

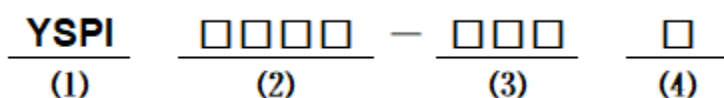
■ Features

- Molding Inductor.
- Low Profile, Low Temp.
- Large Current.
- Customize For Different Need.
- Operating temperature: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including self-temperature rise) .

■ Applications

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

■ Product Identification



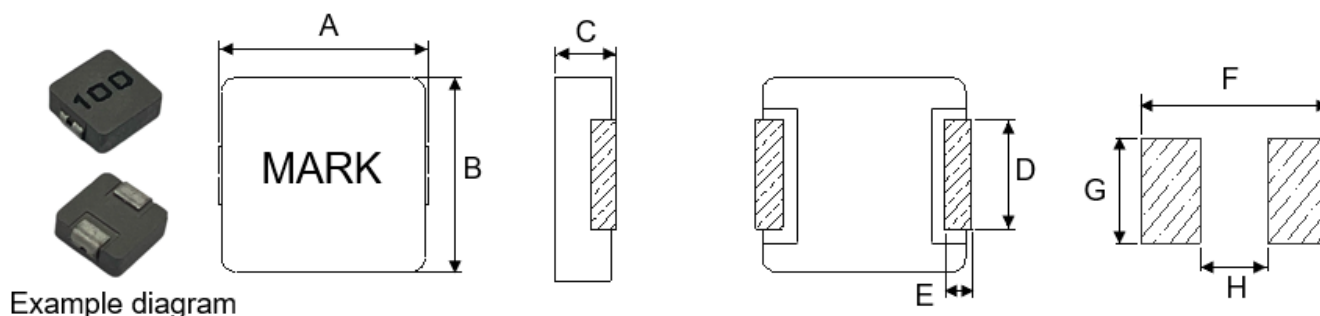
(1) : Type

(2) : Dimensions

(3) : Inductance value

(4) : Inductance Tolerance: N=±30%, M=±20%, K=±10%

■ Shapes and Dimensions (Unit: mm)



TYPE	A	B	C Max.	D	E	F Ref.	G Ref.	H Ref.
YSPI0420	4.6±0.2	4.1±0.25	2.0	1.5±0.3	1.0±0.5	5.2	2.5	2.2

■ YSPI0420 Series

Part Number	Inductance (μ H) @100KHz/1V	DCR Max. (m Ω)	Saturation Current Isat Typ.(A)	Heat Rating Current Irms Typ.(A)
YSPI0420-R47M	0.47 $\pm$ 20%	14	9.5	7.0
YSPI0420-R68M	0.68 $\pm$ 20%	21	8.0	5.2
YSPI0420-1R0M	1.0 $\pm$ 20%	27	7.0	4.5
YSPI0420-1R5M	1.5 $\pm$ 20%	46	6.0	4.0
YSPI0420-2R2M	2.2 $\pm$ 20%	58	5.0	3.0
YSPI0420-3R3M	3.3 $\pm$ 20%	87	4.0	2.5
YSPI0420-4R7M	4.7 $\pm$ 20%	126	3.0	2.0
YSPI0420-5R6M	5.6 $\pm$ 20%	132	2.8	2.1
YSPI0420-6R8M	6.8 $\pm$ 20%	145	2.5	2.0
YSPI0420-8R2M	8.2 $\pm$ 20%	216	2.5	2.0
YSPI0420-100M	10 $\pm$ 20%	258	2.0	1.6

※ All test data is referenced to 25 °C ambient.

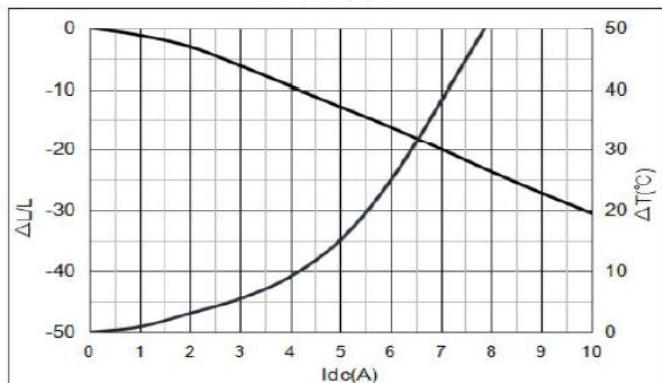
※ Irms (A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25 °C)

※ Isat(A):DC current (A) that will cause L0 to drop approximately 30%.(Internal control standards at 40% MAX)

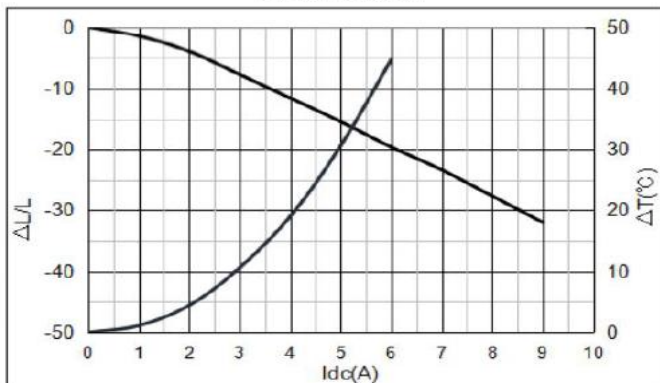
※ Absolute maximum voltage 30VDC.

■ Current Characteristic

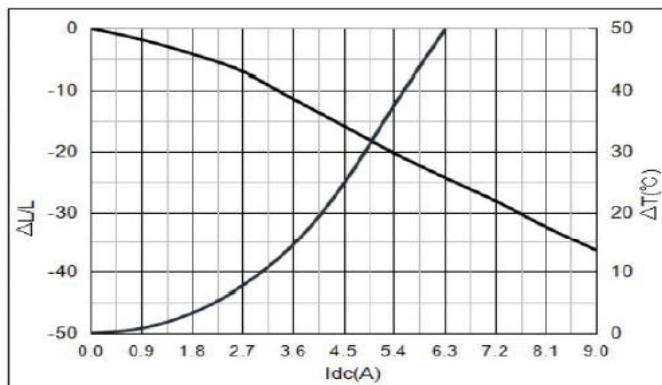
YSPI0420-R47M



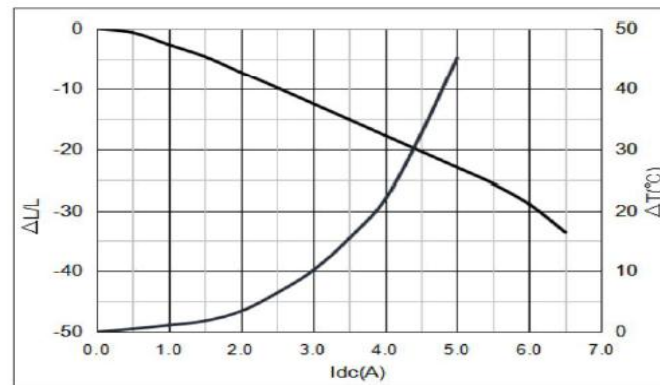
YSPI0420-R68M



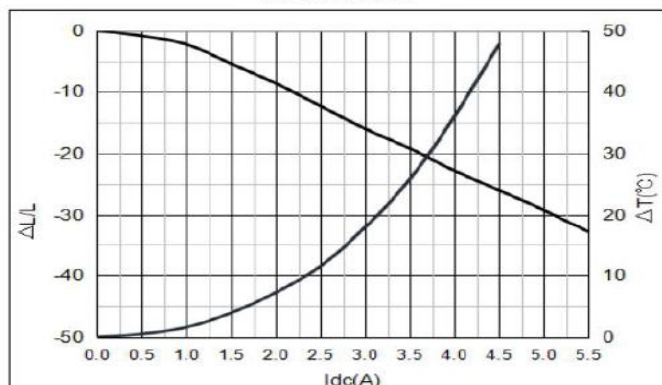
YSPI0420-1R0M



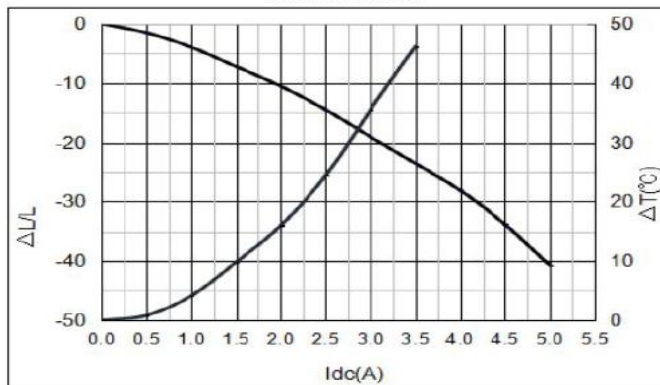
YSPI0420-1R5M



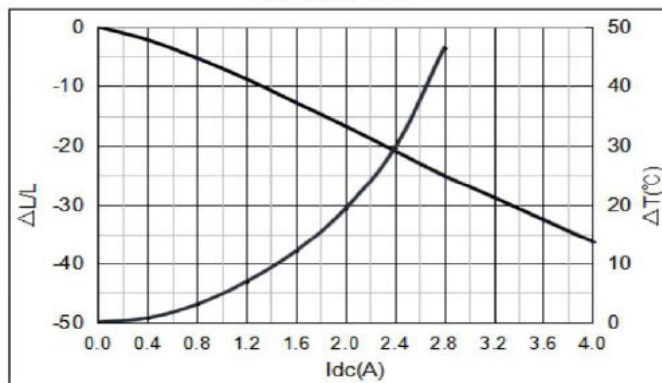
YSPI0420-2R2M



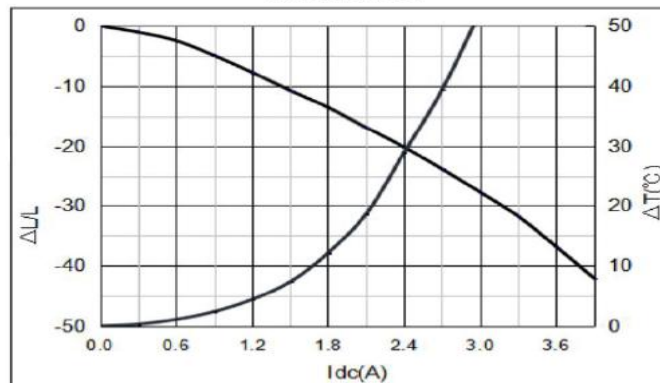
YSPI0420-3R3M



YSPI0420-4R7M

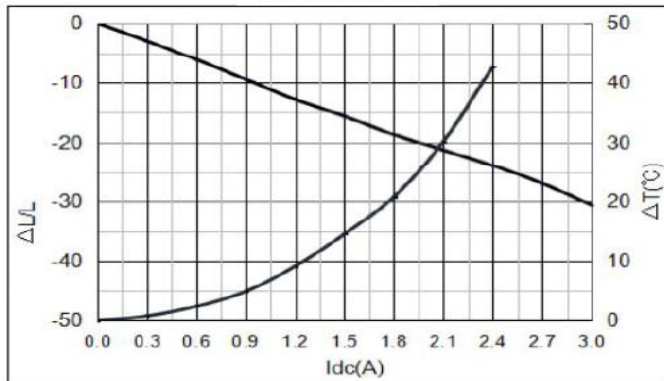


YSPI0420-5R6M

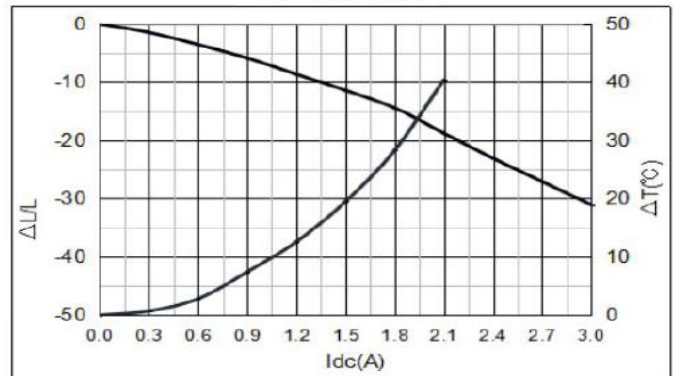


■ Current Characteristic

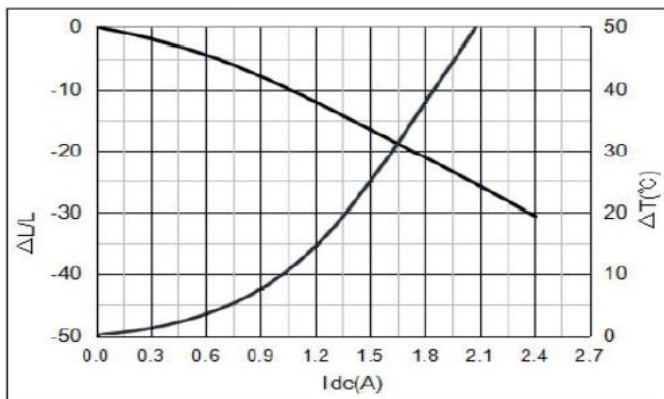
YSPI0420-6R8M



YSPI0420-8R2M



YSPI0420-100M



General Characteristics

NO.	ITEMS	CONDITIONS	SPECIFICATION
1	OPERATION TEMPERATURE STORAGE TEMPERATURE		-40 ~ +125 °C (INCLUDING COIL TEMPERATURE RISE) -40 ~ +125 °C
2	TEMPERATURE COEFFICIENT	-30 ~ +105 °C	0 ~ 2000ppm/°C
3	FIXING STRENGTH	SAMPLE IS PUSHED IN THREE DIRECTIONS OF X, Y AND Z WITH FORCE OF 5. 0N FOR 10±5 SECONDS. AFTER SOLDERING BETWEEN COPPER PLATE AND ELECTRODES.	NO ELECTRODE DETACHMENT.
4	RESISTANCE TO SOLDERING HEAT TEST	REFER TO THE SPEC "STD-001NP".	NO MECHANICAL BREAKAGE. DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
5	SOLDERABILITY TEST	IMMERSE THE ELECTRODE IN FLUX FOR 5 SECONDS. THEN DIP THE ELECTRODE INTO A SOLDERING BATH OF 245±5 °C FOR 2±0.5 SECONDS.	OVER 95% OF THE SURFACE BEING IMMersed SHALL BE COVERED WITH NEW SOLDER UNIFORMLY.
6	VIBRATION TEST	AMPLITUDE: 1.5mm P-P FREQUENCY:10~55~10Hz (1 MINUTE PER CYCLE) DURATION: 1 HOUR IN EACH OF X, Y, Z AXIS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
7	HUMIDITY TEST	TEMPERATURE: 40 °C ±2 °C HUMIDITY: 90%~95%RH DURATION: 96±4 HOURS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
8	THERMAL SHOCK TEST	20 CYCLES OF +105 °C FOR 30 MINUTES, -40 °C FOR 30 MINUTES. CHARACTERISTICS ARE MEASURED AFTER THE AMBIENT AIR EXPOSURE OF 1 HOUR	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
9	HIGH TEMPERATURE STORAGE TEST	TEMPERATURE: 125 °C ±2 °C DURATION: 96±4 HOURS	
10	LOW TEMPERATURE STORAGE TEST	TEMPERATURE: -40 °C ±3 °C DURATION: 96±4 HOURS.	

※ Standard testing conditions:

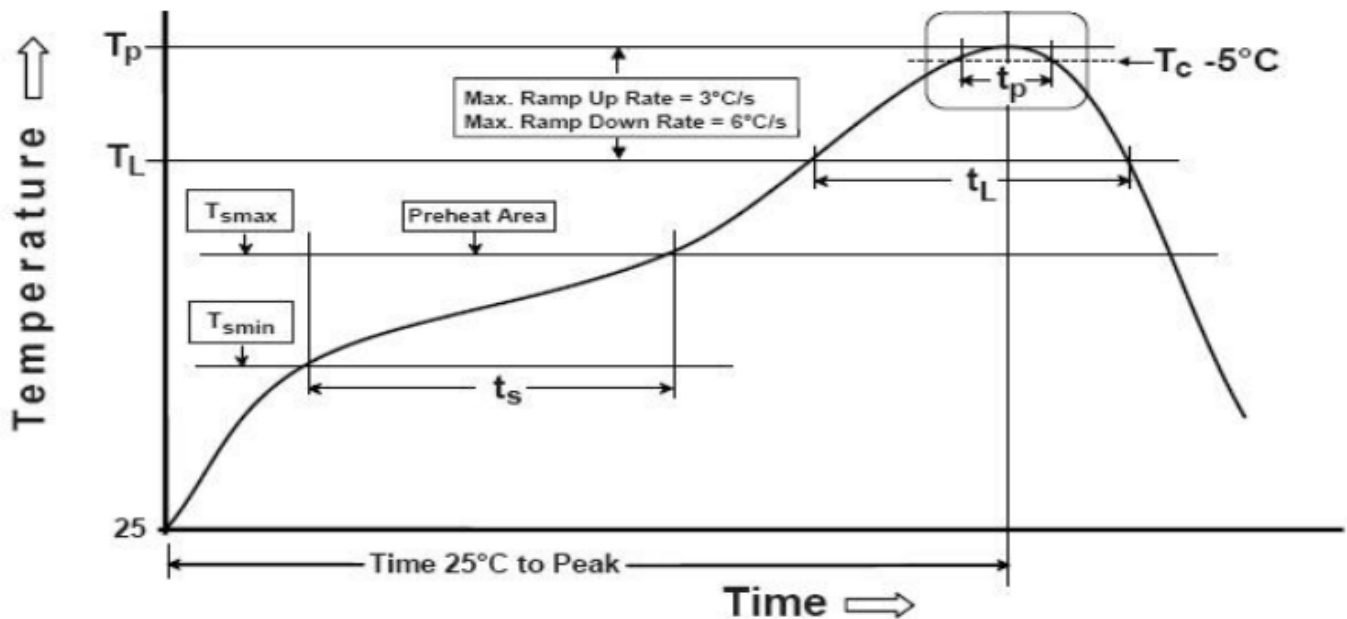
Unless otherwise specified,the standard range of atmospheric conditions for measurements and tests are as follows:

Ambient temperature:15°C ~ 35°C. Relative humidity: 25% ~85%. Air pressure: 86kPa ~106kPa.

If there is doubt about the results,measurement shall be made within the following limits:

Ambient temperature:20°C±1°C. Relative humidity:63% ~ 67%. Air pressure: 86kPa ~106kPa.

Reflow profile for SMT components



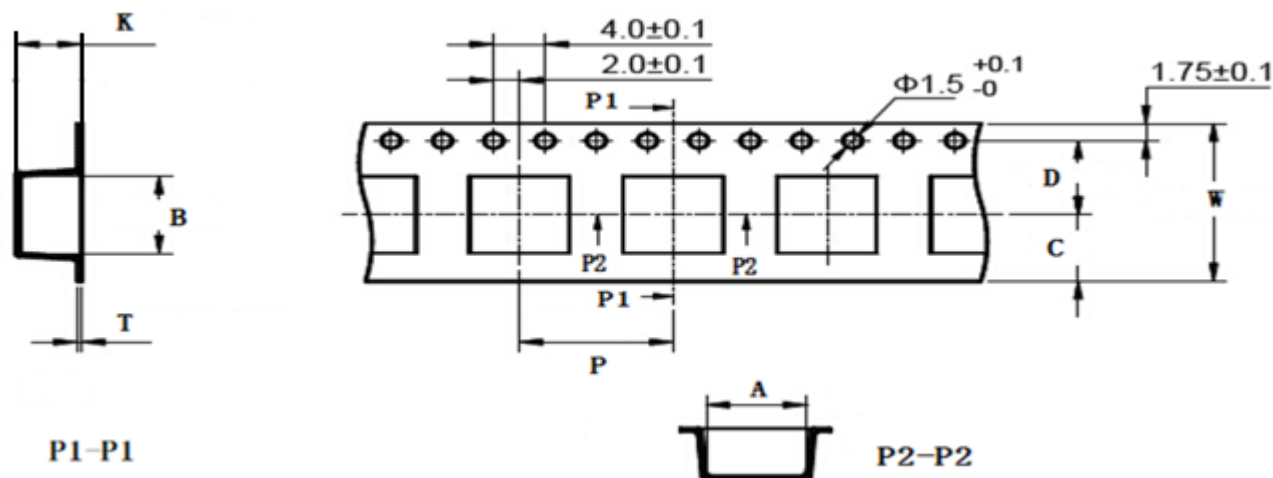
Reflow is referred to standard IPC/ JEDEC J-STD-020D

Profile Feature		Lead(Pb) Free solder
Preheat and soak	• temperature Min.(Ts min)	150°C
	• temperature Max.(Ts max)	200°C
	• time(Tsmin to Ts max)(ts)	60-120 Seconds
Average ramp up rate Tsmax to Tp		3°C/Second Max.
Liquidous temperature (TL)		217 °C
Time (TL) maintained above TL		60-150 seconds
Peak package body temperature (Tp)		Table2
Time (tp)* within 5 °C of the specified classification temperature (Tc)		30* seconds
Average Ramp-down rate (Tp to TL)		6 °C/second max
Time 25 °C to peak temperature		8 minutes max.

Table2. Pb-Free Process - Classification Temperatures (Tc)

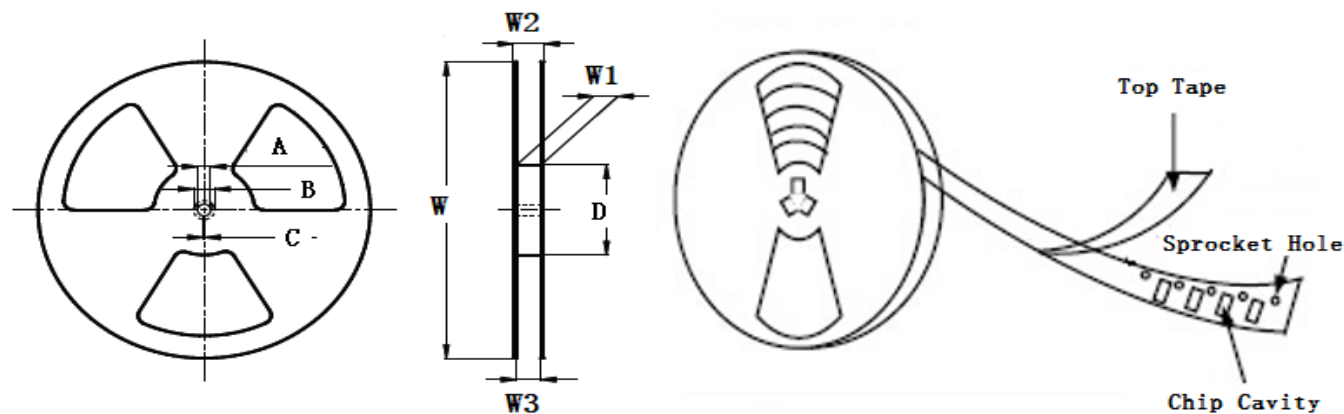
Package Thickness	Volume mm3 <350	Volume mm3 350~2000	Volume mm3 >2000
<1.6 mm	260°C	260°C	260°C
1.6mm- 2.5mm	260°C	250°C	245°C
>2.5 mm	250°C	245°C	245°C

■ Taping Dimensions(Unit:mm)



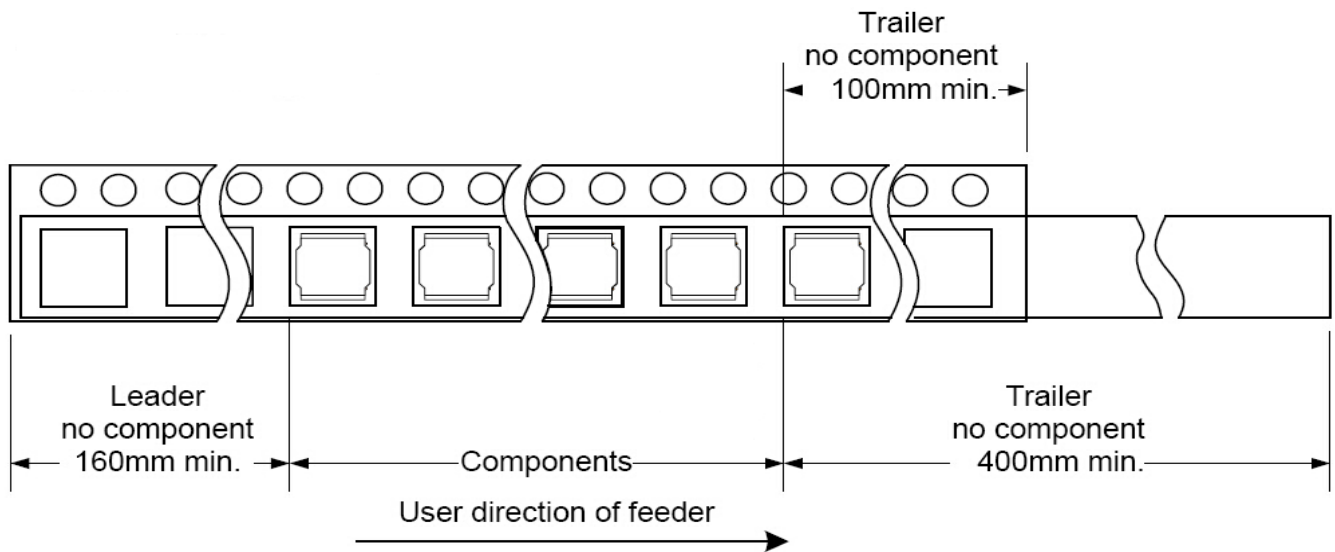
TYPE	W	A	B	C	D	P	K	T	MPQ
YSPI0420	12.0±0.2	4.3±0.1	4.9±0.1	4.75	5.5±0.1	8.0±0.1	2.25±0.1	0.3±0.05	3000

■ Reel Dimensions(Unit:mm)

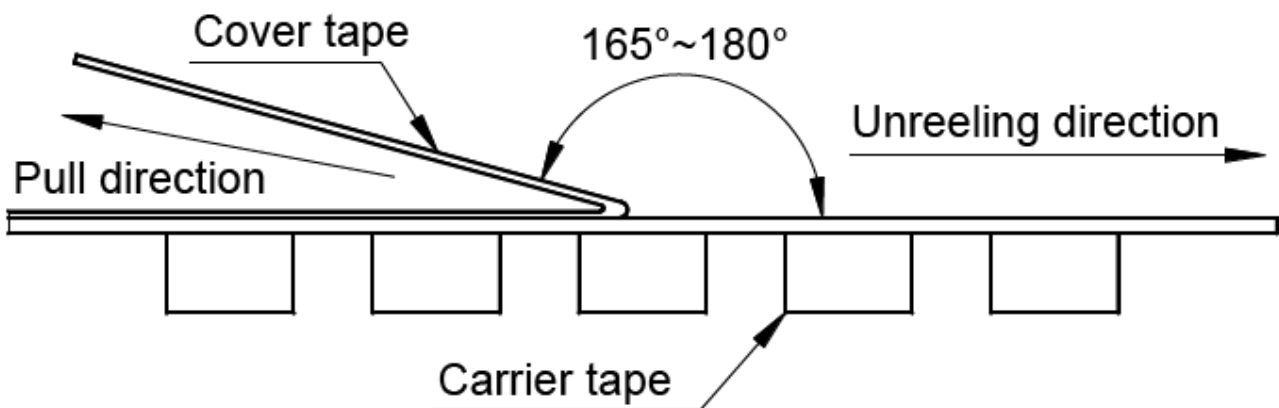


TYPE	W	W1	W2	W3	A	B	C	D
YSPI0420	330±2.0	12.4±2.00	18.4MAX	11.9 Min	13.0±0.50	21.0±0.80	2.0±0.50	100 Min

■ Direction of rolling



■ Cover tape peel off condition



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

Reference peel speed 300 ± 10 mm/min.