



# TAI-SAW TECHNOLOGY CO., LTD.

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

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## Product Specifications Approval Sheet

Product Name: BAW Filter 2442 MHz SMD 1.4x1.1 mm (BW=79 MHz)

TST Parts No.: TA1869C (AEC-Q200)

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

Customer signature required

Company: \_\_\_\_\_

Division: \_\_\_\_\_

Approved by : \_\_\_\_\_

Date: \_\_\_\_\_

Checked by: \_\_\_\_\_ Hayley Chou *Hayley Chou*

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

Date: \_\_\_\_\_ 2016/12/29

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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BAW Filter 2442MHz SMD 1.4x1.1 mm (BW=79 MHz)

MODEL NO.:TA1869C

REV.1.0

## A. MAXIMUM RATING:

1. Operating temperature range: -40 °C to +105 °C
2. Storage temperature range: -40 °C to +105 °C

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. 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 | Minimum | Typical | Maximum | Remarks       |
|-----------------------------|-------------------|------|---------|---------|---------|---------------|
| Center Frequency            |                   | 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 | -    | -       | 1.61    | 2.2     | +25℃          |
| VSWR(Output)                | 2402.5~2481.5 MHz | -    | -       | 1.64    | 2.2     | +25℃          |
| Maximum RF Input Power (CW) |                   | dBm  | +28     |         |         | CW, 50℃, 10kh |
| Attenuation:                |                   |      |         |         |         |               |
| 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℃ (*3) |
|                             |                   | dB   | 47      |         | -       | -10~+25℃ (*3) |
|                             |                   | dB   | 52      |         | -       | +25~+85℃ (*3) |
| 2505~2690 MHz               |                   | dB   | 45      | 49      | -       | (*3)          |
| 2570~2620 MHz               |                   | dB   | 47      | 53      |         | (*3)          |
| 2690~7500 MHz               |                   | dB   | 30      | 37      |         |               |

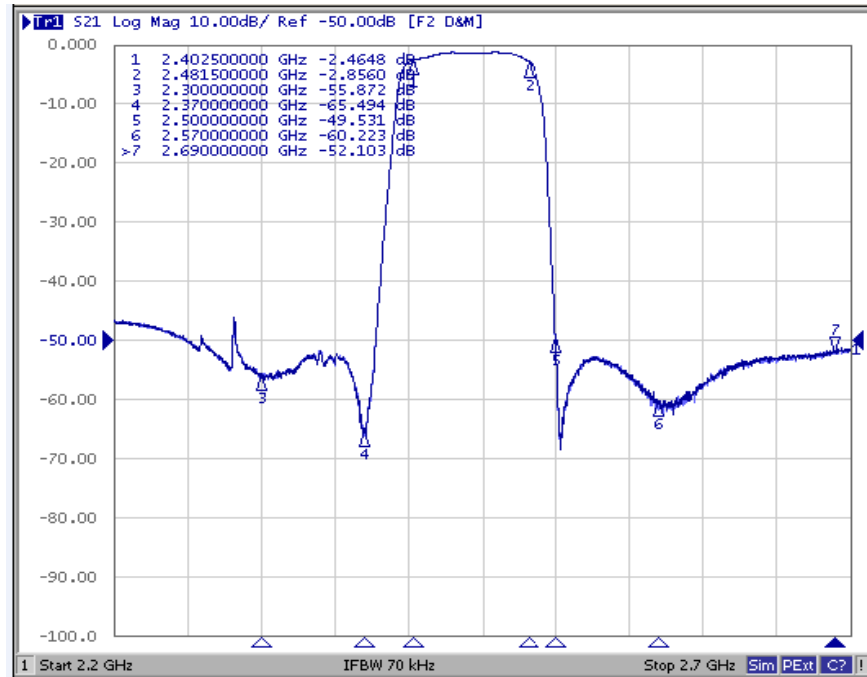
(\*1) Specification of insertion loss excludes loss that comes from the test board.

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

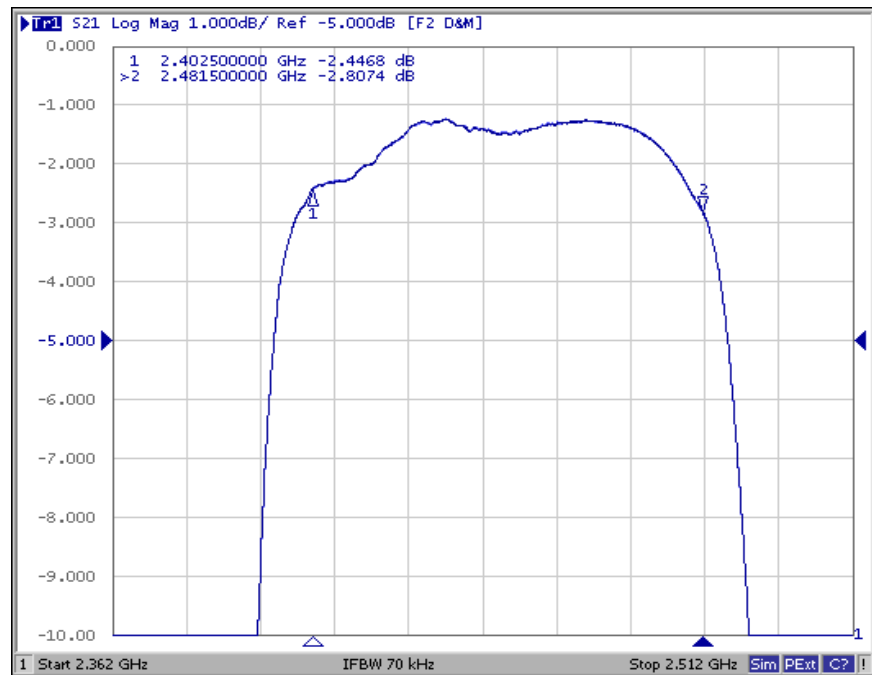
(\*3) The integrated loss over any 5MHz channel within the band.

### C. FREQUENCY CHARATERISTIC:

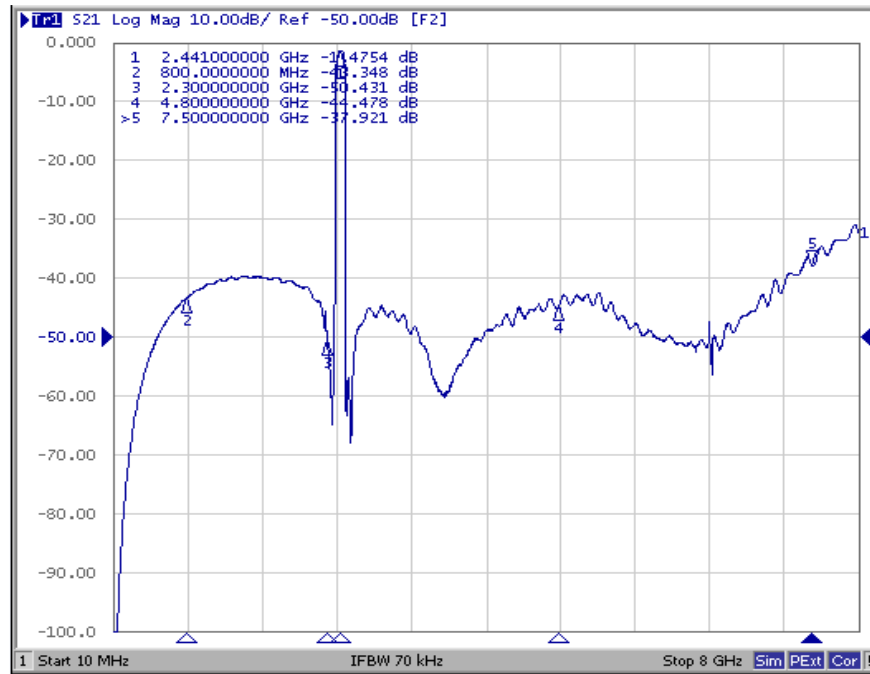
#### Pass-band



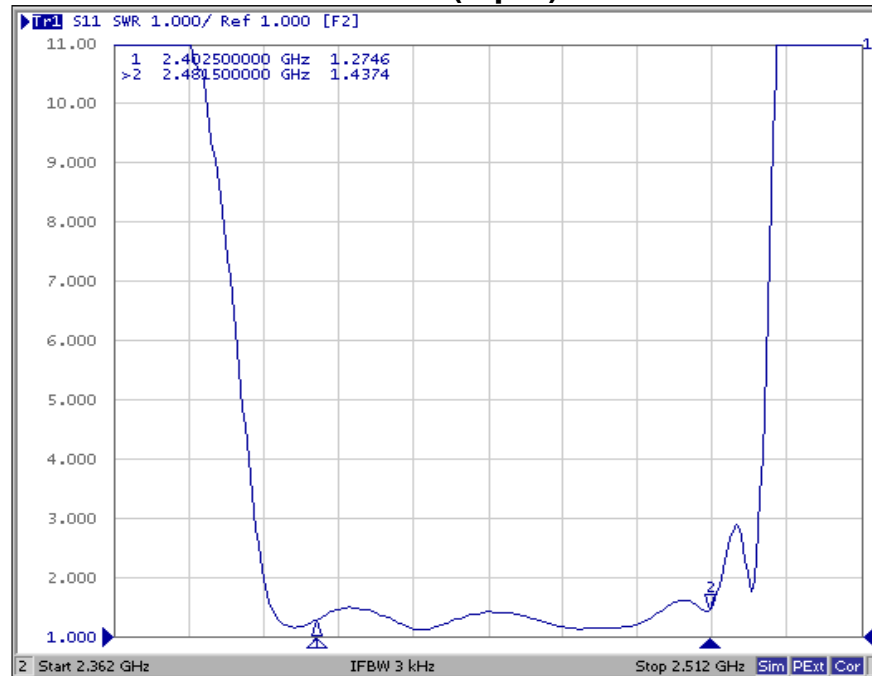
#### In-band



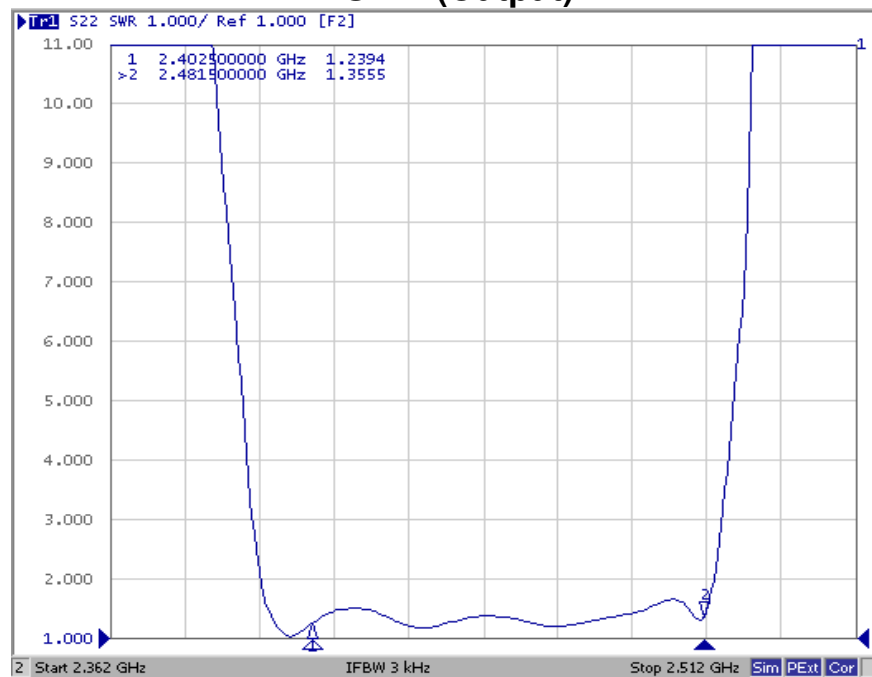
## Wide-band



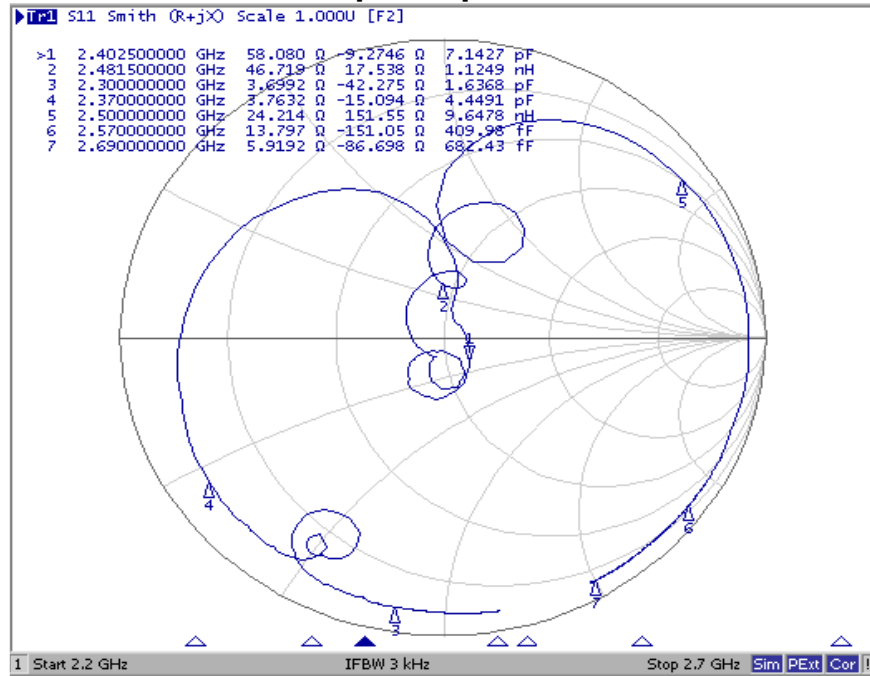
## VSWR (Input)



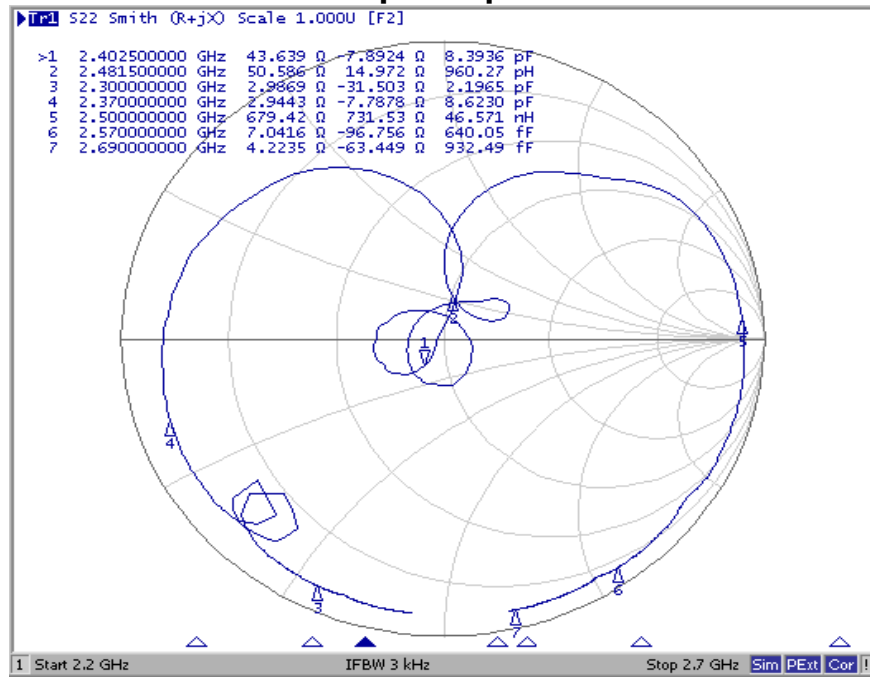
## VSWR (Output)



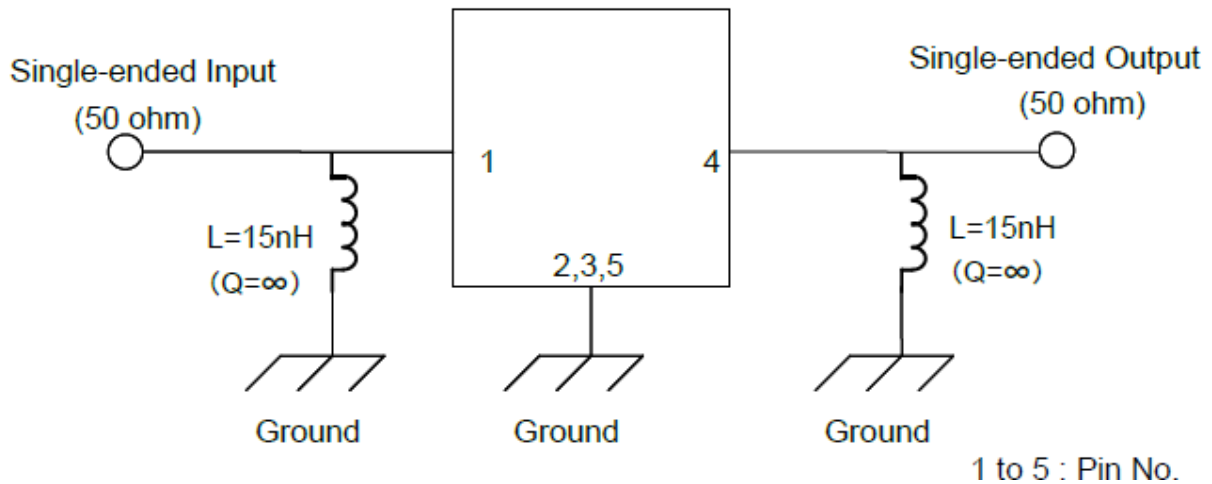
## Input Impedance



## Output Impedance

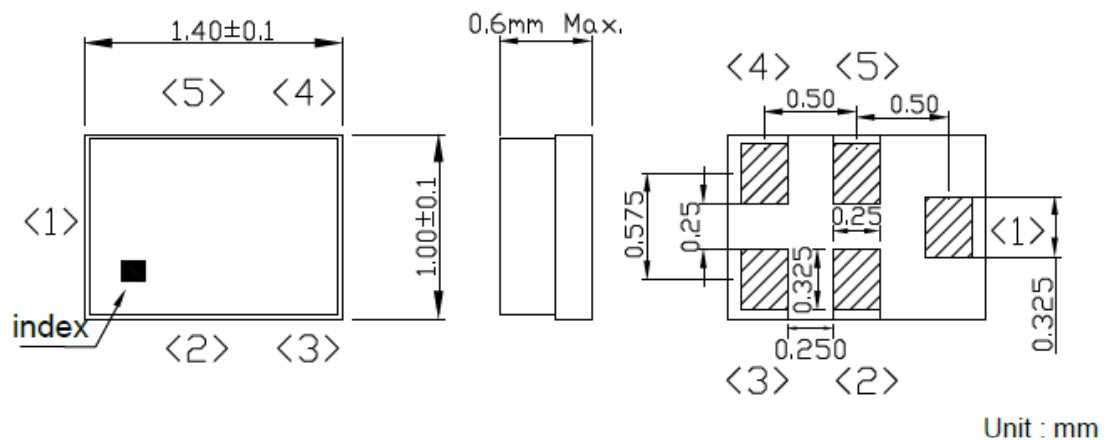


#### **D. MEASUREMENT CIRCUIT:**



### **E. OUTLINE DRAWING:**

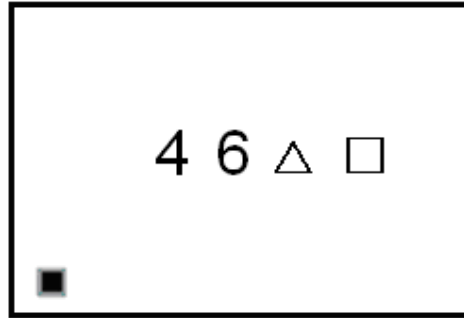
Device size: 1.4typ. x1.0typ. x 0.6max



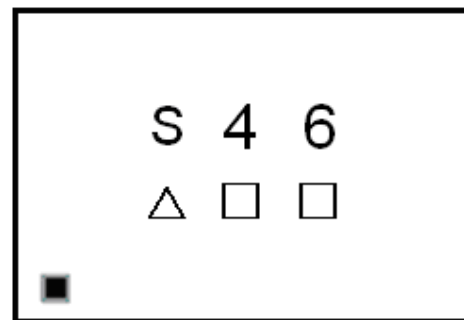
## Pin Configuration

| 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):**



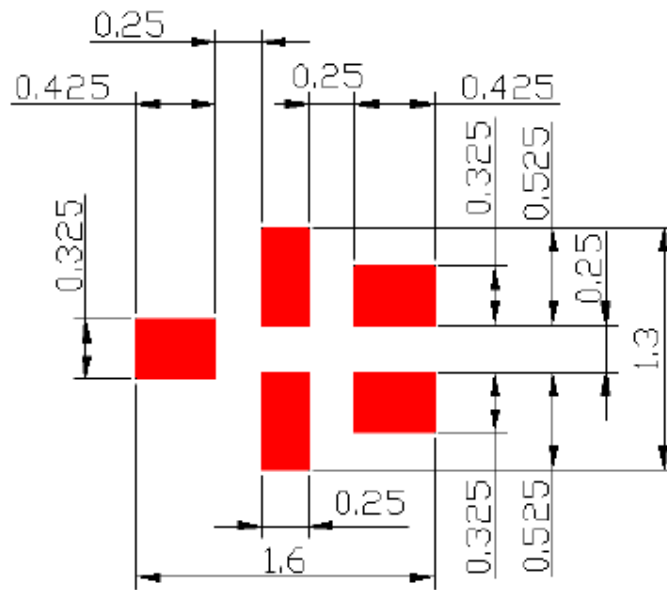
△ : Date Code

□ : 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. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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 | A    | B    | C    | D    | E    | F    | G    | H    | J    | K    | L    | M    |
| 2018 | N    | P    | Q    | R    | S    | T    | U    | ▽    | W    | X    | Y    | Z    |

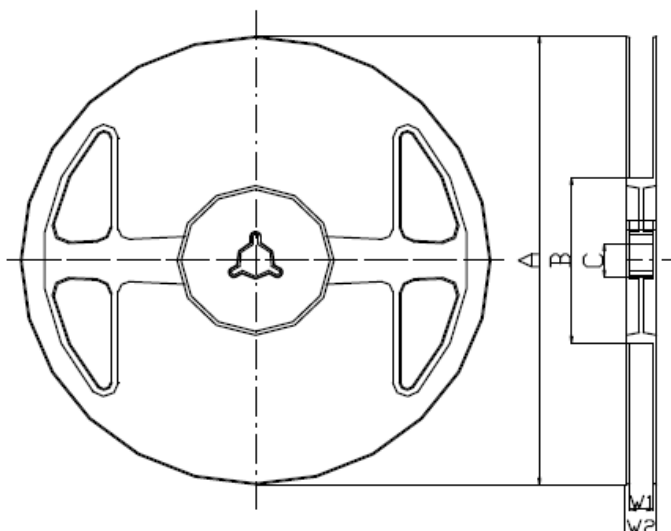
**F. PCB Footprint:**



 : Land Pattern  
Unit : mm

## G. PACKING:

### 1. REEL DIMENSION



#### Materials of Reel

Material : Polystyrene + Carbon

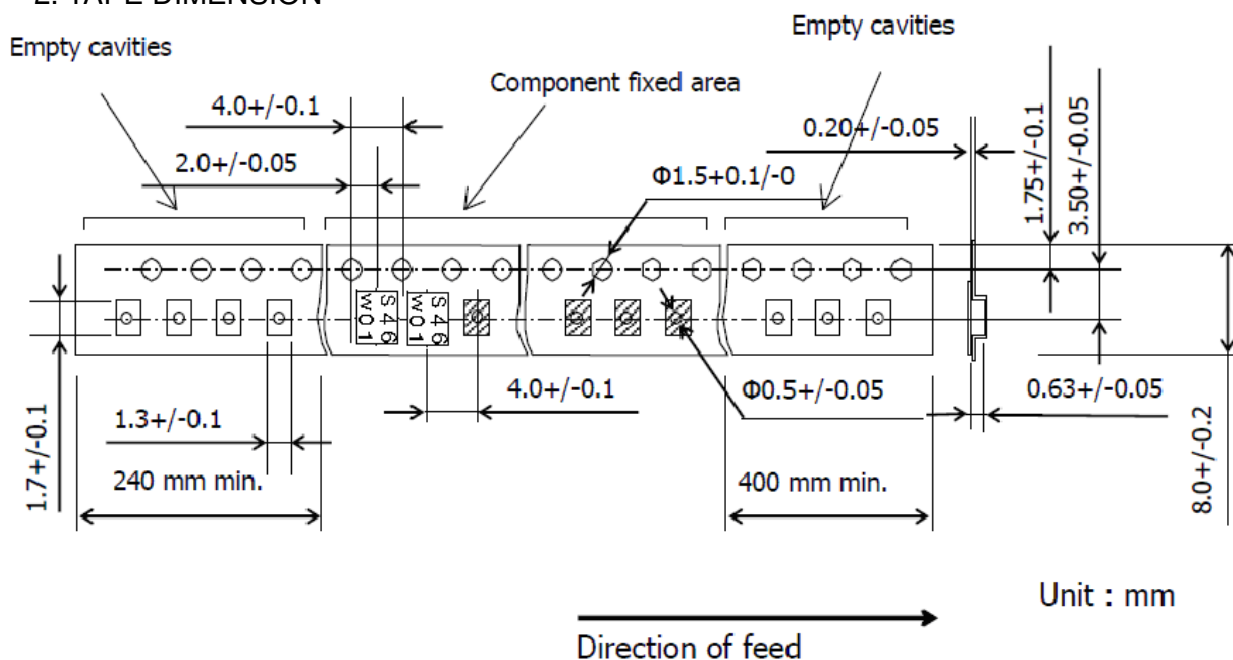
Color : Black

Surface resistance (reference value) :  $10^9 \Omega/\text{sq}$  Max.

Unit : mm

| Code | Quantity  | A                      | B                 | C                 | W1              | W2             |
|------|-----------|------------------------|-------------------|-------------------|-----------------|----------------|
| Z    | 3,000 pcs | $\phi 180.0 +0.0/-1.5$ | $\phi 66.0 +/-.5$ | $\phi 13.0 +/-.2$ | $9.0 +1.0/-0.0$ | $11.4 +/-.1.0$ |

### 2. TAPE DIMENSION



- H. RECOMMENDED TEMPERATURE PROFILE OF REFLOW SOLDERING:**
1. Preheating shall be fixed at  $150\sim 180^{\circ}\text{C}$  for 60~90 seconds.
  2. Ascending time to preheating temperature  $150^{\circ}\text{C}$  shall be 30 seconds min.
  3. Heating shall be fixed at  $220^{\circ}\text{C}$  for 50~80 seconds and at  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  peak (20~40sec).
  4. Time: 2 times.

