SMD Power Inductors
-YSPIT0770A Series

■ Features

- Molding Inductor.
- High reliability.
- High current，low DCR，high efficiency.
- Very low acoustic noise and very low leakage flux noise.
- Operating temperature:-55℃ ~ +125℃（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

YSPIT □□□□□ − □□□ □

(1) (2) (3) (4)

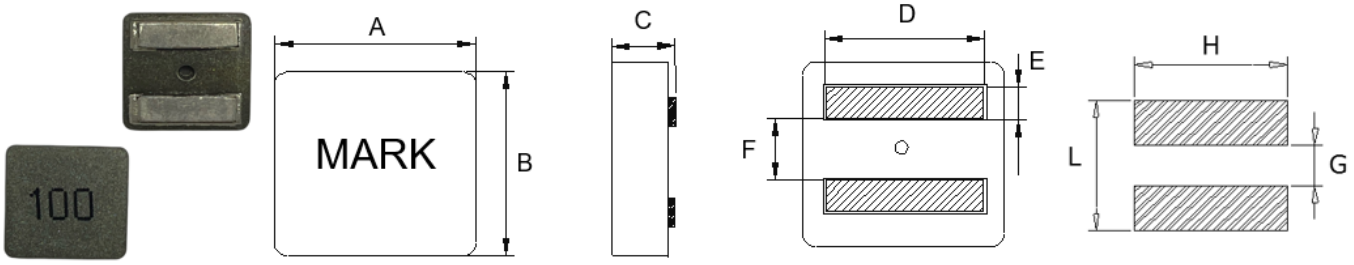
(1)： Type

(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.
YSPIT0770A	7.8±0.3	7.6±0.3	6.7±0.3	6.5±0.5	1.75±0.3	3.15±0.3	2.8	6.7	7.8

■ YSPIT0770A Series

Part Number	Inductance (uH) @100KHz/0.1V	DCR Max. (mΩ)	Saturation Current (A)		Heat Rating Current Typ.(A)	
			Max.	Typ.	20℃ rise	40℃ rise
YSPIT0770A-1R0M	1.0±20%	2.9	31.8	34.8	20.0	25.0
YSPIT0770A-1R8M	1.8±20%	4.5	23.0	25.0	15.8	21.0
YSPIT0770A-3R3M	3.3±20%	9.5	15.1	19.4	11.5	15.1
YSPIT0770A-4R7M	4.7±20%	13.5	14.0	15.5	10.5	13.6
YSPIT0770A-6R8M	6.8±20%	19.6	11.0	12.8	7.0	9.5

※ The saturation current value is the DC current value having inductance decrease down to 30%.(at 25℃)

※ The temperature rise current value is the DC current value having temperature increase up to 40℃. (at 25℃)

※ The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

■ Mechanical Reliability

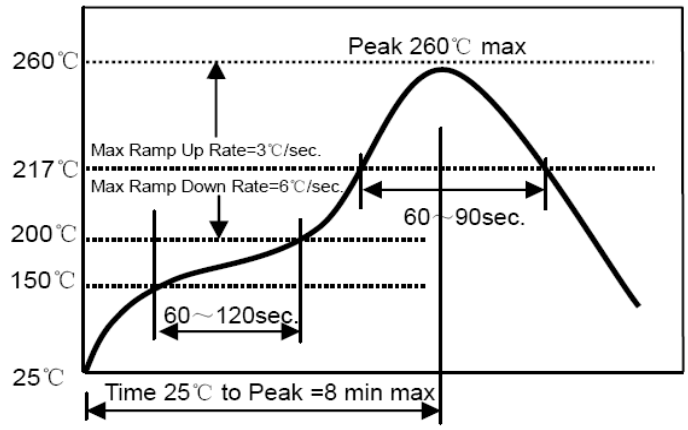
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in visual 2. New solder coverage More than 95%	1.Preheat: 155℃±5℃ , 60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃, flux 3.0S±0.5S.
Mechanical shock	1. No case deformation or change in visual 2. △L/Lo≦±10%	1. 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. △L/Lo≦±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 ± 10% Without distinct damage in visual	1. First -55℃ for 30 minutes, last 125℃ 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 ± 10% Without distinct damage in visual	1.Reflow 2 times, 2.85℃±3℃,85%±3%RH,1000 hours 3.Measured at room temperature after placing for 24±2 hours
Low temperature storage	Inductance change: Within ± 10% Without distinct damage in visual	1. Temperature: -55 ± 2℃ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24±2 hours
High temperature storage	Inductance change: Within ± 10% Without distinct damage in visual	1. Temperature: +125 ± 2℃ 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℃/60~120sec.

Allowed time above 217℃: 60~90sec.

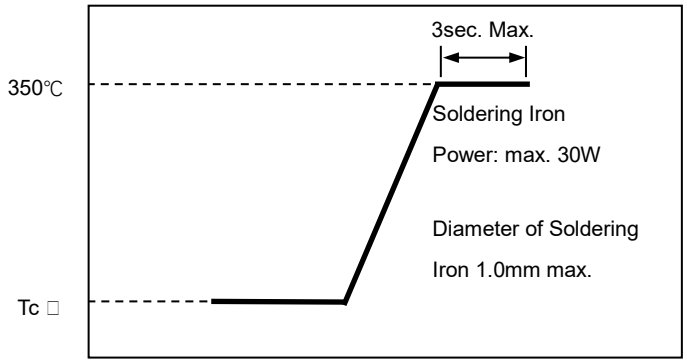
Peak temp: 260℃

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□/60sec.

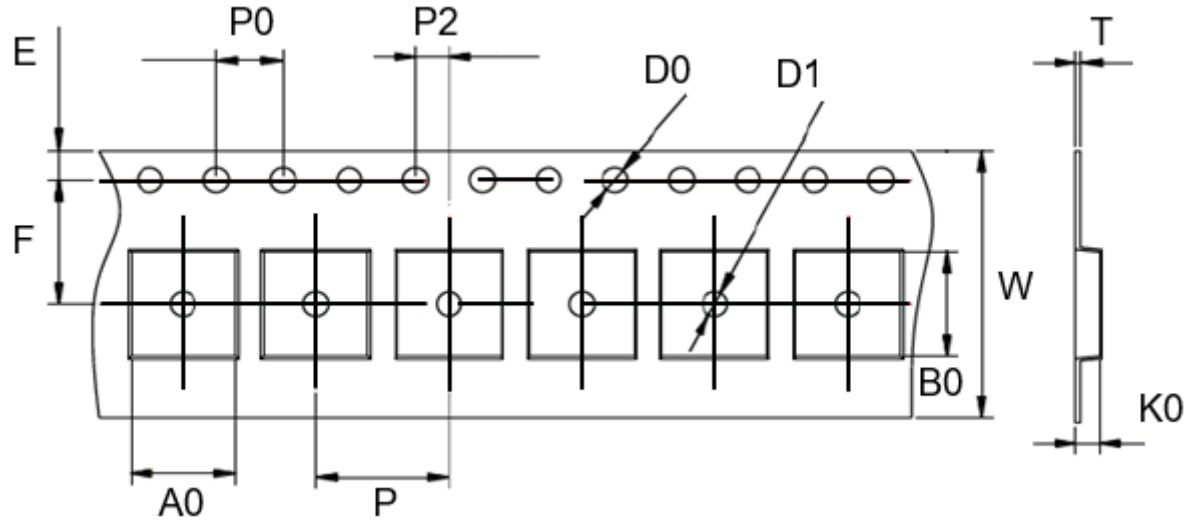
Soldering Tip temperature: 350□ Max.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu

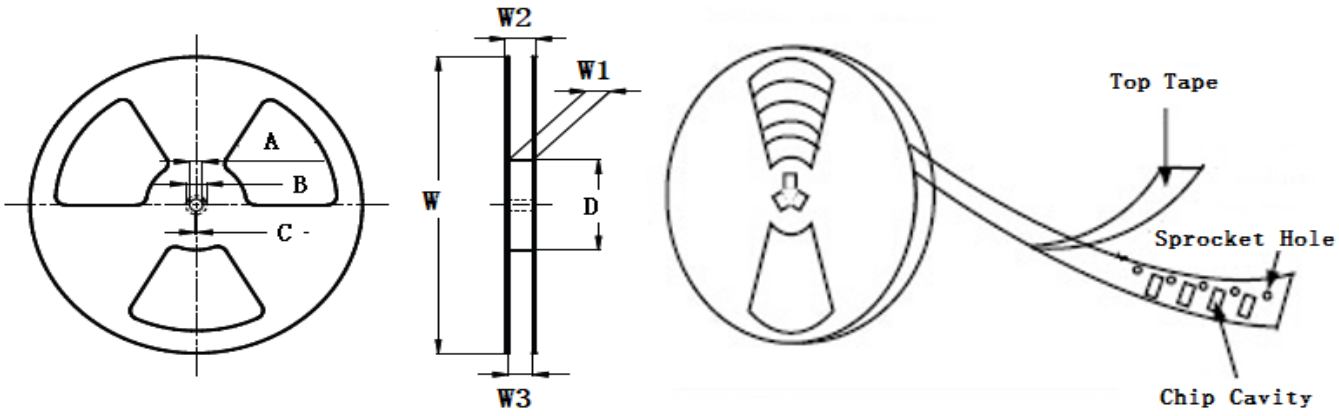
Max.1 times for iron soldering

■ Taping Dimensions(Unit:mm)



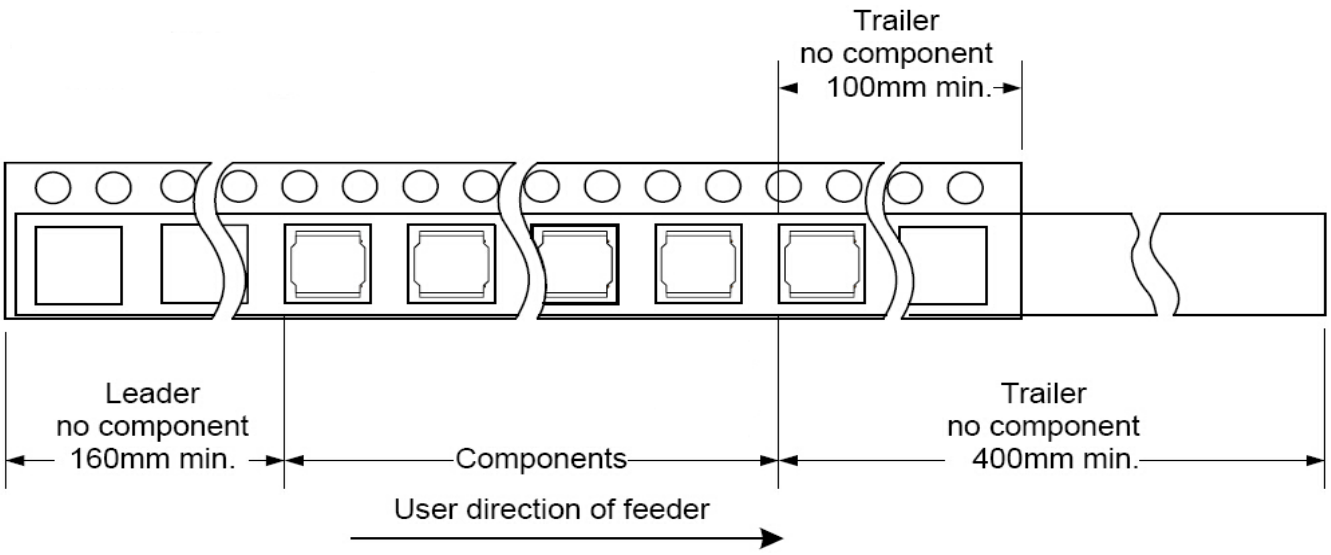
TYPE	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F	MPQ
YSPIT0770A	16 ±0.3	12 ±0.1	4 ±0.1	2 ±0.1	1.5 ±0.1	1.5 ±0.1	0.35 ±0.05	8.2 ±0.1	8.0 ±0.1	7.3 ±0.1	1.75 ±0.1	7.5 ±0.1	700

■ Reel Dimensions(Unit:mm)

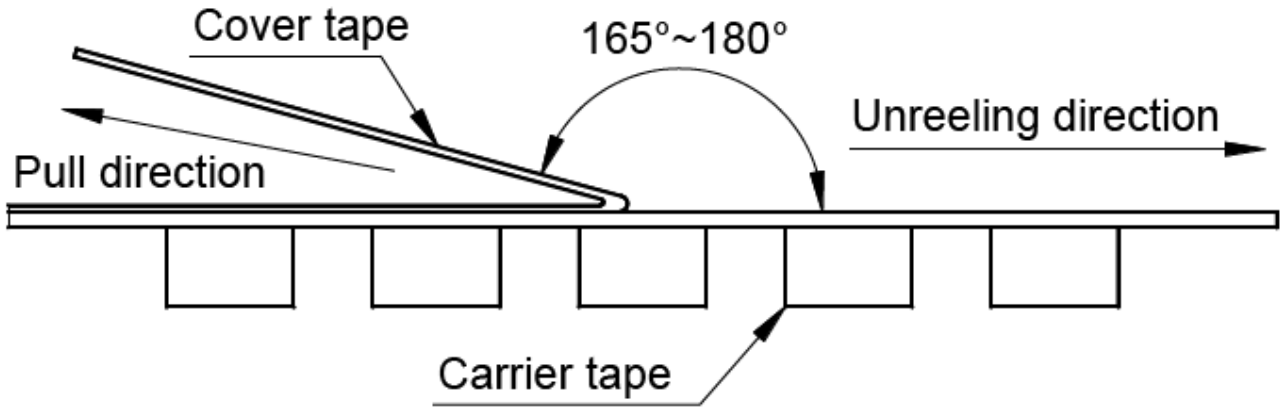


TYPE	W	W1	W2	W3	A	B	C	D
YSPIT0770A	330±2.0	24.4±2.0	30.4MAX	23.9 Min	13.0±0.5	21.0±0.8	2.0±0.5	97±0.5

■ 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.