

## ■ Features

- High density packaging with a pitch of 2.54mm(0.1 inch) max. is possible.  
This series requires less space and has greater EMI suppression effects.
- Different types with the same shape are available.
- Excellent in physical properties, such as terminal strength, flexure strength, soldering resistance and solderability.
- Applicable to both flow and reflow soldering.
- High impedance cover wide frequency ranges.
- YI series can be used in high current circuits due to its low DC resistance.
- Operating temperature: -40°C ~ +125°C.

## ■ Applications

- Computers and peripheral devices, personal computers, VCR and cameras.
- Noise suppression in digital equipments, car stereo, car engines controllers and OA electronic instruments.
- Communication equipment.

## ■ Product Identification

|           |               |          |            |   |             |
|-----------|---------------|----------|------------|---|-------------|
| <u>YI</u> | <u>□□□□□□</u> | <u>□</u> | <u>□□□</u> | - | <u>□□□□</u> |
| (1)       | (2)           | (3)      | (4)        |   | (5)         |

(1) : Type

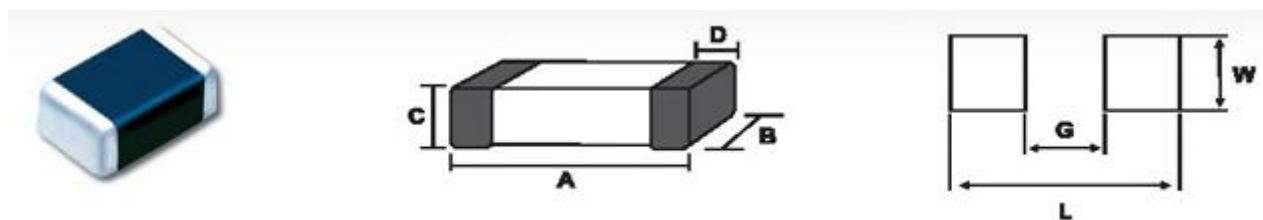
(2) : Dimensions

(3) : Material Code

(4) : Impedance

(5) : Rated Current

## ■ Shapes and Dimensions (Unit: mm)



| TYPE     | A       | B       | C       | D       | L    | W    | G    |
|----------|---------|---------|---------|---------|------|------|------|
| YI201209 | 2.0±0.2 | 1.2±0.2 | 0.9±0.2 | 0.5±0.3 | 3.20 | 1.50 | 0.60 |

## ■ Electrical Requirements

| Part Number       | Impedance( $\Omega$ )<br>$\pm 25\%$ | Test Freq.<br>(MHz) | DCR MAX.<br>( $\Omega$ ) | Rating Current MAX<br>(A) |
|-------------------|-------------------------------------|---------------------|--------------------------|---------------------------|
| YI201209U601-2R0T | 600                                 | 100                 | 0.15                     | 2.0                       |

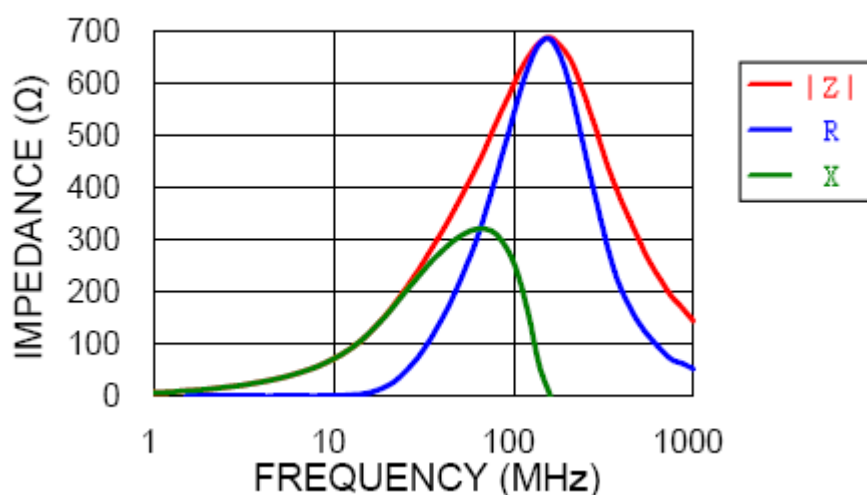
TEST INSTRUMENTS:

HP 4338A MILLIOHM METER

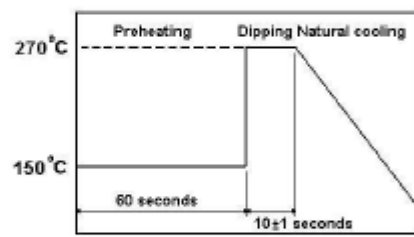
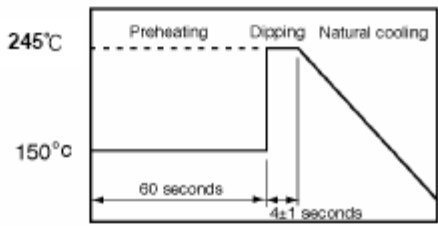
HP 4291B RF IMPEDANCE/MATERIAL ANALYZER

## ■ Impedance VS. Frequency characteristic

Typical Impedance Characteristics : HP 4291B



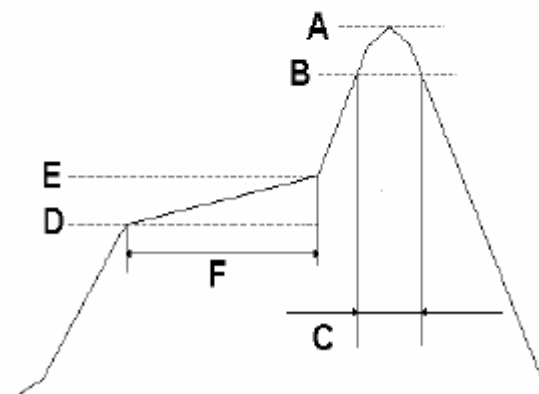
## Reliability test

| Item                                   | Performance                                                                                        | Test condition                                                                                                                                                                                           |
|----------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range            | -55 °C to + 125 °C                                                                                 |                                                                                                                                                                                                          |
| Storage temperature and umidity ranges | 40 °C MAX., 70% RH MAX.                                                                            |                                                                                                                                                                                                          |
| Soldering heat resistance              | The chip shall not be cracks.<br>More than 75% of terminal electrode shall be covered with solder. | Preheat: 150 °C, 60 seconds<br>Solder temperature : $270 \pm 5$ °C<br>Flux: Rosin<br>Dip time: $10 \pm 1$ seconds<br> |
| Solderability                          | More than 90% of the terminal electrode shall be covered with new solder.                          | Preheat: 150 °C, 60 seconds<br>Solder temperature: $245 \pm 5$ °C<br>Flux: Rosin<br>Dip time: $4 \pm 1$ seconds<br> |

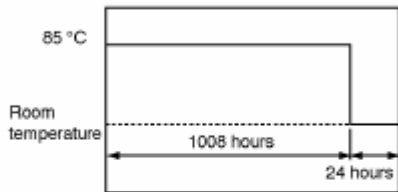
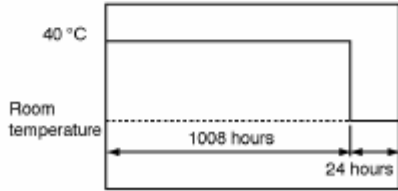
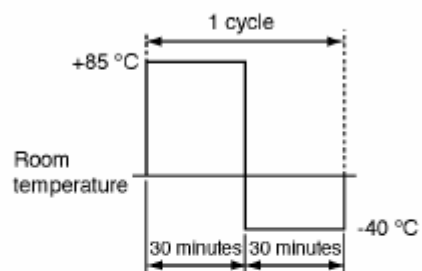
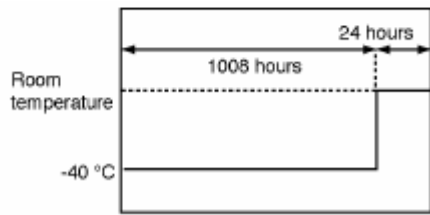
### Recommended Soldering Conditions

(REFLOW TEMPERATURE PROFILE) Lead-Free

|   |                             |
|---|-----------------------------|
| A | $260 \pm 5^{\circ}\text{C}$ |
| B | $230 \pm 5^{\circ}\text{C}$ |
| C | $30 \pm 10 \text{ sec}$     |
| D | $150^{\circ}\text{C}$       |
| E | $180^{\circ}\text{C}$       |
| F | $90 \pm 30 \text{ sec}$     |

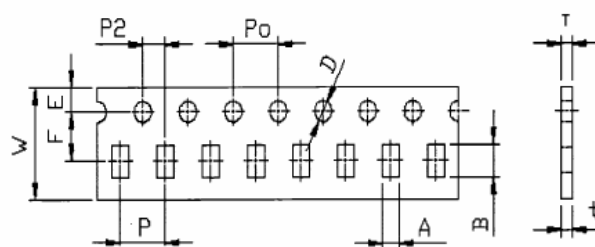
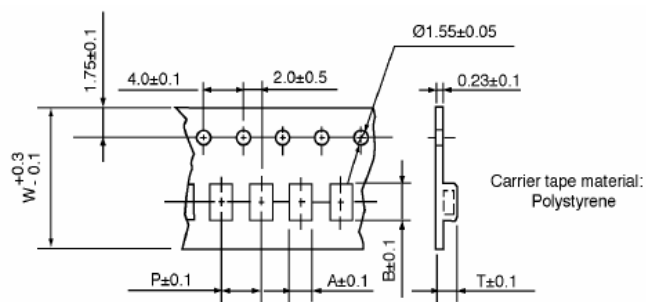


## Reliability test

| Item                              | Performance                                                                                                                                                 | Test condition                                                                                                                                                                                                                                                |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High temperature resistance       | Appearance: Ferrite shall not be damaged.<br>Impedance: Within $\pm 20\%$ of the initial value.                                                             | Temperature: $85\pm 2^{\circ}\text{C}$<br>Testing time: $1008\pm 12$ hours<br>Measurement: After placing for 24 hours min.<br>                                              |
| Humidity resistance               | Appearance: Ferrite shall not be damaged.<br>Impedance: Within $\pm 20\%$ of the initial value                                                              | Humidity: 90 to 95% RH<br>Temperature: $40\pm 2^{\circ}\text{C}$<br>Testing time: $1008\pm 12$ hours<br>Measurement: After placing for 24 hours min.<br>                   |
| Thermal Shock                     | Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Impedance: Within $\pm 20\%$ of the initial value  | Temperature: $-40^{\circ}\text{C}$ , $+85^{\circ}\text{C}$ , kept stabilized for 30 minutes each<br>Cycle: 100 cycles<br>Measurement: After placing for 24 hours min.<br> |
| Low temperature storage life test | Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Impedance: Within $\pm 20\%$ of the initial value. | Temperature: $-40\pm 2^{\circ}\text{C}$<br>Testing time: $1008\pm 12$ hours Measurement: After placing for 24 hours min.<br>                                              |

## Taping Dimensions(Unit:mm)

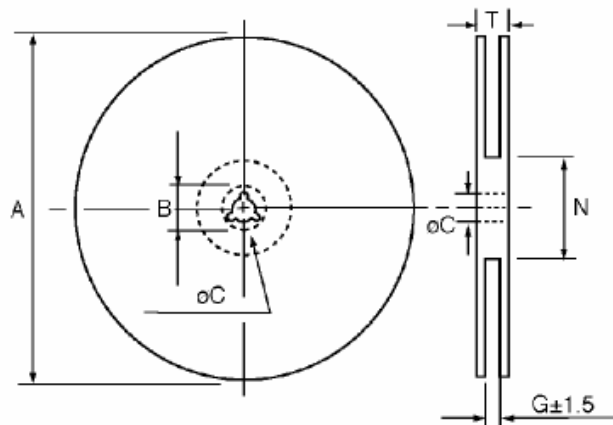
Carrier tape material: paper



| Material:Paper       |      |      |    |   |      |            |
|----------------------|------|------|----|---|------|------------|
| TYPE                 | A    | B    | W  | P | T    | CHIPS/REEL |
| 100505               | 0.62 | 1.12 | 8  | 2 | 0.60 | 10000      |
| 160808               | 1.10 | 1.90 | 8  | 4 | 0.95 | 4000       |
| 201209               | 1.50 | 2.30 | 8  | 4 | 0.95 | 4000       |
| Material:Polystyrene |      |      |    |   |      |            |
| TYPE                 | A    | B    | W  | P | T    | CHIPS/REEL |
| 160808               | 1.01 | 1.80 | 8  | 4 | 1.02 | 4000       |
| 201209               | 1.42 | 2.25 | 8  | 4 | 1.04 | 4000       |
| 201212               | 1.50 | 2.35 | 8  | 4 | 1.45 | 3000       |
| 321611               | 1.88 | 3.50 | 8  | 4 | 1.27 | 3000       |
| 322513               | 2.77 | 3.42 | 8  | 4 | 1.55 | 2000       |
| 451616               | 1.93 | 4.95 | 12 | 4 | 1.93 | 2000       |
| 453215               | 3.66 | 4.95 | 12 | 8 | 1.85 | 1000       |
| YA3216M4             | 1.88 | 3.50 | 8  | 4 | 1.40 | 3000       |

**■ Reel Dimensions(Unit:mm)**

Material:Paper, Plastic



| TYPE | 8mm      | 12mm     |
|------|----------|----------|
| A    | 178±2    | 178±2    |
| B    | 21.0±0.8 | 21.0±0.8 |
| C    | 13.0±0.8 | 13.0±0.8 |
| G    | 10.0     | 14.0     |
| N    | 75       | 75       |
| T    | 12.5     | 16.5     |

**■ Direction of rolling**

