

### 1. PRODUCT DETAIL :

|                         |   |
|-------------------------|---|
| Item                    | Z403025   |
| Part No.                |   |
| Electrical Requirements | Impedance<br>Z = 10 $\Omega$ Min. ( 5 MHz )<br>Z = 30 $\Omega$ Min. ( 25 MHz )<br>Z = 38 $\Omega$ Min. (100MHz)<br>DCR = 0.6m $\Omega$ Max. |

### Test method :

|                |                            |
|----------------|----------------------------|
| Test Equipment | Agilent - 4287A            |
| Test Frequency | 5/25/100 MHz               |
| Coil Spec.     | FLAT.TCW (1.27W x0.20T)m/m |



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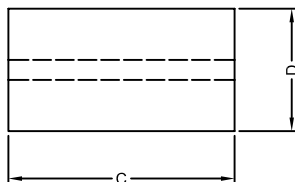
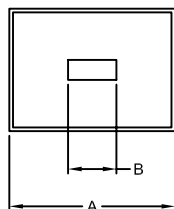


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### 2. CONFIGURATION & DIMENSIONS :

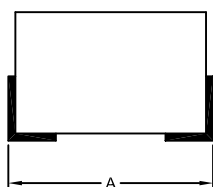
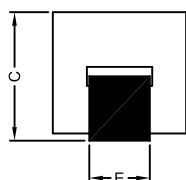
#### 2-1. Core Size



Unit:m/m

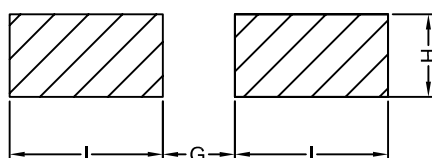
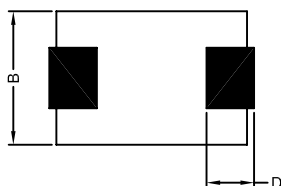
| A         | B         | C         | D         |
|-----------|-----------|-----------|-----------|
| 3.10±0.15 | 1.50±0.15 | 4.00±0.25 | 2.50±0.15 |

#### 2-2. Taping Size



Unit:m/m

| A         | B         | C         | D         | E         |
|-----------|-----------|-----------|-----------|-----------|
| 4.30~5.10 | 2.80~3.20 | 2.70~3.10 | 1.00~2.00 | 1.27±0.15 |



PCB PATTERN

Unit:m/m

| I       | G       | H       |
|---------|---------|---------|
| 3.0 ref | 1.0 ref | 1.8 ref |

### 3. GENERAL SPECIFICATION :

- a) Storage temp. : +5°C to +40°C
- b) Operating temp. : -40°C to +125°C
- c) Humidity: 60%~70%RH



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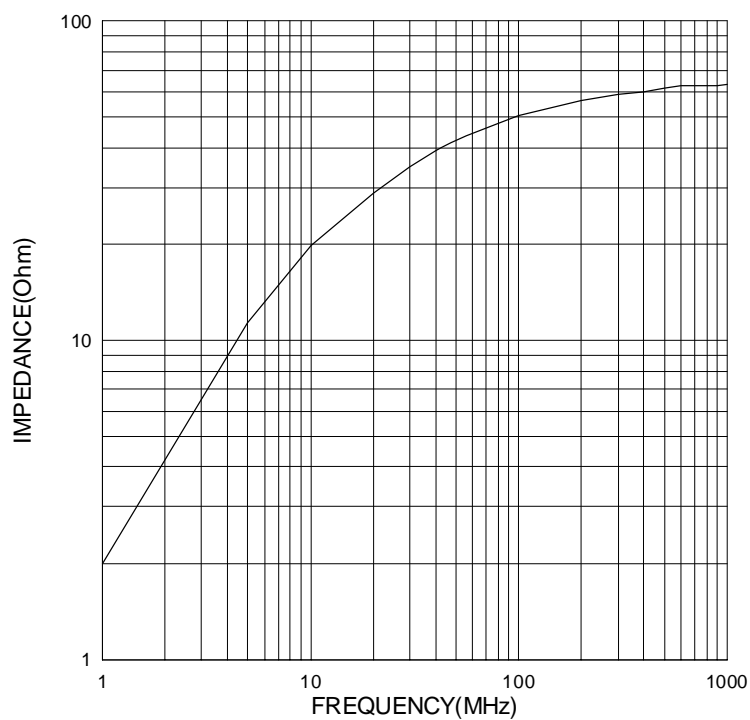
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### 4. CHARACTERISTICS CURVE :



Coil : Flat.TCW (1.27Wx0.20T) mm

Meter : Agilent 4287A



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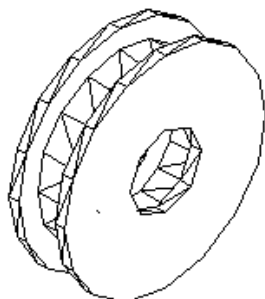
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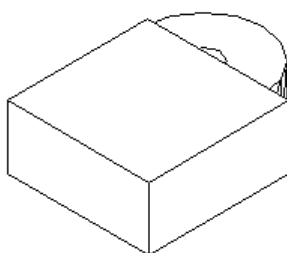


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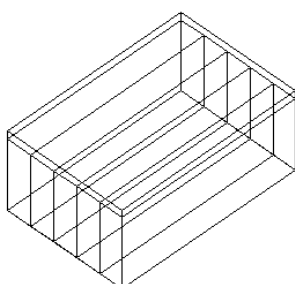
### 5. PACKAGING INFORMATION :



Tape and reel packing (Quantity : 500pcs/reel)



Each inner box contains 4 reels.



One carton has 20 inner boxes.

Total Qty : 40000 pcs (2000pcs x 20)



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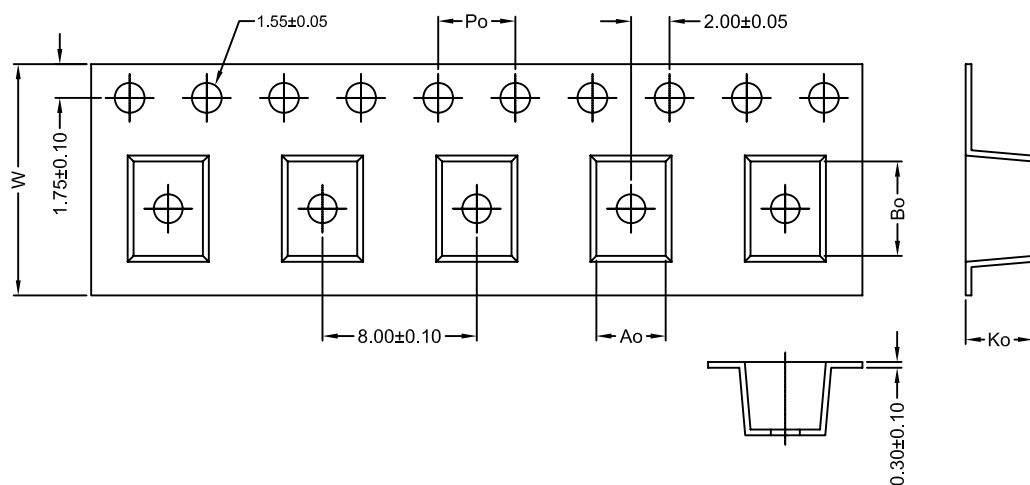
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### 5-2. Tape Dimensions (Unit : mm)



| W          | Po        | Ao        | Bo        | Ko        | Quantity (Chips/Reel) |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| 12.00±0.30 | 4.00±0.10 | 3.60±0.10 | 4.90±0.10 | 3.50±0.10 | 500                   |

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### 6. RELIABILITY & TEST CONDITION :

#### Solder Heat Resistance

Solder : M705-GRN360-K2-V

Peak-temp hold time :4sec

Pre-heat Solder Temperature &Dip

Reflow soldering time as follow

No Damage and No Abnormal on Surface

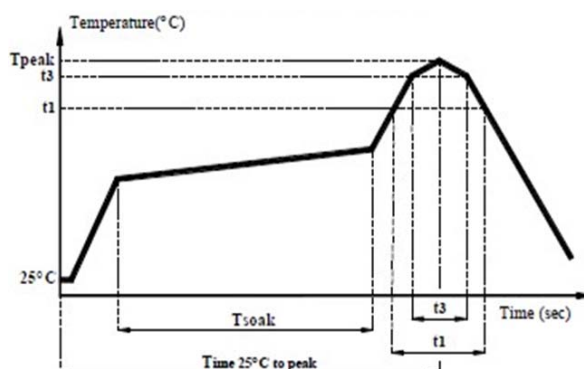
Impedance : Within $\pm 20\%$  of Initial Value

More than 75% of the terminal electrode should be covered and uniformity with solder

| Item                                       | mark  | Products  |   |
|--|-------|---|---|
|  |       | size $\geq 350\text{mm}^3$ of thickness $\geq 2.5\text{mm}$ | size $< 350\text{mm}^3$ of thickness $< 2.5\text{mm}$ |
| Temperature rise gradient                  |       | 3°C/sec(max)  |   |
| Heating time<br>Heating temperature        | Tsoak | 50s~150s<br>120°C~180°C                                     |   |
| Time over 217°C                            | t1    | 60sec   | 90sec   |
| Time within 5°C of actual peak temperature | t3    | 10~30sec  | 10~30sec  |
| peak temperature                           | Tpeak | 250( $\pm 5^\circ\text{C}$ )                                | 260( $\pm 5^\circ\text{C}$ )                          |
| Time 25°C to peak temperature              |       |   |   |

The determination first primarily determines by the size then determines the altitude

Reflow soldering temperature profile



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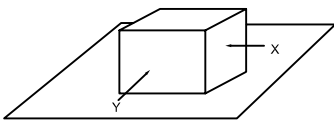
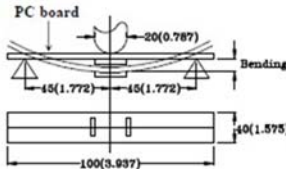
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### 6. RELIABILITY & TEST CONDITION :

| ITEM              | PERFORMANCE   | TEST CONDITION  |
|-------------------|---|---|
| Solderability     | <p>Solder : M705-GRN360-K2-V</p> <p>Solder Temp: <math>235^{\circ}\text{C} \pm 5^{\circ}\text{C}</math></p> <p>Peak-temp hold time :5sec</p> <p>Pre-heat Solder Temperature &amp;Dip time as follow</p>   | More than 90% of the terminal electrode should be covered and uniformity with fresh solder. |
| Terminal Strength | <p>After soldering of X,Y withstanding as below conditions</p> <p>The terminal should not peel off (Refer to figure as below)</p> <p>Define :A=sectional area of terminal</p> <p><math>A \leq 8\text{mm}^2</math> forec <math>\geq 0.5\text{kg}</math>, time:30sec</p> <p><math>8\text{mm}^2 &lt; A \leq 20\text{mm}^2</math> forec <math>\geq 1\text{kg}</math>, time:10sec</p> <p><math>20\text{mm}^2 &lt; A</math> forec <math>\geq 2\text{kg}</math>, time:10sec</p>  | Terminal and body must not be damage or separate  |
| Flesare Strength  | <p>Put the component solder chip on a test board and bend the board to 2mm then recovery to original point</p> <p>Unit:mm(inch)</p>    | No damage and no abnormal on chip body surface  |



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### 6. RELIABILITY & TEST CONDITION :

| ITEM                          | PERFORMANCE  | TEST CONDITION   |
|-------------------------------|--|--|
| Hight Temp<br>Resistance Test | Operating temperature. : $125^{\circ}\text{C}\pm 3^{\circ}\text{C}$<br>Applied Current : per spec<br>Time : 96 Hrs<br>Measure after exposure in the room<br>Temperature for 4 to 24 Hrs                    | Appearance : no damage<br>Impedance : Within $\pm 20\%$ of Initial Value |
| Humidity Test                 | Temperature : $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$<br>Humidity : $95\pm 2\%$ R.H.<br>Applied Current : per spec<br>Time : 96 Hrs<br>Measure after exposure in the room<br>Temperature for 4 to 24 Hrs | Appearance : no damage<br>Impedance : Within $\pm 20\%$ of Initial Value |
| Temperature<br>Cycling Test   | One Cycle : $+125^{\circ}\text{C} / 30\text{Min}$<br>$-40^{\circ}\text{C} / 30\text{Min}$<br>Cycle Times : 5 Cycle<br>Measure after exposure in the room<br>Temperature for 4 to 24 Hrs                    | Appearance : no damage<br>Impedance : Within $\pm 20\%$ of Initial Value |



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### 6. RELIABILITY & TEST CONDITION :

#### Peeling Force Test

##### 1. Experiments the applicable scope

Per EIA-481 criteria, the procedures are suitable for Jantek packing process, which to provide the SMT production for end customers

##### 2. Test condition

2-1 Test machine : Peel Force Tester : PF-2000

2-2 Test Pull velocity : 300mm±10mm/min

2-3 Test Pulling force angle : The Carrier tape and Cover tape makes an angle between 165°~180°

##### 3. Test Method :

3-1 Fix the carrier tape on the experimental station base

3-2 Take a section of the cover tape and clip it on the station jig

3-3 Turn on the machine and set the specification in "DATA SET"

3-4 Start the tests

##### 4. Test Specification :

| Carrier tape width | Specification (gr) |
|--------------------|--------------------|
| 8~24mm             | 10~120             |
| 32~56mm            | 10~130             |

##### 5. Test Cycle :

Each kind of size specification in the production every two weeks takes the 60cm experiment and the recording in the form. (QR2403)



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