

■ 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: -55°C ~ +125°C (Including self-temperature).

■ Applications

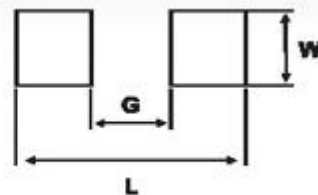
- Computers and peripheral devices, personal computers, VCR and cameras.
- Noise suppression in digital equipments, car stereo, car engines controllers and OA electronic instruments.
- Communication equipment.

■ Product Identification

$\frac{YI}{(1)}$ $\frac{\square\square\square\square\square\square}{(2)}$ $\frac{\square}{(3)}$ $\frac{\square\square\square}{(4)}$ - $\frac{\square\square\square\square}{(5)}$

- (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 |
|----------|---------|---------|---------|---------|------|------|------|
| YI322513 | 3.2±0.2 | 2.5±0.2 | 1.3±0.2 | 0.5±0.3 | 4.40 | 2.70 | 1.20 |

Electrical Requirements

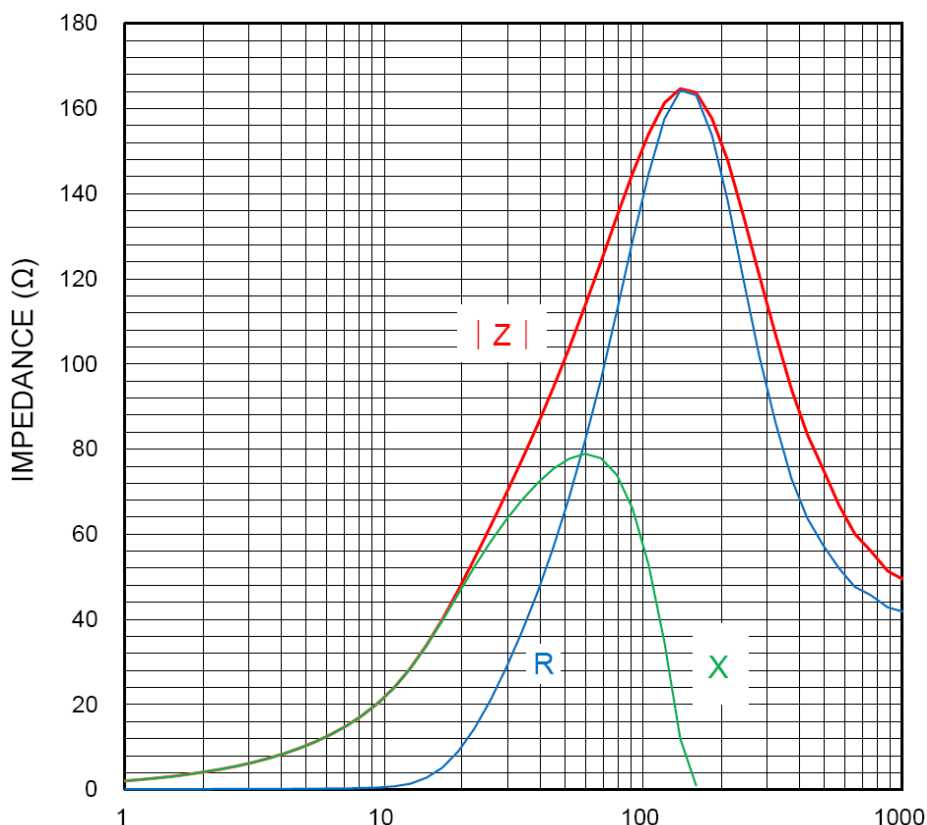
| Part Number | Impedance(Ω) ±25% | Test Freq. (MHz) | DCR MAX. (Ω) | Rating Current MAX (A) |
|-------------------|----------------------|---------------------|-----------------|---------------------------|
| YI322513U151-5R0T | 150 | 100 | 0.02 | 5.0 |

TEST INSTRUMENTS:

HP 4338A MILLIOHM METER

HP 4291B RF IMPEDANCE/MATERIAL ANALYZER

Impedance VS. Frequency characteristic



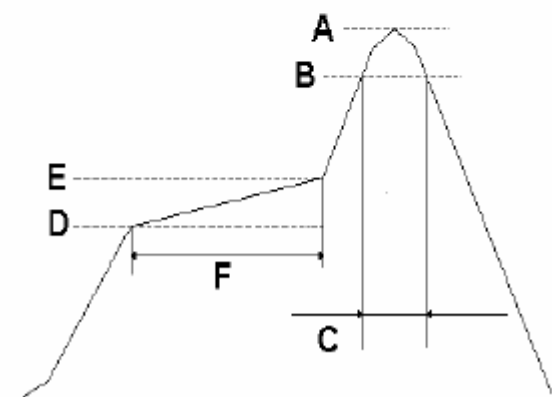
Reliability test

| 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. More than 75% of terminal electrode shall be covered with solder. | Preheat: 150 °C, 60 seconds Solder temperature : 270 ± 5 °C Flux: Rosin Dip time: 10 ± 1 seconds |
| | | |
| Solderability | More than 90% of the terminal electrode shall be covered with new solder. | Preheat: 150 °C, 60 seconds Solder temperature: 245 ± 5 °C Flux: Rosin Dip time: 4 ± 1 seconds |
| | | |

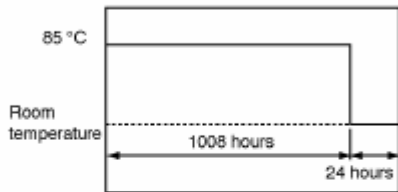
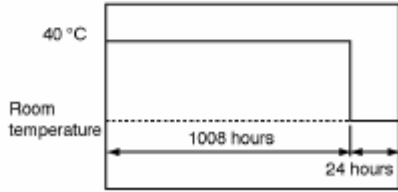
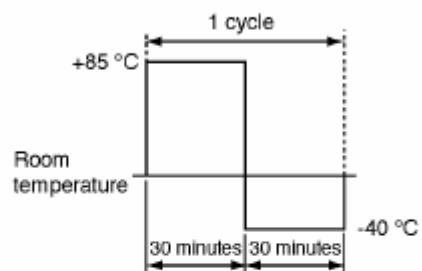
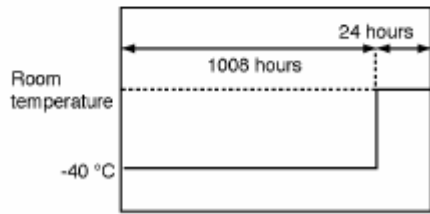
Recommended Soldering Conditions

(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°C |
| E | 180°C |
| F | $90 \pm 30 \text{ sec}$ |



Reliability test

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

■ Taping Dimensions(Unit:mm)



| 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



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