

SM1411-5

MAXIMUM RATING:

- Maximum Input Power: 28 dBm (In passband, CW, 50 °C, 10kh)
- DC Voltage: +/-5 V
- Operating Temperature: -30 °C to +85 °C
- Storage Temperature: -40 °C to +100 °C
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD: 50 V(MM), 100 V(HBM)

ELECTRICAL CHARACTERISTICS:

Terminating source impedance: $Z_s = 50 // 15nH(Q=\infty) \Omega$ (Single-ended)

Terminating load impedance: $Z_L = 50 // 15nH(Q=\infty) \Omega$ (Single-ended)

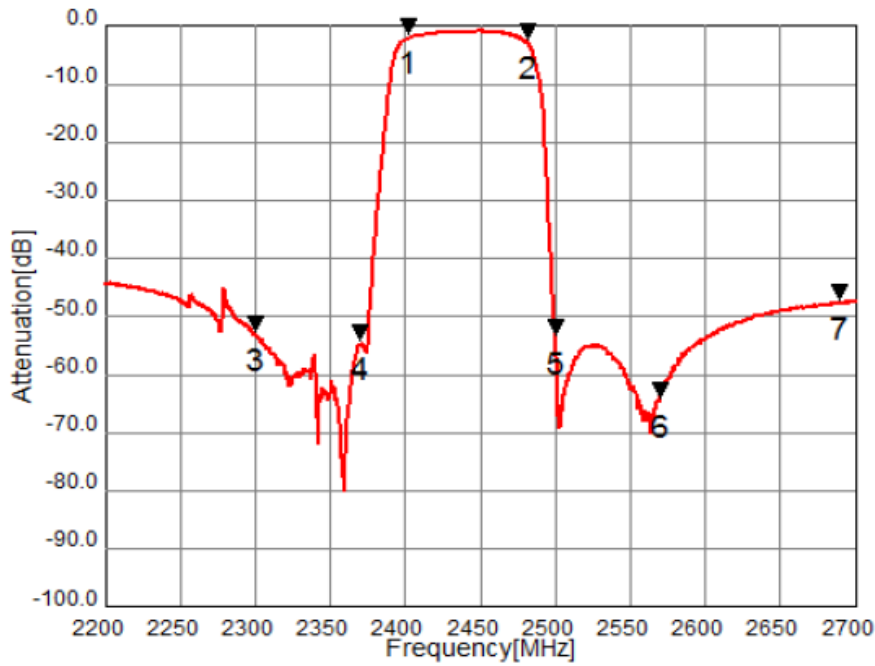
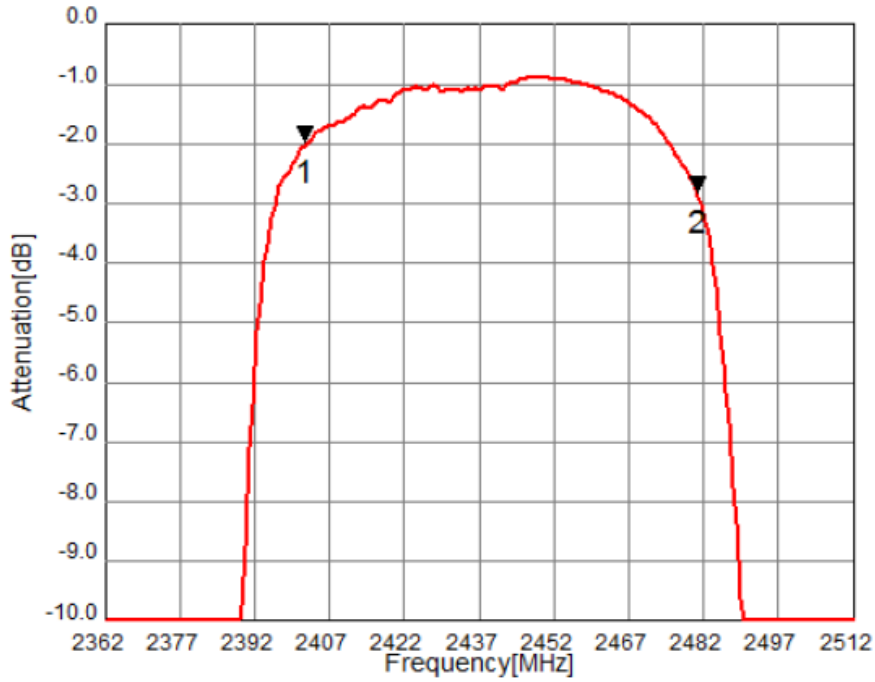
| Parameters Description | | Unit | Min. | Typ. | Max. | Remark |
|---|---------------------|------|------|------|------|---------------|
| Center Frequency Fc | | MHz | - | 2442 | - | - |
| Insertion Loss | 2402.5 ~ 2421.5 MHz | dB | - | 1.9 | 2.3 | (*1)(*2) |
| | 2407.5 ~ 2426.5 MHz | dB | - | 1.6 | 2.2 | (*1)(*2) |
| | 2412.5 ~ 2471.5 MHz | dB | - | 1.6 | 2.2 | (*1)(*2) |
| | 2457.5 ~ 2476.5 MHz | dB | - | 1.8 | 2.2 | (*1)(*2) |
| | 2462.5 ~ 2481.5 MHz | dB | - | 2.5 | 3.0 | (*1)(*2) |
| Amplitude Ripple | 2402.5 ~ 2421.5 MHz | dB | - | 0.3 | 1.9 | (*2) |
| | 2407.5 ~ 2426.5 MHz | dB | - | 0.2 | 1.7 | (*2) |
| | 2412.5 ~ 2471.5 MHz | dB | - | 0.5 | 1.7 | (*2) |
| | 2457.5 ~ 2476.5 MHz | dB | - | 0.4 | 1.7 | (*2) |
| | 2462.5 ~ 2481.5 MHz | dB | - | 0.8 | 2.5 | (*2) |
| VSWR (Input) | 2402.5 ~ 2481.5 MHz | - | - | 1.8 | 2.2 | +25°C |
| VSWR (Output) | 2402.5 ~ 2481.5 MHz | - | - | 1.8 | 2.2 | +25°C |
| Attenuation (Reference level from 0 dB) | | | | | | |
| 800 ~ 2300 MHz | | dB | 37 | 40 | - | - |
| 2300 ~ 2365 MHz | | dB | 48 | 54 | - | - |
| 2365 ~ 2370 MHz | | dB | 48 | 56 | - | (*3) |
| 2500 ~ 2505 MHz | | dB | 40 | 56 | - | -30~-10°C(*3) |
| | | dB | 47 | 56 | - | -10~+25°C(*3) |
| | | dB | 52 | 56 | - | +25~+85°C(*3) |
| 2505 ~ 2690 MHz | | dB | 45 | 49 | - | (*3) |
| 2570 ~ 2620 MHz | | dB | 47 | 5 | - | (*3) |
| 2690 ~ 7500 MHz | | dB | 30 | 3 | - | |

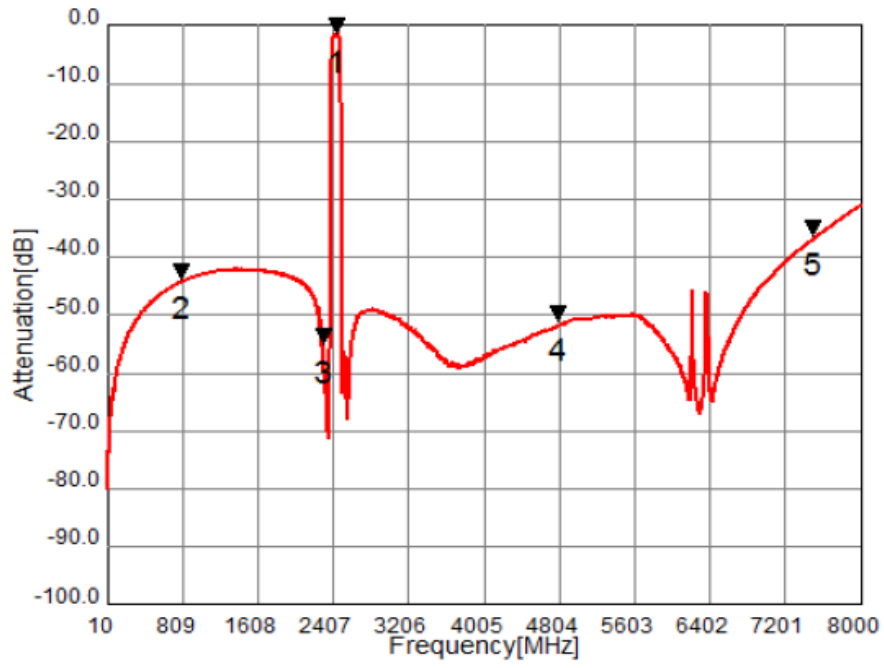
(*1)Specification of insertion loss excludes loss that comes from the test board.

(*2)The integrated loss over any 19 MHz channel within the band.

(*3)The integrated loss over any 5 MHz channel within the band.

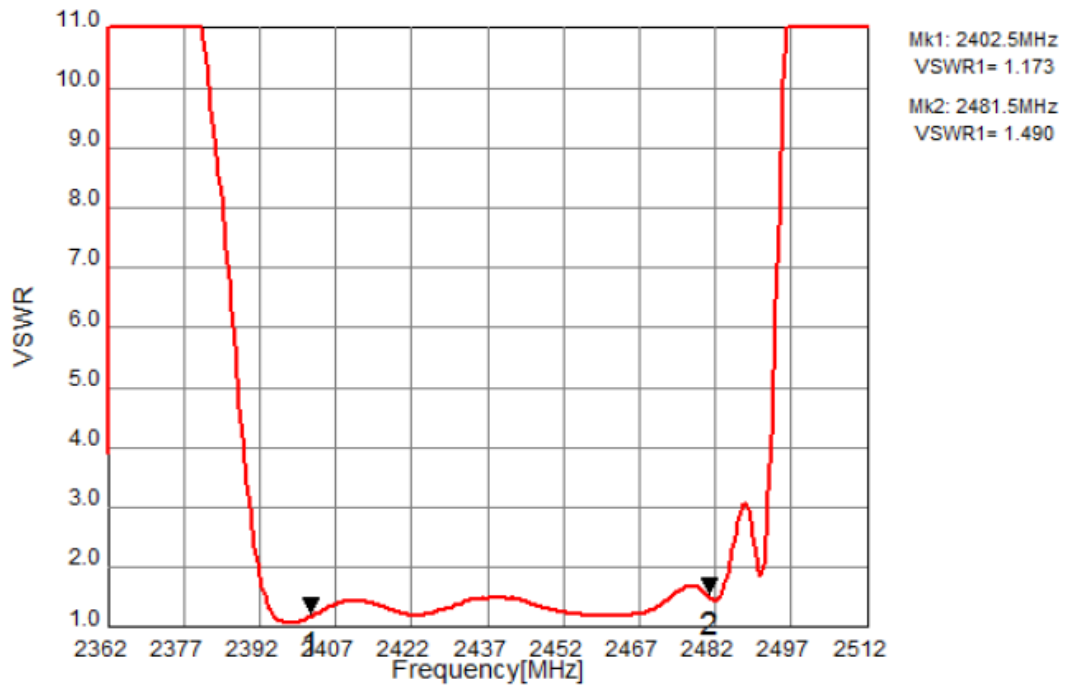
FREQUENCY CHARACTERISTICS:



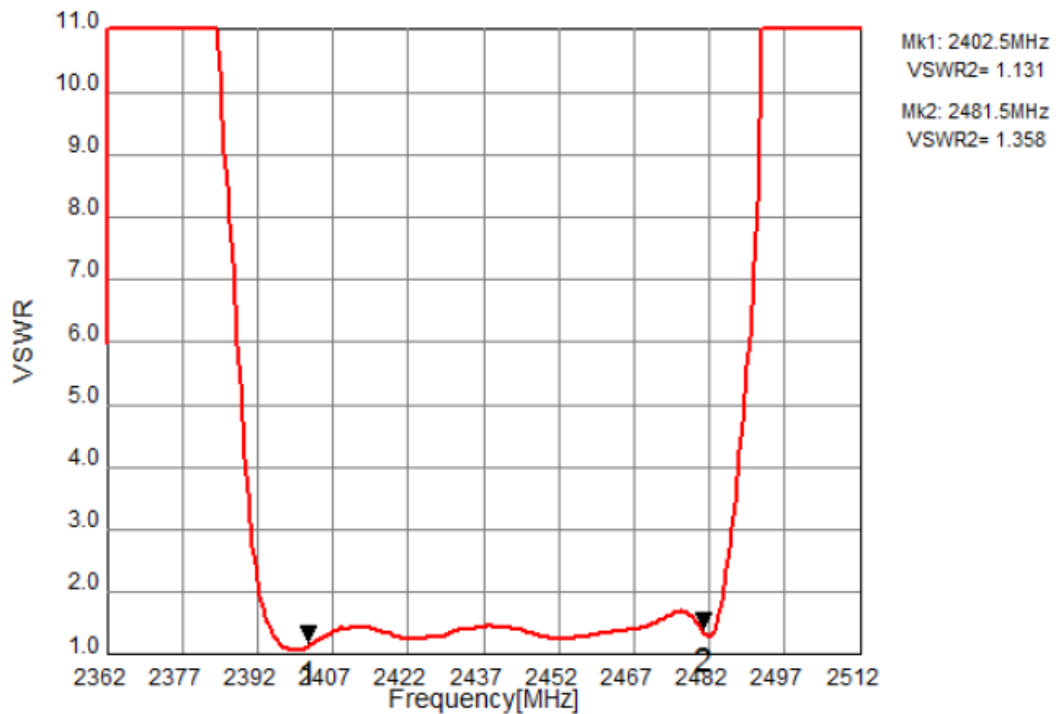


Reflection Functions:

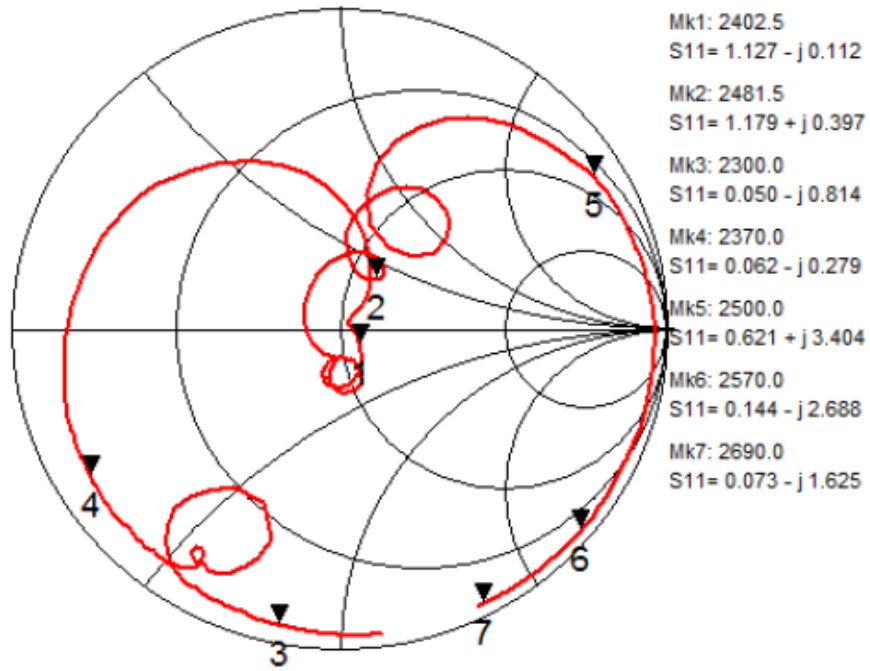
VSWR (Input)



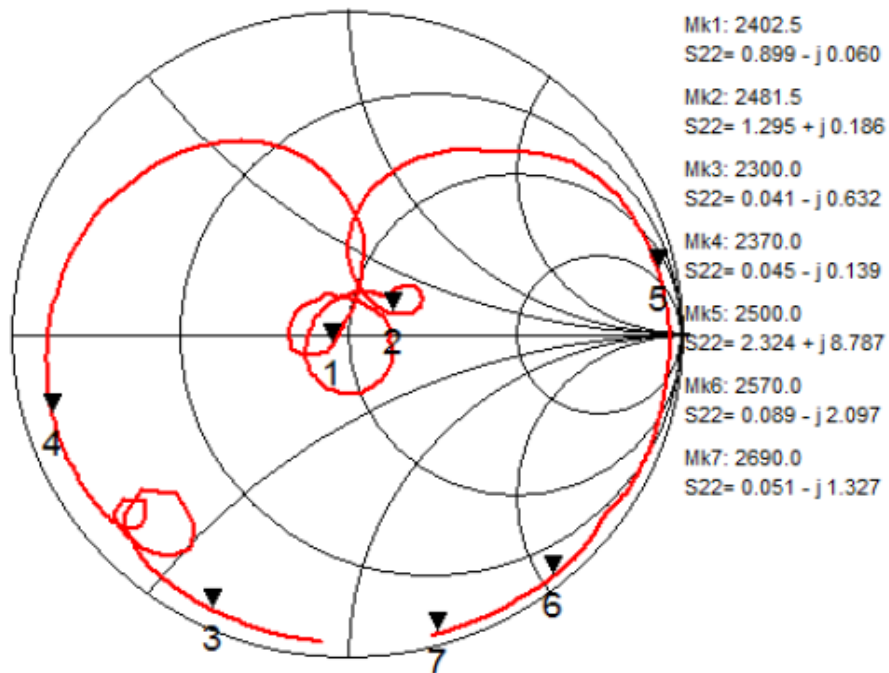
VSWR (Output)



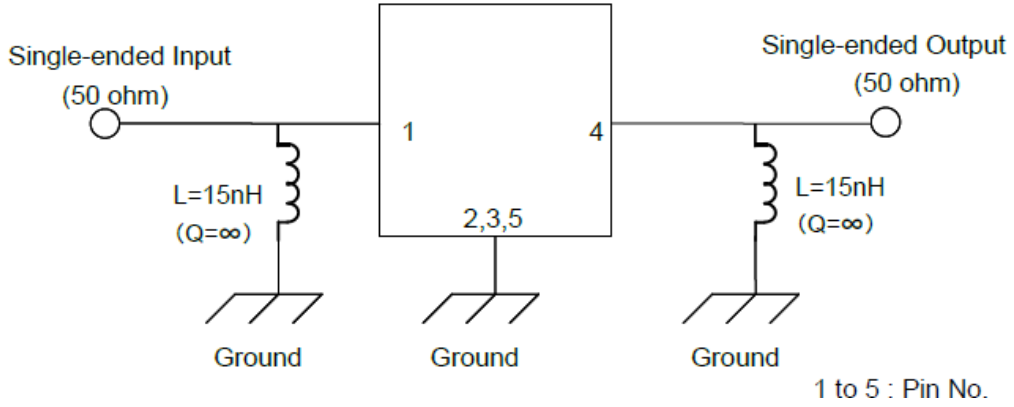
Smith Chart (Input)



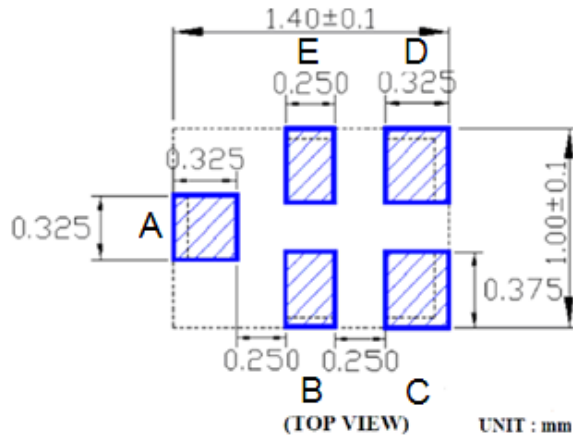
Smith Chart (Output)



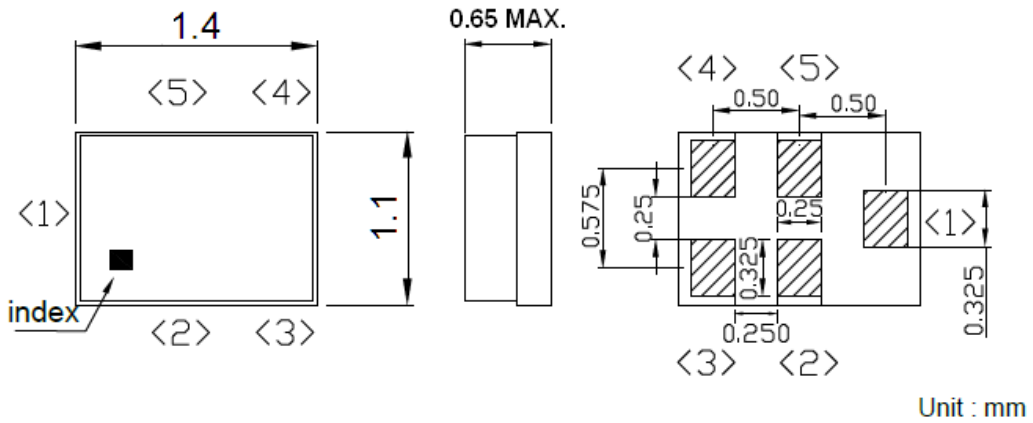
MEASUREMENT CIRCUIT:



PCB FOOTPRINT:



OUTLINE DRAWING:



All tolerances are +/-0.05 mm unless otherwise specified.

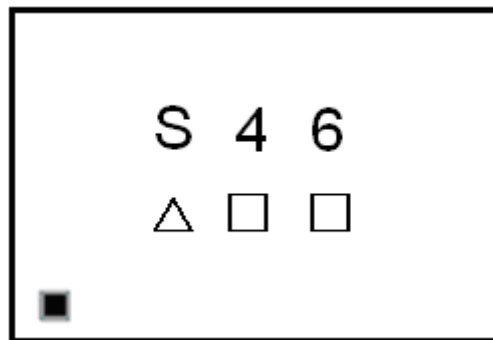
Pin Configuration

| Pin No. | Symbol | Function |
|---------|--------|------------------|
| 1 | IN | Single-ended pin |
| 2 | GND | Ground |
| 3 | GND | Ground |
| 4 | OUT | Single-ended pin |
| 5 | GND | Ground |

Top View (Sample Production):



Top View (Mass Production):



△ : **Date Code**

□ : **Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)**

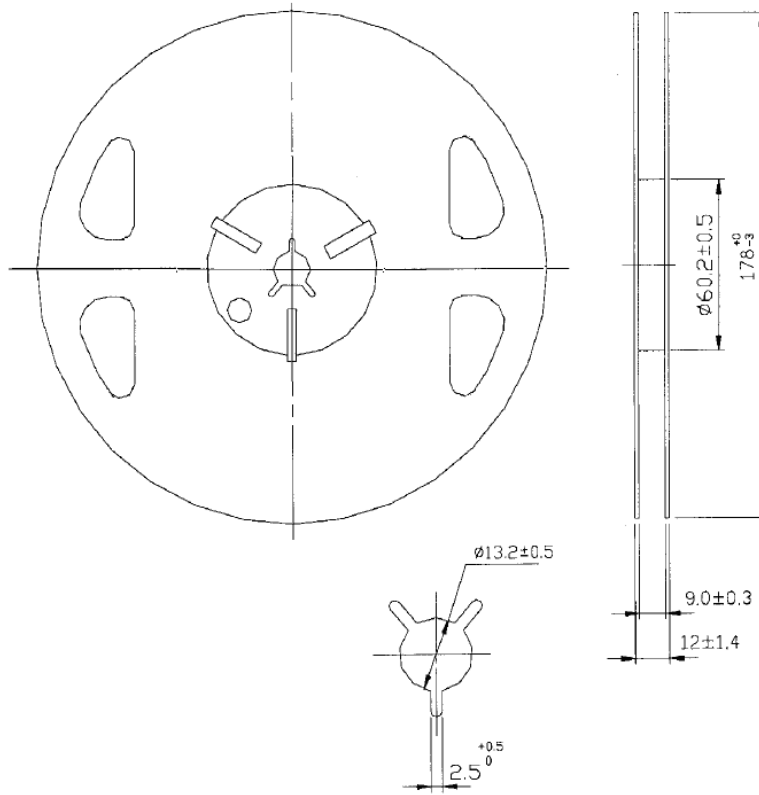
Date Code:

| Year | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 2020 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2021 | A | B | C | Đ | E | F | G | H | J | K | L | M |
| 2022 | N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 2023 | a | b | c | d | e | f | g | h | j | k | l | m |

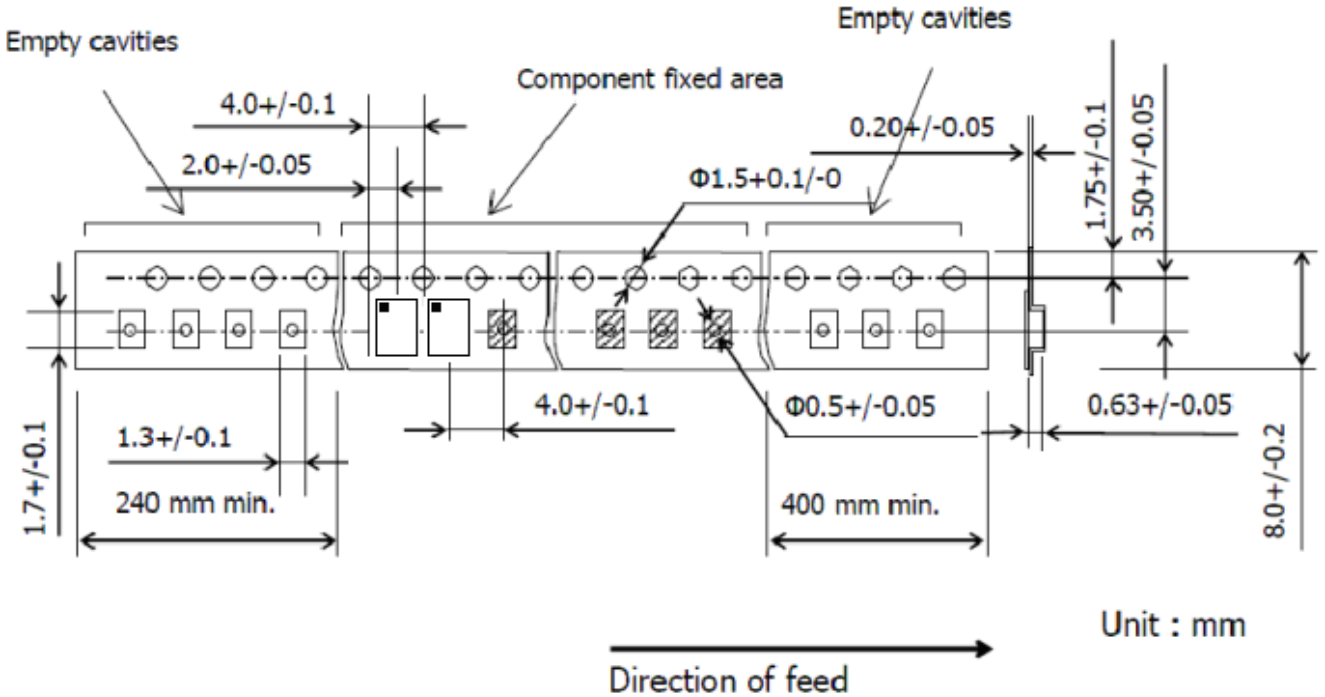
PACKING:

1. REEL DIMENSION

7" Reel Count: 2000

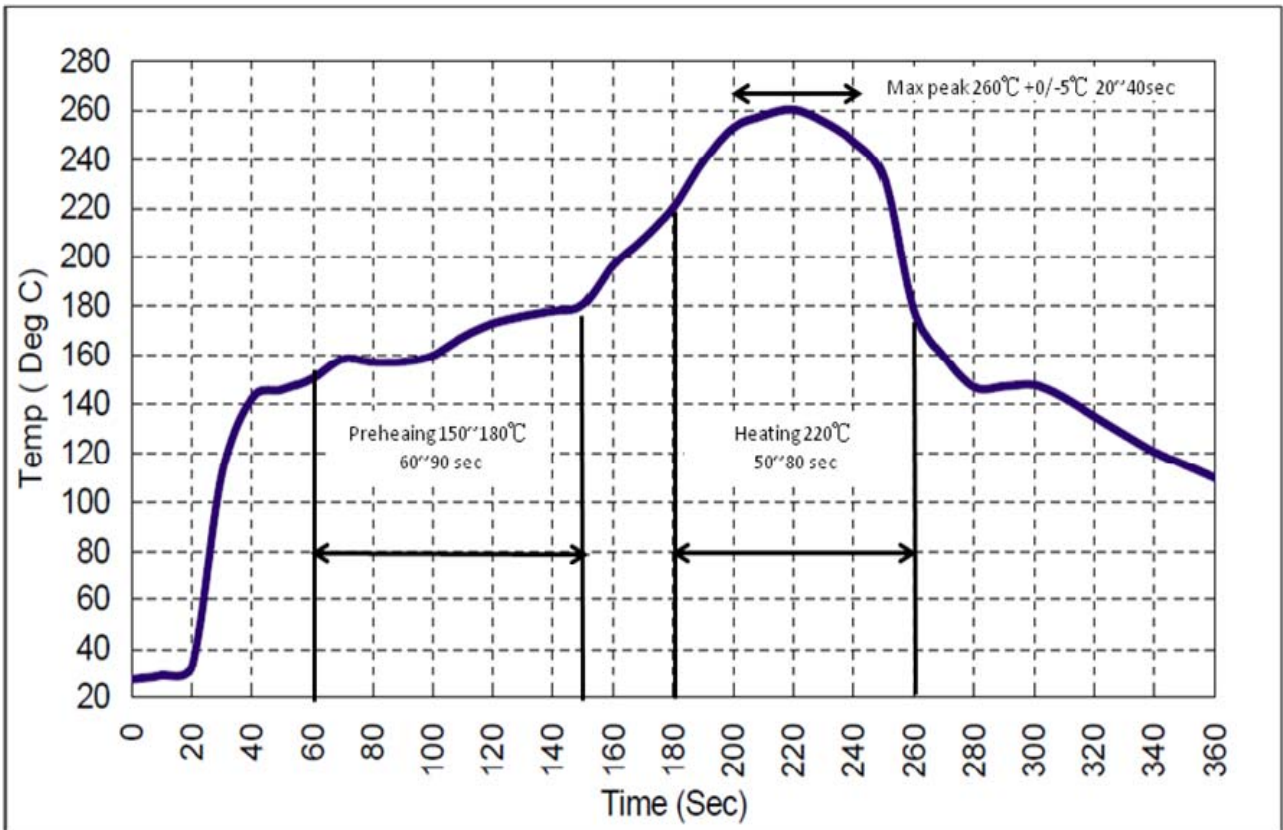


2. TAPE DIMENSION



RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.