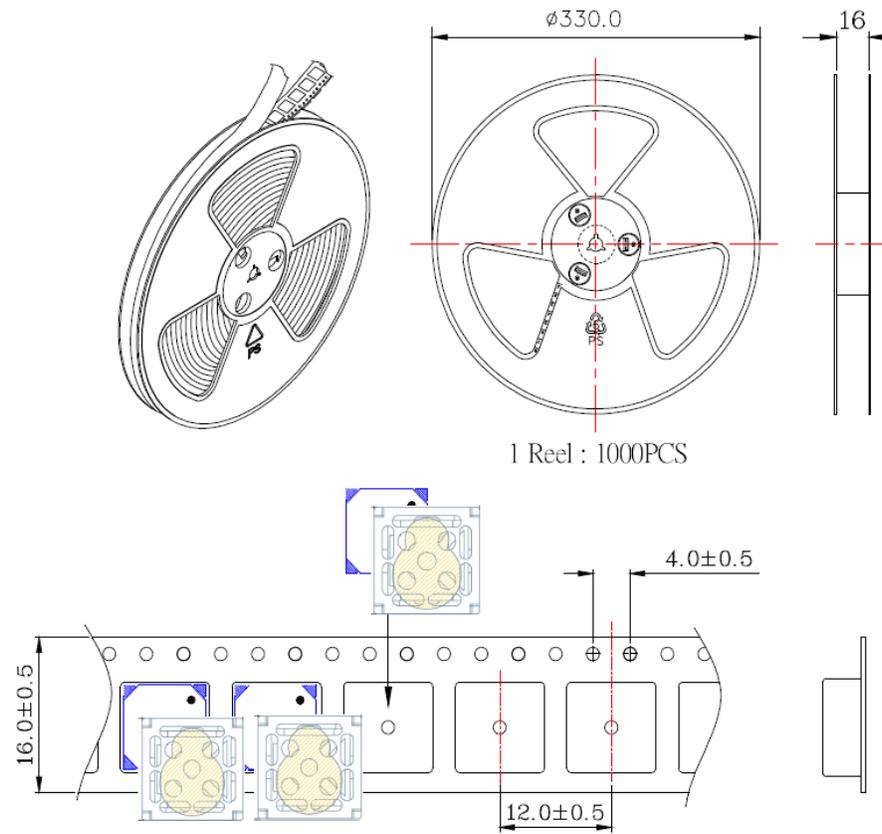


Heat resistant line (Used when heat resistant reliability test is performed)

(2) Manual soldering

Manual soldering temperature 350 °C within 5 sec.

Packaging



Inner Box	340mmx340mmx30mm	1x1000PCS=1000PCS
Carton Box	350mmx355mmx175mm	5x1000PCS=5000PCS

Specifications Revisions

Revision	Description	Date
A	Released from Engineering	6/30/2023

Note:

- 1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are $\pm 0.5\text{mm}$ and angles are $\pm 3^\circ$.
- 2. Specifications subject to change or withdrawal without notice.