SMD Power Inductors
-YSPIT0420A 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)

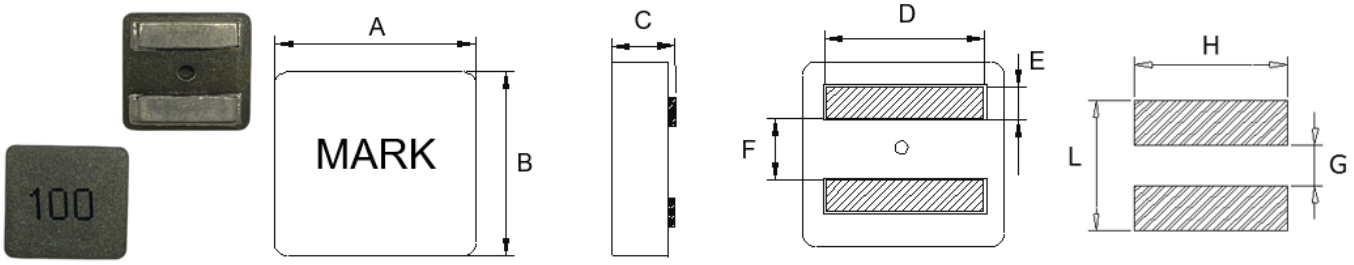
(1)： Type

(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.
YSPIT0420A	4.1±0.2	4.1±0.2	1.9±0.2	3.4±0.3	0.88±0.3	1.7±0.3	1.4	3.8	3.4

■ YSPIT0420A 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
YSPIT0420A-R10M	0.10±20%	2.5	33.0	38.0	13.5	18.0
YSPIT0420A-R22M	0.22±20%	4.6	18.8	19.5	13.0	16.8
YSPIT0420A-R36M	0.36±20%	6.3	15.0	17.0	11.0	14.5
YSPIT0420A-R40M	0.40±20%	7.8	13.5	15.5	10.0	14.0
YSPIT0420A-R47M	0.47±20%	8.6	13.0	14.5	9.0	12.5
YSPIT0420A-R56M	0.56±20%	9.3	12.6	14.0	8.5	12.0
YSPIT0420A-R60M	0.60±20%	9.6	12.3	13.7	8.0	11.7
YSPIT0420A-R72M	0.72±20%	11.6	10.6	12.0	7.6	10.5
YSPIT0420A-1R0M	1.0±20%	14.6	8.8	9.6	6.8	9.6
YSPIT0420A-1R2M	1.2±20%	17.9	7.8	9.0	6.6	9.0
YSPIT0420A-1R5M	1.5±20%	23.5	7.4	8.0	5.8	7.6
YSPIT0420A-1R8M	1.8±20%	28.0	7.0	7.5	5.2	7.0
YSPIT0420A-2R2M	2.2±20%	38.7	6.0	6.5	4.6	5.6

※ 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

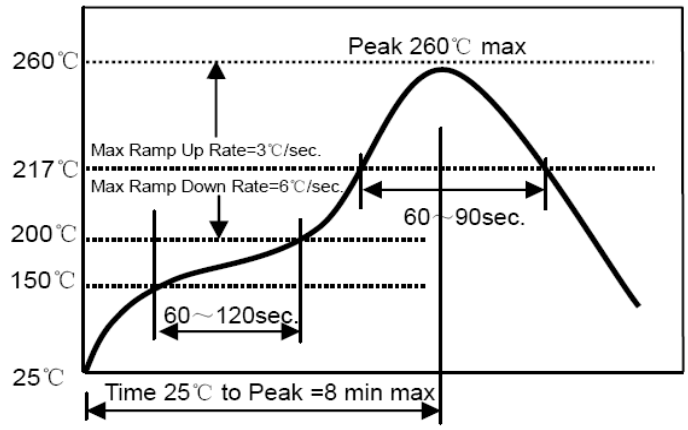
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in visual 2. New solder coverage More than 95%	1.Preheat：155℃±5℃ ， 60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃， flux 3.0S±0.5S.
Mechanical shock	1. No case deformation or change in visual 2. △L/Lo≦±10%	1. 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.

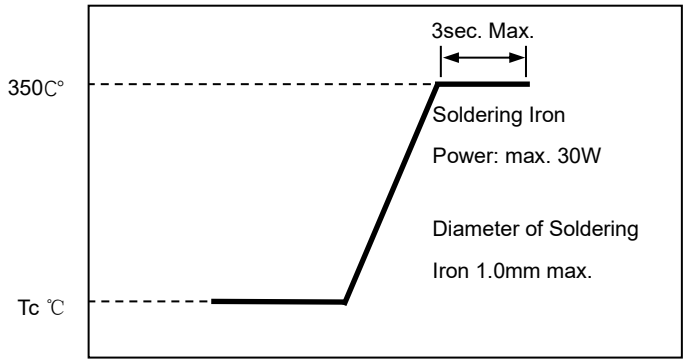
Peak temp: 260℃

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.

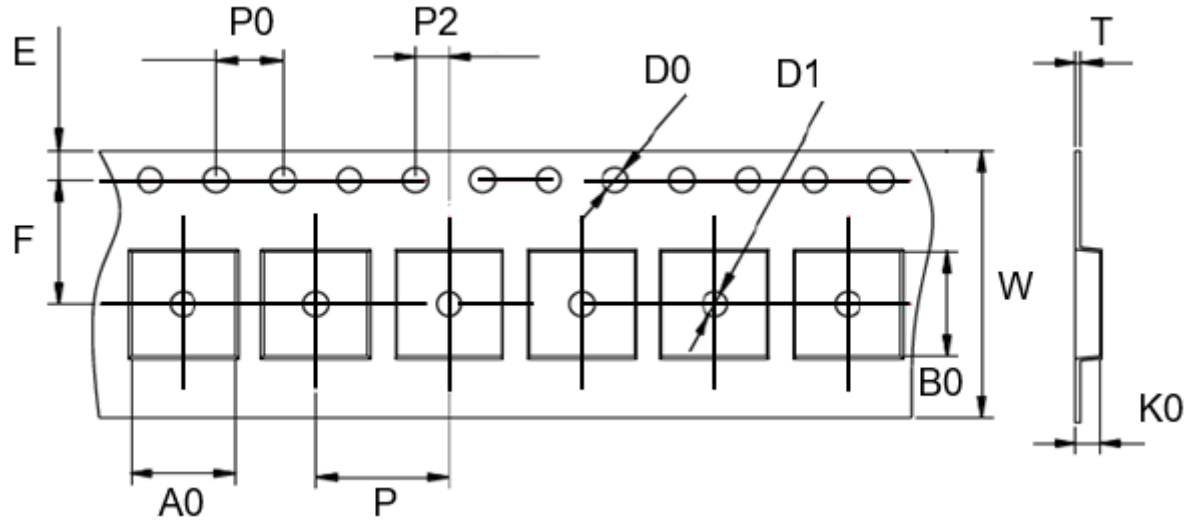
Soldering Tip temperature: 350℃ Max.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu

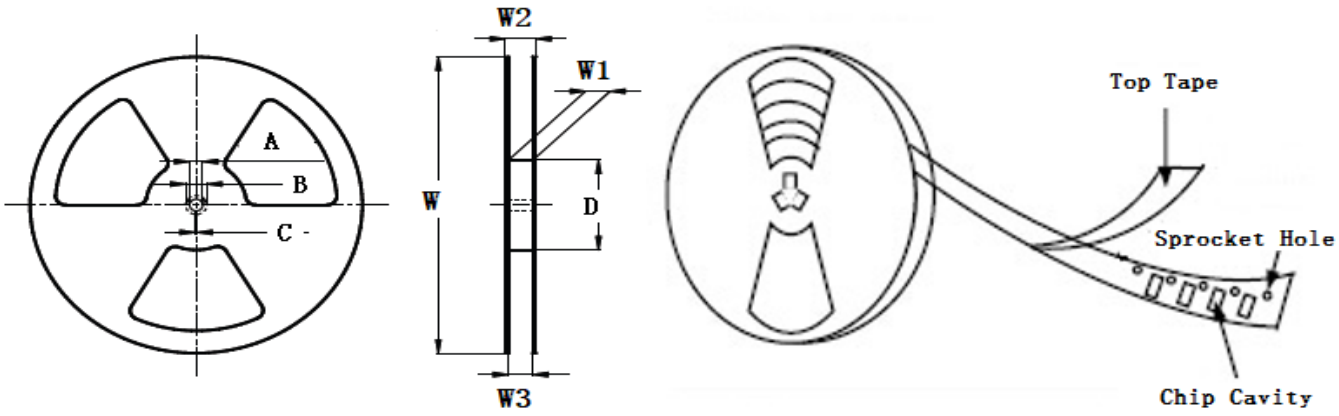
Max.1 times for iron soldering

■ Taping Dimensions(Unit:mm)



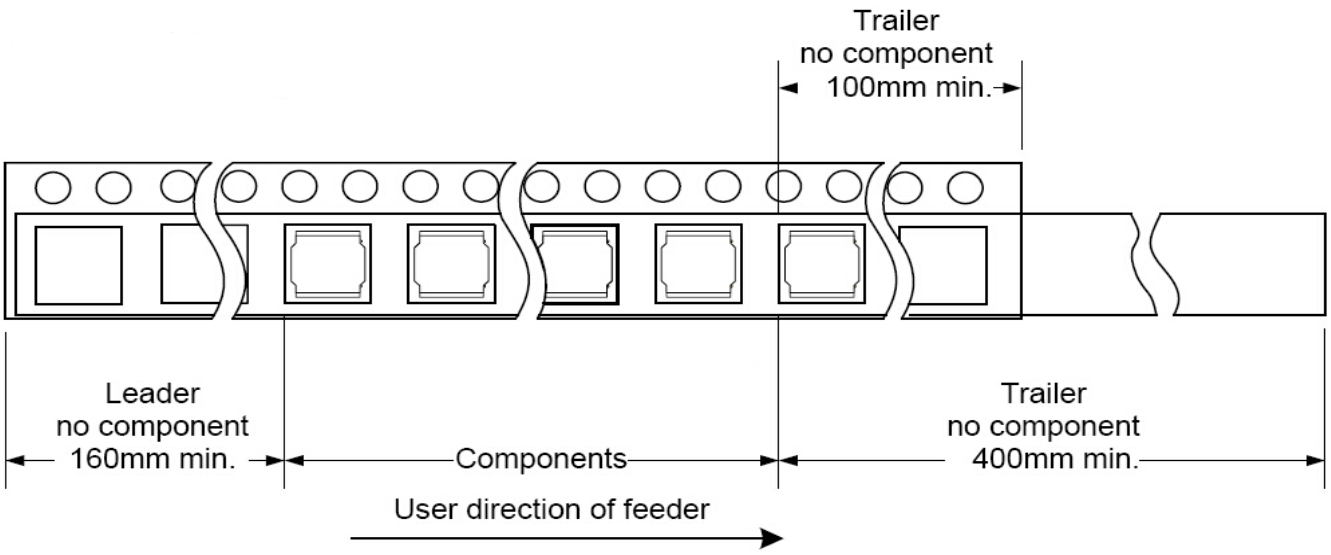
TYPE	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F	MPQ
YSPIT0420A	12.0 ±0.3	8.0 ±0.1	4.0 ±0.1	2.0 ±0.1	1.5 ±0.1	1.5 ±0.1	0.35 ±0.05	4.5 ±0.1	4.5 ±0.1	2.3 ±0.1	1.75 ±0.1	5.5 ±0.1	3000

■ Reel Dimensions(Unit:mm)

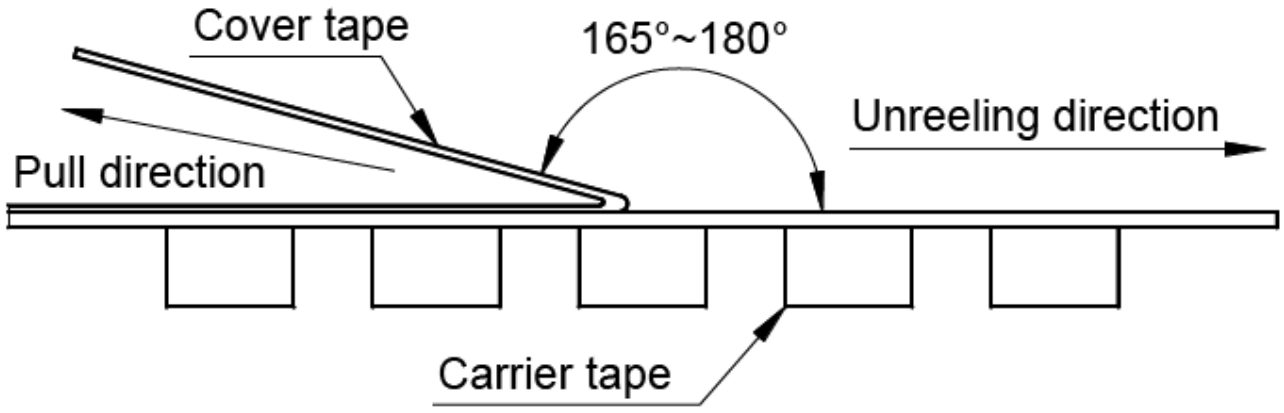


TYPE	W	W1	W2	W3	A	B	C	D
YSPIT0420A	330±2.0	12.4±2.0	18.4MAX	11.9 Min	13.0±0.5	21.0±0.8	2.0±0.5	97±0.5

■ 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.