



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

TEL: 886-3-4690038 FAX: 886-3-4697532

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## Product Specifications Approval Sheet

Product Name: SAW Filter 1583 MHz (BW 46.79MHz) SMD 1.4X1.1 mm

TST Parts No.: TA1661A

Customer Parts No.: \_\_\_\_\_

|                     |
|---------------------|
| Company: _____      |
| Division: _____     |
| Approved by : _____ |
| Date: _____         |

Checked by: \_\_\_\_\_ Michael Yang *Michael*

Approval by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2020/11/20

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes



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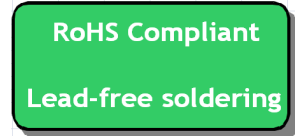
## SAW Filter 1583MHz

MODEL NO.:TA1661A

REV. NO.:5.0

### A. MAXIMUM RATING:

1. Input Power Level: 15 dBm
2. DC Voltage : 5Vmax
3. Operating Temperature: -40°C to +85°C
4. Storage Temperature: -40°C to +105°C
5. Moisture Sensitivity Level: Level 2a (MSL2a)
6. ESD 50V(MM) 100V(HBM)



Electrostatic Sensitive Device (ESD)

### B. ELECTRICAL CHARACTERISTICS:

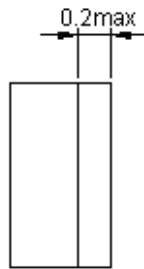
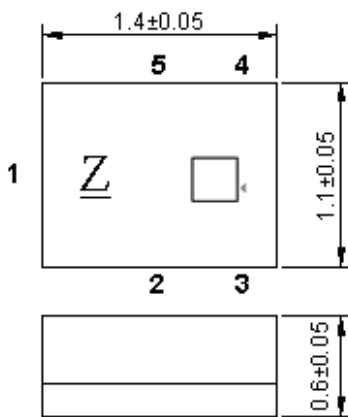
Terminating source impedance (single) :  $Z_s = 50 \Omega$

Terminating load impedance(single) :  $Z_L = 50 \Omega$

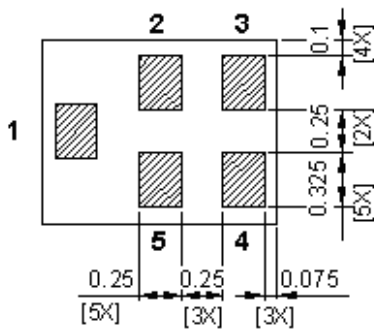
| Item  | Unit | Min | Type. | Max |
|---|------|-----|-------|-----|
| <b>Center Frequency</b> <b>Fc</b>                     | MHz  | -   | 1583  | -   |
| <b>Insertion Loss</b> (1559.1~1563.1 MHz) <b>IL</b>   | dB   |     | 1.8   | 2.1 |
| <b>Insertion Loss</b> (1573.42~1577.42 MHz) <b>IL</b> | dB   |     | 1.4   | 1.6 |
| <b>Insertion Loss</b> (1597.55~1605.89 MHz) <b>IL</b> | dB   |     | 1.7   | 2.1 |
| <b>VSWR</b> (1559.1~1563.1 MHz)                       |      |     | 1.4   | 1.8 |
| <b>VSWR</b> (1573.42~1577.42 MHz)                     |      |     | 1.6   | 2.0 |
| <b>VSWR</b> (1597.55~1605.89 MHz)                     |      |     | 1.6   | 1.9 |
| <b>Absolute Group Delay</b> (1573.42~1577.42 MHz)     | nS   |     | 15    | 17  |
| <b>Absolute Group Delay</b> (1597.55~1605.89 MHz)     | nS   |     | 17    | 19  |
| <b>Group Delay Ripple</b> (1573.42~1577.42 MHz)       | nS   |     | 2     | 3   |
| <b>Group Delay Ripple</b> (1597.55~1605.89 MHz)       | nS   |     | 4     | 6   |
| <b>Amplitude ripple</b>                               |      |     |       |     |
| (1559.1~1563.1 MHz)                                   | dB   |     | 0.6   | 0.8 |
| (1573.42~1577.42 MHz)                                 | dB   |     | 0.3   | 0.5 |
| (1597.55~1605.89 MHz)                                 | dB   |     | 0.5   | 0.6 |
| <b>Attenuation</b>                                    |      |     |       |     |
| 100 ~ 824    MHz                                      | dB   | 40  | 46    |     |
| 824 ~ 925    MHz                                      | dB   | 40  | 46    |     |

|                 |  |    |      |    |  |
|-----------------|--|----|------|----|--|
| 1427 ~ 1463 MHz |  | dB | 40   | 45 |  |
| 1710 ~ 1785 MHz |  | dB | 36   | 40 |  |
| 1850 ~ 1980 MHz |  | dB | 36   | 40 |  |
| 2400 ~ 2570 MHz |  | dB | 36   | 40 |  |
| 2570 ~ 3000 MHz |  | dB | 33   | 40 |  |
| Package size    |  | mm | 1411 |    |  |

**C.OUTLINE DRAWING:**



All tolerances are +/-0.05 mm unless otherwise specified  
 Coplanarity : 0.1 mm max.  
 1 to 5 : Pin No.  
 Unit : mm

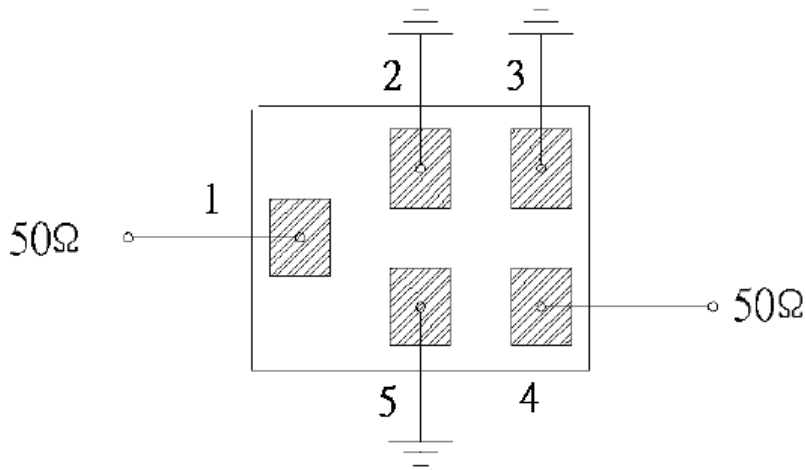


| Pin No.Ⓢ | SymbolⓈ | FunctionⓈ |
|----------|---------|-----------|
| 1Ⓢ       | INⓈ     | InputⓈ    |
| 2Ⓢ       | GNDⓈ    | GroundⓈ   |
| 3Ⓢ       | GNDⓈ    | GroundⓈ   |
| 4Ⓢ       | OUTⓈ    | OutputⓈ   |
| 5Ⓢ       | GNDⓈ    | GroundⓈ   |

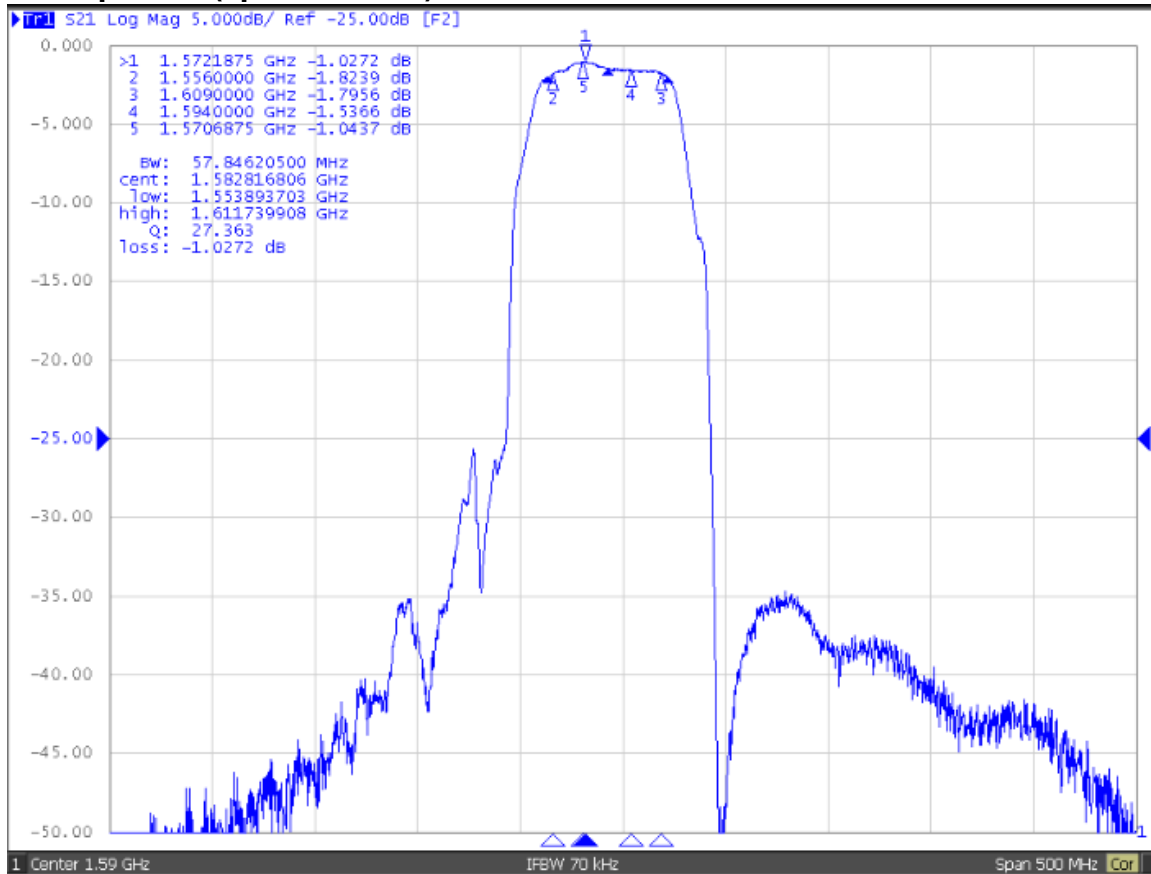
□ : Year/Month Code (Follow the table)

| YEAR/Month | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       | 11       | 12       |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 2013       | A        | B        | C        | D        | E        | F        | G        | H        | J        | K        | L        | M        |
| 2014       | N        | P        | Q        | R        | S        | T        | U        | V        | W        | X        | Y        | Z        |
| 2015       | a        | b        | c        | d        | e        | f        | g        | h        | j        | k        | l        | m        |
| 2016       | n        | p        | q        | r        | s        | t        | u        | v        | w        | x        | y        | z        |
| 2017       | <u>A</u> | <u>B</u> | <u>C</u> | <u>D</u> | <u>E</u> | <u>F</u> | <u>G</u> | <u>H</u> | <u>J</u> | <u>K</u> | <u>L</u> | <u>M</u> |
| 2018       | <u>N</u> | <u>P</u> | <u>Q</u> | <u>R</u> | <u>S</u> | <u>T</u> | <u>U</u> | <u>V</u> | <u>W</u> | <u>X</u> | <u>Y</u> | <u>Z</u> |
| 2019       | <u>a</u> | <u>b</u> | <u>c</u> | <u>d</u> | <u>e</u> | <u>f</u> | <u>g</u> | <u>h</u> | <u>i</u> | <u>k</u> | <u>l</u> | <u>m</u> |
| 2020       | <u>n</u> | <u>p</u> | <u>q</u> | <u>r</u> | <u>s</u> | <u>t</u> | <u>u</u> | <u>v</u> | <u>w</u> | <u>x</u> | <u>y</u> | <u>z</u> |

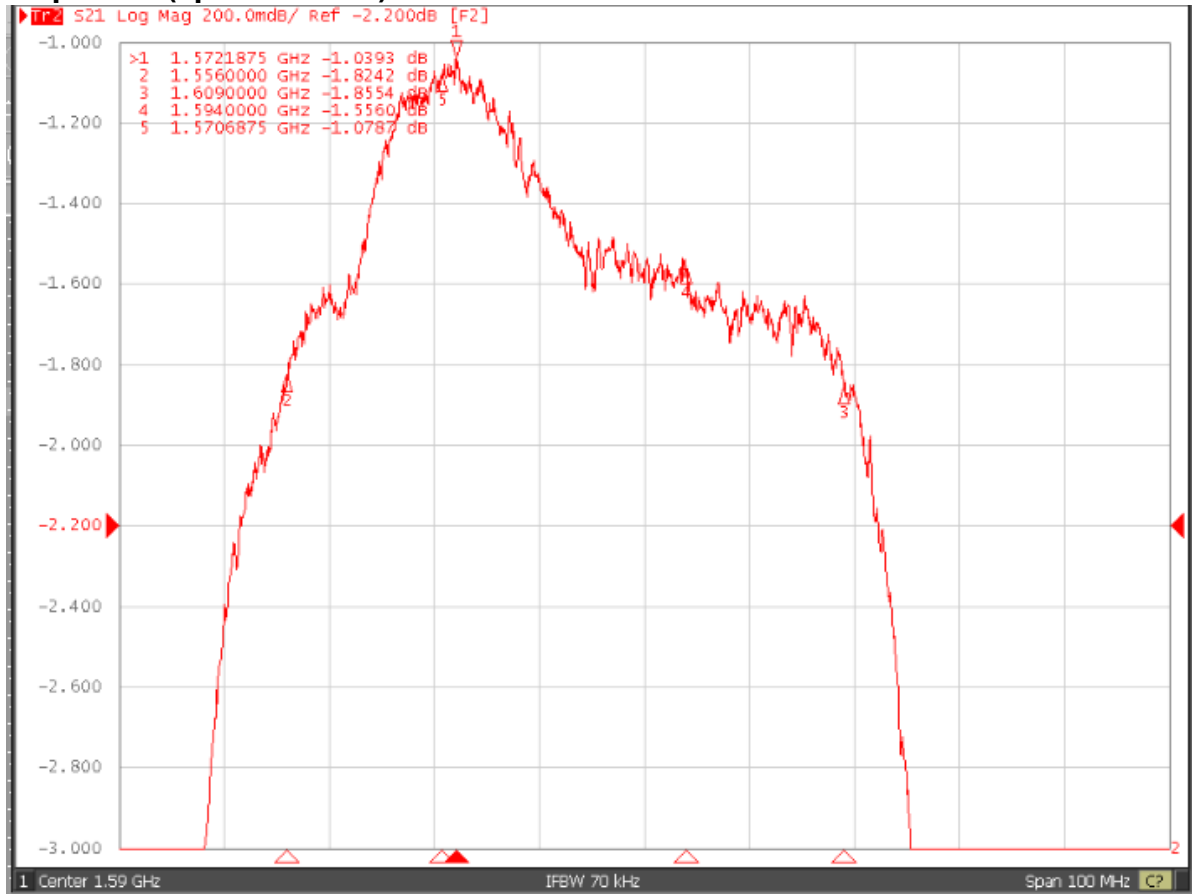
### D. MEASUREMENT CIRCUIT:



### E. Frequency Characteristics: S21 response: (span 500MHz)

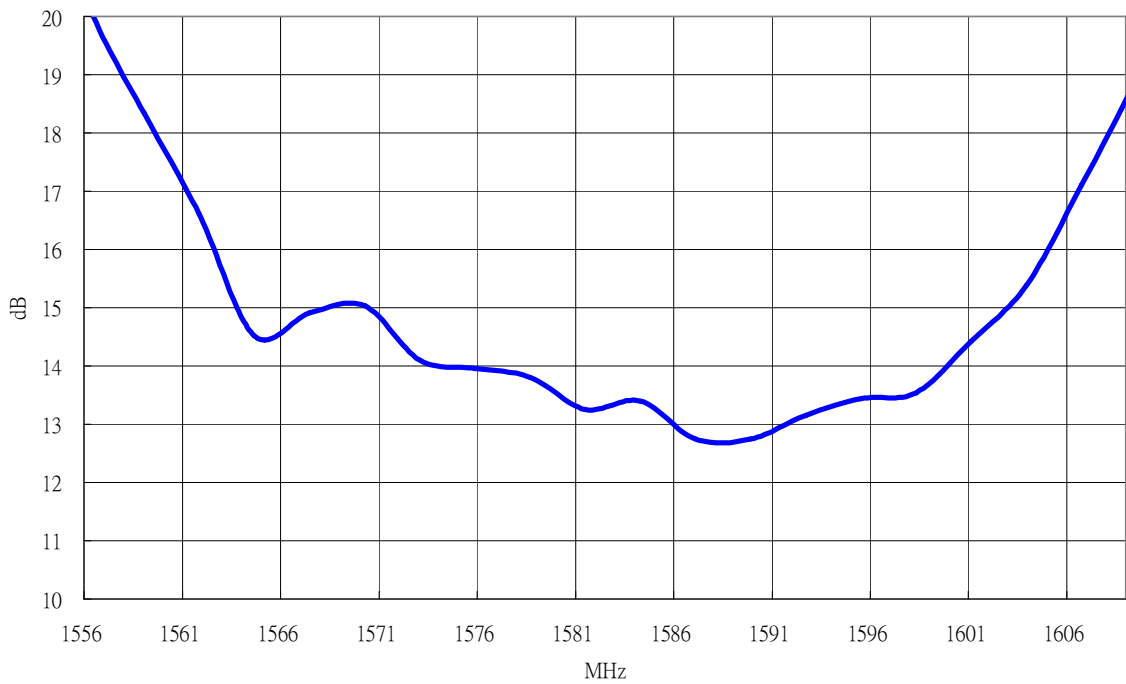


**S21 response: (span 100MHz)**

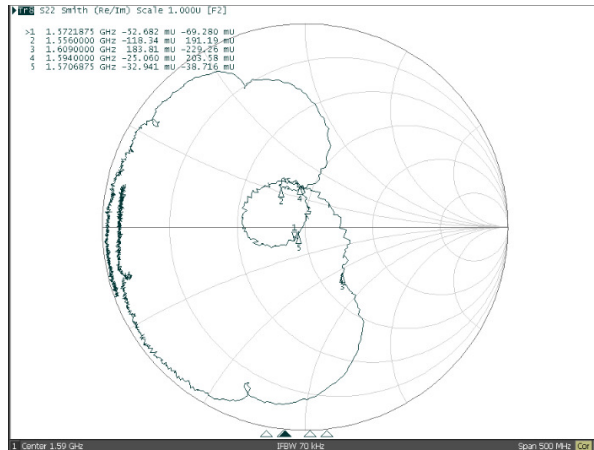
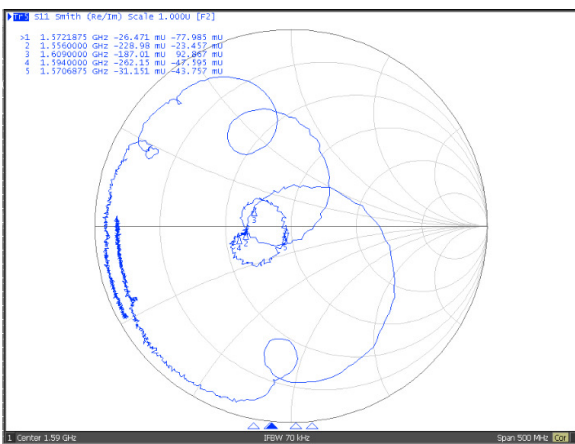


**Delay :**

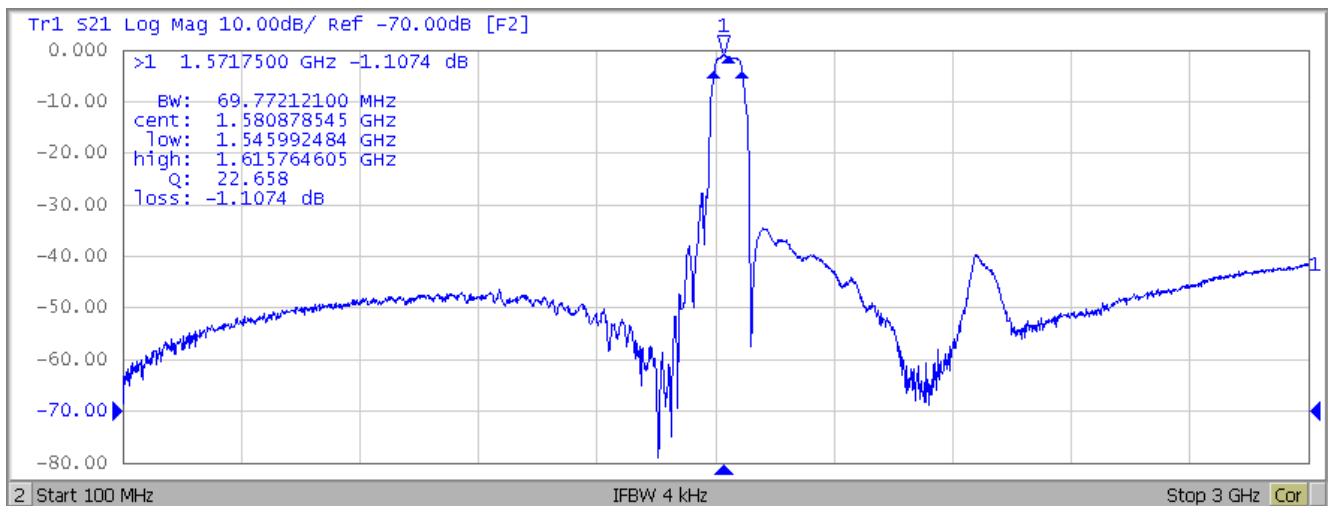
TA1661A-Delay



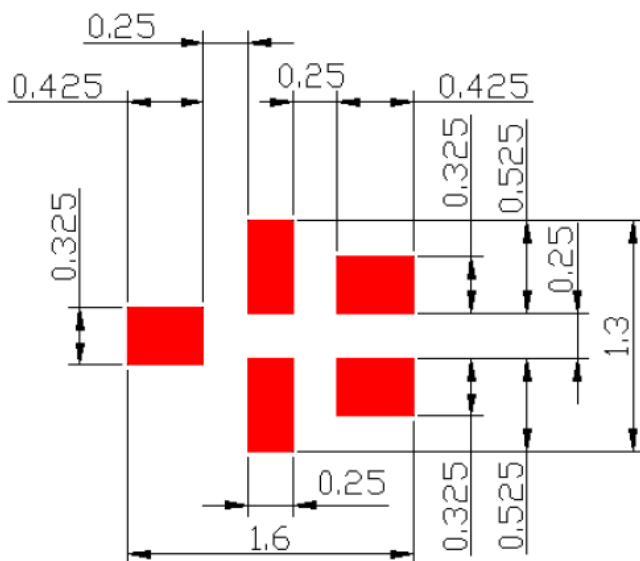
### S11/S22 response :



### S21 response: (span 3GHz)



### F. PCB Footprint:

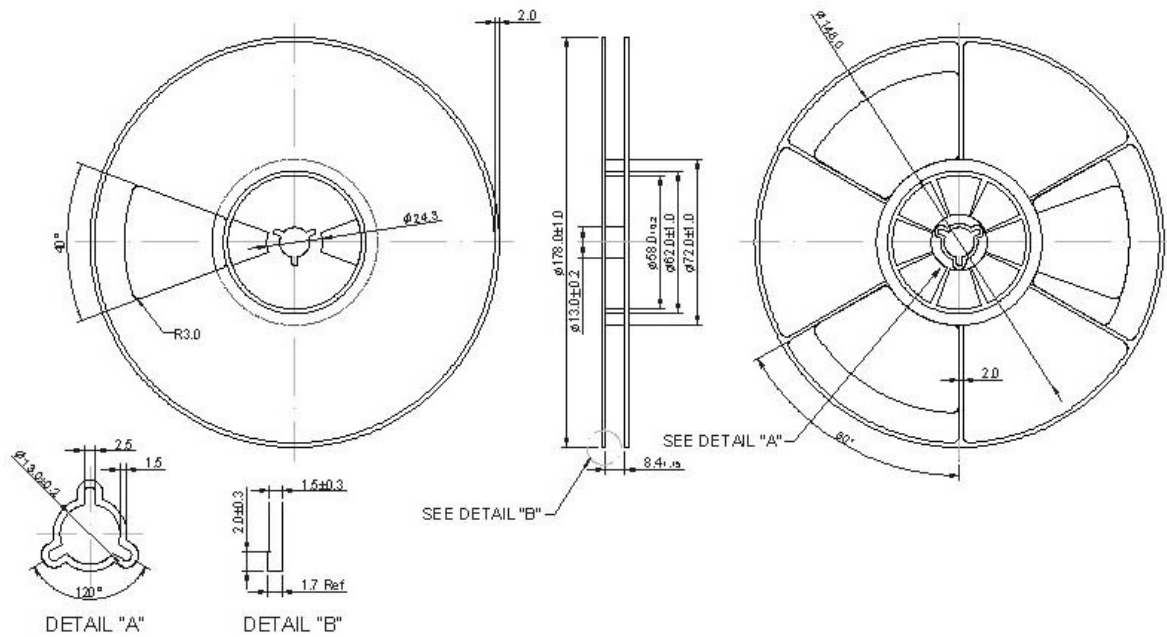


■ : Land Pattern

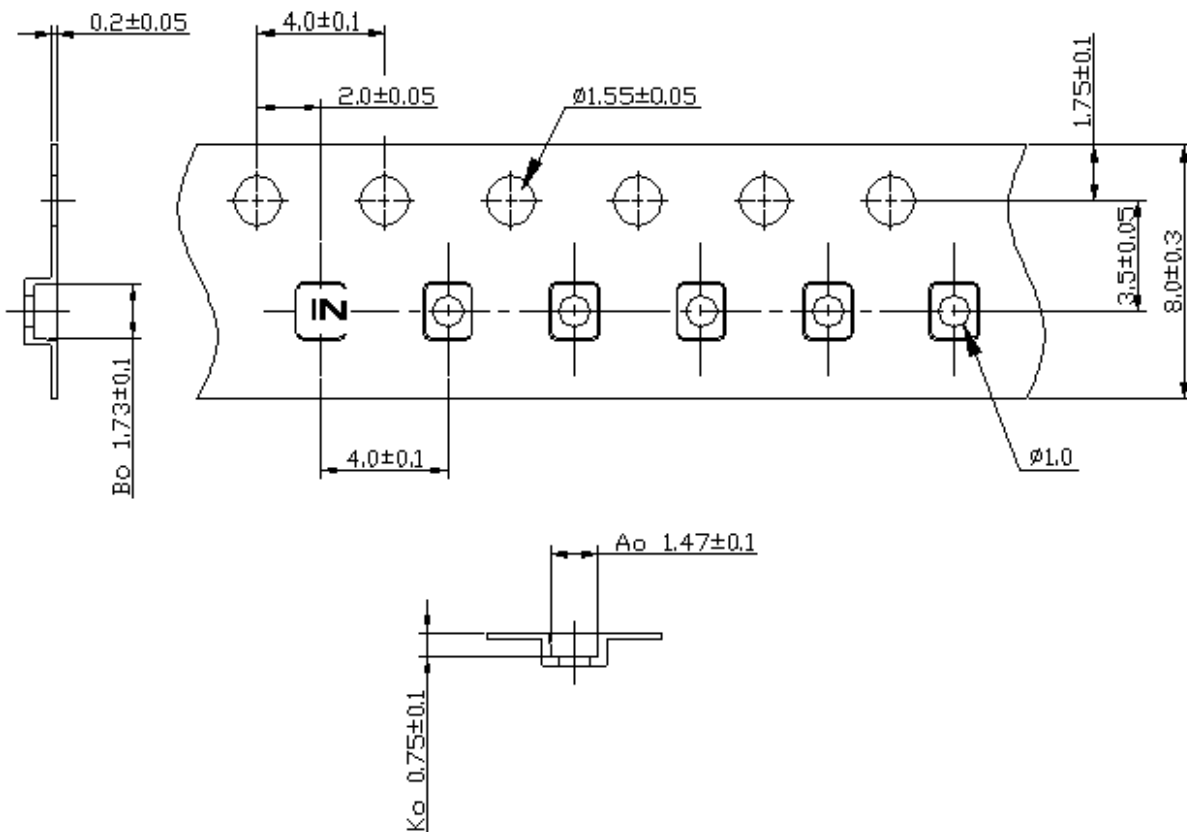
**G. PACKING:**

**1. REEL DIMENSION**

(Please refer to FR-75D10 for packing quantity)



**2. TAPE DIMENSION**



Direction of Feed



### H. 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.

