

■ Features

- Molding Inductor.
- High reliability.
- High current, low DCR, high efficiency.
- Very low acoustic noise and very low leakage flux noise.
- Operating temperature: -55°C ~ +125°C (Including self-temperature rise) .

■ Applications

- General Electronic.
- Video Device, TV, TFT.
- Power Module for PC.
- NB/Lap Top Computer.
- Server, VGA Card/Module.
- DC/DC converter.

■ Product Identification



(1) : Type

(2) : Dimensions

(3) : Inductance value

(4) : Inductance Tolerance : N=±30%,M=±20%

■ Shapes and Dimensions (Unit: mm)



| TYPE | A | B | C | D | E | F | G Ref. | H Ref. | L Ref. |
|------------|---------|---------|---------|---------|----------|---------|--------|--------|--------|
| YSPIT0430A | 4.1±0.3 | 4.1±0.3 | 2.8±0.2 | 3.4±0.3 | 0.88±0.3 | 1.7±0.3 | 1.4 | 3.8 | 3.4 |

■ YSPIT0430A Series

| Part Number | Inductance (uH) @100KHz/0.1V | DCR Max. (mΩ) | Saturation Current (A) | | Heat Rating Current Typ.(A) | |
|-----------------|------------------------------------|------------------|------------------------|------|--------------------------------|-----------|
| | | | Max. | Typ. | 20°C rise | 40°C rise |
| YSPIT0430A-R47M | 0.47±20% | 7.3 | 15.0 | 17.0 | 10.0 | 14.0 |
| YSPIT0430A-R90M | 0.90±20% | 10.1 | 9.0 | 10.0 | 8.2 | 11.2 |
| YSPIT0430A-1R0M | 1.0±20% | 10.1 | 9.2 | 9.8 | 8.0 | 11.0 |
| YSPIT0430A-1R2M | 1.2±20% | 11.5 | 8.7 | 9.2 | 7.8 | 9.8 |
| YSPIT0430A-1R5M | 1.5±20% | 13.2 | 7.0 | 8.0 | 7.0 | 9.0 |
| YSPIT0430A-2R2M | 2.2±20% | 22.6 | 6.1 | 7.0 | 6.0 | 7.8 |
| YSPIT0430A-3R3M | 3.3±20% | 28.6 | 5.3 | 6.2 | 5.0 | 6.6 |
| YSPIT0430A-4R7M | 4.7±20% | 44.1 | 4.0 | 4.5 | 3.9 | 5.1 |
| YSPIT0430A-6R8M | 6.8±20% | 74.1 | 3.0 | 3.6 | 3.0 | 3.9 |

- ※ The saturation current value is the DC current value having inductance decrease down to 30%.(at 25°C)
- ※ The temperature rise current value is the DC current value having temperature increase up to 40°C. (at 25°C)
- ※ The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

■ Mechanical Reliability

| Item | Specification and Requirement | Test Method |
|----------------------|--|--|
| Solderability | 1. No case deformation or change in visual 2. New solder coverage More than 95% | 1.Preheat : 155°C±5°C , 60S±2S 2.Tin: lead-free. 3.Temperature:240°C±5°C , flux 3.0S±0.5S. |
| Mechanical shock | 1. No case deformation or change in visual 2. $\Delta L/L_0 \leq \pm 10\%$ | 1. Acceleration : 100G 2. Pulse time: : 6ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions |
| Mechanical vibration | 1. No case deformation or change in visual 2. $\Delta L/L_0 \leq \pm 10\%$ | 1. Reflow: 2times 2. Frequency: 10HZ ~ 50HZ ~ 10HZ, 20 Min/Cycles 3. Amplitude: 1.52 mm±10% 4. Directions: X,Y,Z 5. Time: 12 cycle / direction |

■ Endurance Reliability

| Item | Specification and Requirement | Test Method |
|--------------------------|---|--|
| Thermal Shock | Inductance change: Within $\pm 10\%$ Without distinct damage in visual | 1. First -55°C° for 30 minutes, last 125°C° for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24±2 hours |
| Biased Humidity | Inductance change: Within $\pm 10\%$ Without distinct damage in visual | 1.Reflow 2 times, 2.85°C°±3C°,85%±3%RH,1000 hours 3.Measured at room temperature after placing for 24±2 hours |
| Low temperature storage | Inductance change: Within $\pm 10\%$ Without distinct damage in visual | 1. Temperature : -55 \pm 2C° 2. Time : 1000 hours 3. Measured at room temperature after placing for 24±2 hours |
| High temperature storage | Inductance change: Within $\pm 10\%$ Without distinct damage in visual | 1. Temperature : +125 \pm 2C° 2. Time : 1000 hours 3. Measured at room temperature after placing for 24±2 hours |

Recommended Soldering Technologies

Re-flowing Profile



Preheat condition: 150 ~200°C/60~120sec.
 Allowed time above 217°C: 60~90sec.
 Peak temp: 260°C
 Max time at Peak temp: 10 sec.
 Solder paste: Sn/3.0Ag/0.5Cu
 Allowed Reflow time: 2x max

Iron Soldering Profile



Iron soldering power: Max. 30W
 Pre-heating: 150°C/60sec.
 Soldering Tip temperature: 350°C Max.
 Soldering time: 3sec. Max.
 Solder paste: Sn/3.0Ag/0.5Cu
 Max.1 times for iron soldering

■ Taping Dimensions(Unit:mm)



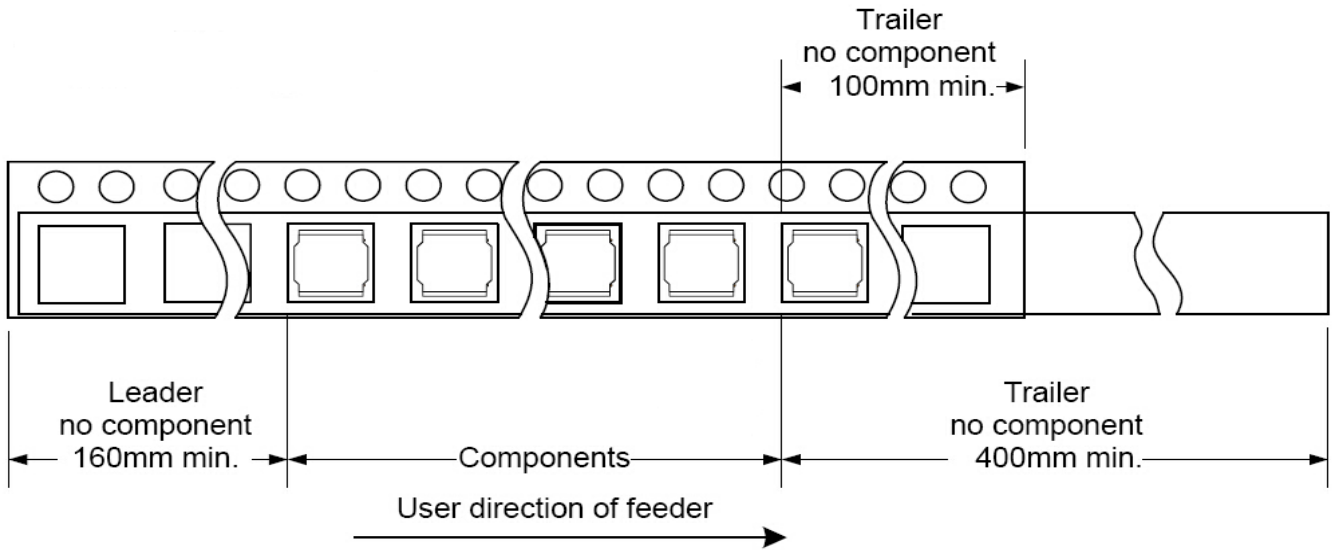
| TYPE | W | P | P0 | P2 | D0 | D1 | T | A0 | B0 | K0 | E | F | MPQ |
|------------|--------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|--------------|-------------|------|
| YSPIT0430A | 12.0 ±0.3 | 8.0 ±0.1 | 4.0 ±0.1 | 2.0 ±0.1 | 1.5 ±0.1 | 1.5 ±0.1 | 0.35 ±0.05 | 4.5 ±0.1 | 4.5 ±0.1 | 3.3 ±0.1 | 1.75 ±0.1 | 5.5 ±0.1 | 2000 |

■ Reel Dimensions(Unit:mm)



| TYPE | W | W1 | W2 | W3 | A | B | C | D |
|------------|---------|----------|---------|----------|----------|----------|---------|--------|
| YSPIT0430A | 330±2.0 | 12.4±2.0 | 18.4MAX | 11.9 Min | 13.0±0.5 | 21.0±0.8 | 2.0±0.5 | 97±0.5 |

Direction of rolling



Cover tape peel off condition



Cover tape peel force shall be 0.1N to 1.3N.

Reference peel speed 300±10mm/min.

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