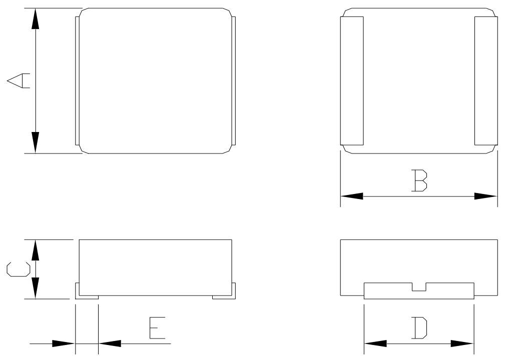
Version: A1.0

COIL SPECIFICATION

RoHS COMPLIANT

ITEM P/N	**ESPA-1770-SERIES**	**TEST INSTRUMENT**	**Zentech-3305 / Zentech502BC**
PRODUCT	**SMD Inductor**	**TEST FREQUENCY**	**100 kHz / 1.0V**

PACKING DIMENSIONS (mm)



1770 SERIES	Dimensions
A	17.15 MAX
B	18.0 ± 0.3
C	7.0 MAX
D	11.94 ± 0.3
E	2.70 ± 0.4

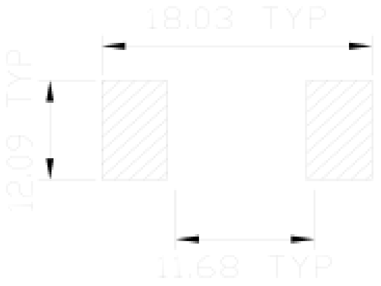
EXPLANATION OF PART NUMBERS

1	2	3	4		5	6	7	8		9	10	11	12
E	**S**	**P**	**A**	**-**	**1**	**7**	**7**	**0**	**-**	**X**	**X**	**X**	**X**

Serial Codes **Size** **Inductance Code**

CONNECTIONS

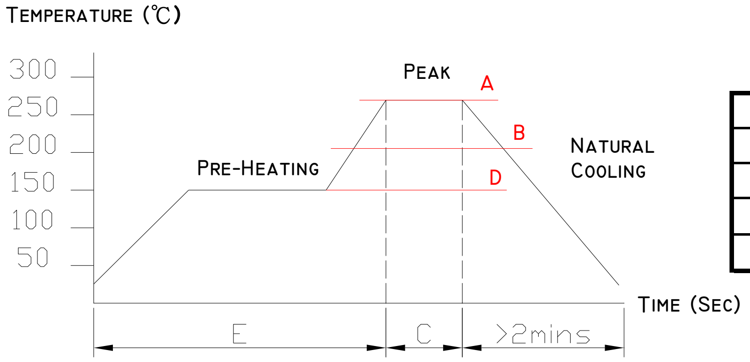
RECOMMANED LAYOUT



◎ Inductor Contents ONE (1) Set(s) of Coil

◎ DC/AC Currnet Shall Be Introduced By Any One of Two Pads

RECOMMENDED SOLDERING TEMP. GRAPH



A	260℃
B	230℃
C	10 Sec
D	150℃
E	60~240 Sec

CHARACTERISTICS

RoHS COMPLIANT

ITEM P/N	**ESPA-1770-SERIES**	**TEST INSTRUMENT**	**Zentech-3305 / Zentech502BC**
PRODUCT	**SMD Inductor**	**TEST FREQUENCY**	**100 kHz / 1.0V**

ELECTRICAL CHARACTERISTICS

P/N	L0 Inductance µH ±20% @0A	DCR (mΩ)		Heat Rating Current	Saturation Current
		[Typical]	[Max]	Idc (AMP) Typical	Isat (AMP) Typical
ESPA-1770-R82M	0.82	0.98	1.08	56.5	45
ESPA-1770-1R0M	1.00	1.21	1.27	55.5	32
ESPA-1770-1R5M	1.50	1.54	1.62	48	31
ESPA-1770-2R2M	2.20	1.85	1.98	43.5	28
ESPA-1770-3R3M	3.30	2.79	2.93	35	27
ESP1-1770-4R7M	4.70	3.98	4.18	30	21
ESPA-1770-5R6M	5.60	4.23	4.44	28	21
ESPA-1770-6R8M	6.80	5.86	6.15	22.5	18.5
ESPA-1770-8R2M	8.20	7.71	8.10	21	18
ESPA-1770-100M	10.0	8.89	9.33	19	17
ESPA-1770-150M	15.0	13.7	14.4	14	12
ESPA-1770-220M	22.0	20.0	21.0	12	9.5
ESPA-1770-330M	33.0	35.1	37.0	10.7	9
ESPA-1770-470M	47.0	40.7	42.7	8.7	8.6
ESPA-1700-560M	56.0	55.0	57.8	7.2	4.2
ESPA-1770-680M	68.0	72.1	75.7	6.1	4.5
ESPA-1770-820M	82.0	87.3	91.7	5.5	4.5
ESPA-1770-101M	100.0	####	110.0	5.0	4.0

◎ All test Data is referenced to 25℃ ambient

◎ Typical Heat Rating DC Current would cause an approximately △T of 40℃

◎ Typical Saturation DC Current would cause Lo to drop approximately 30%

◎ Operation Temperature Range : -55℃ ~ 125℃

◎ The Part temperature (ambient + △T) should not exceed 125℃ under worst case operating conditions.

◎ Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all effect the part temperature. Part temperature should be verified in the end application.

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CHARACTERISTICS

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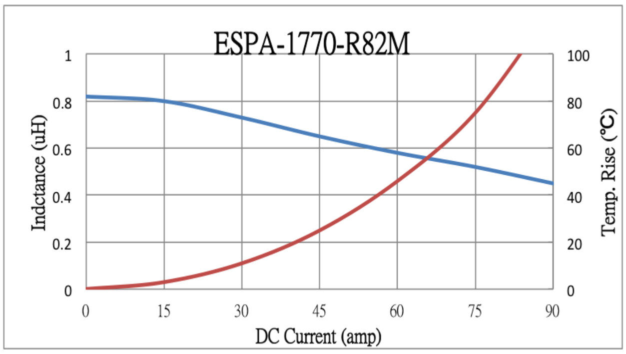

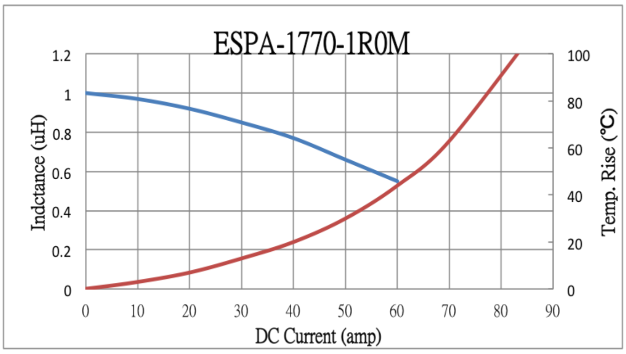

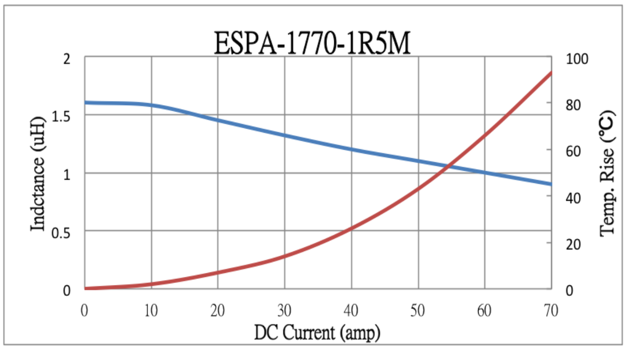

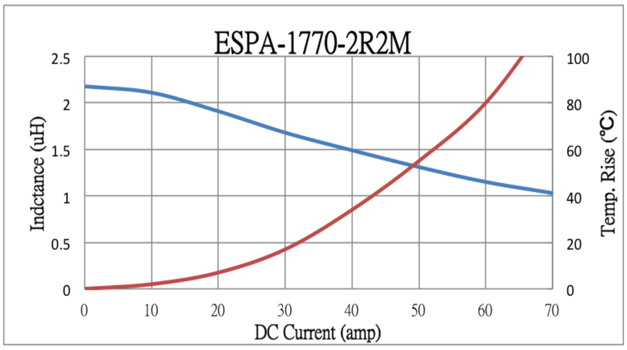

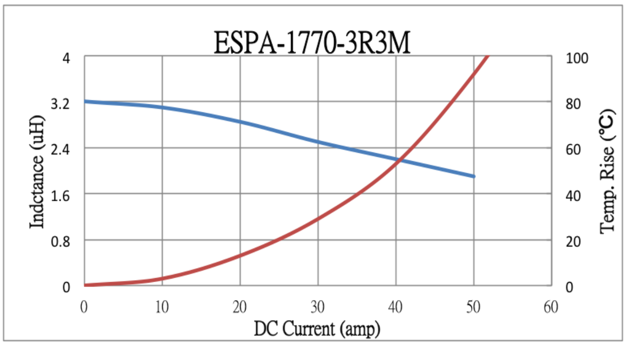

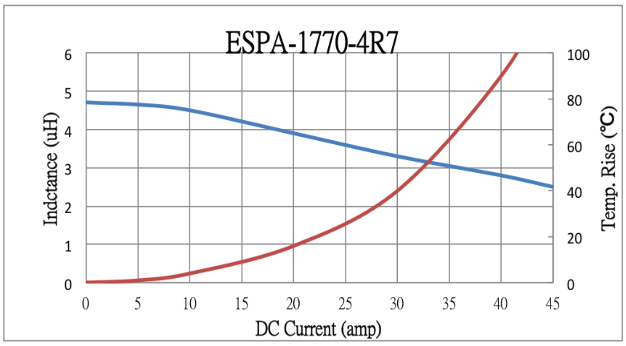

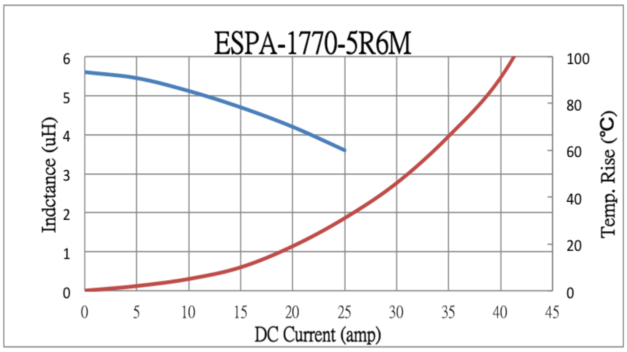

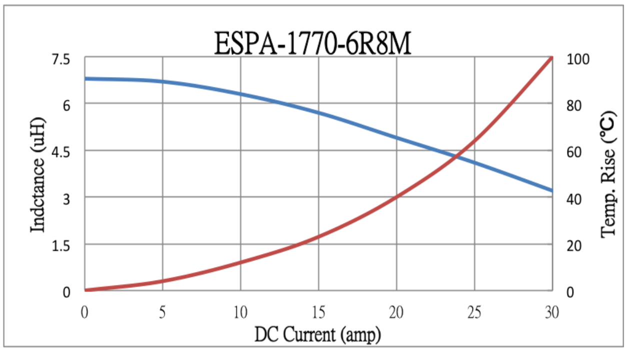

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CHARACTERISTICS

RoHS COMPLIANT

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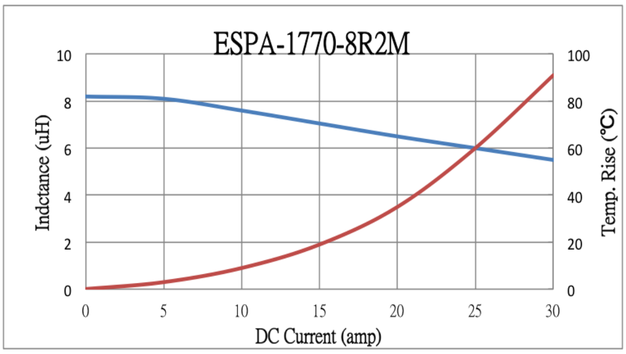

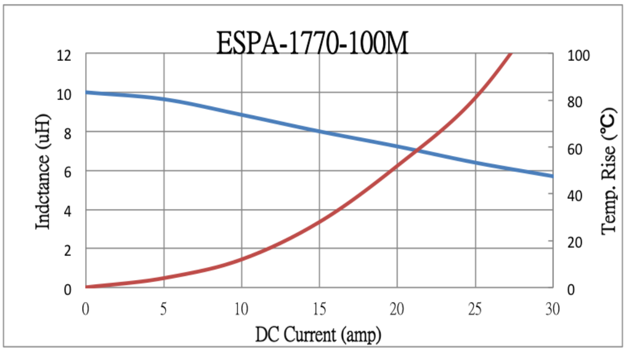

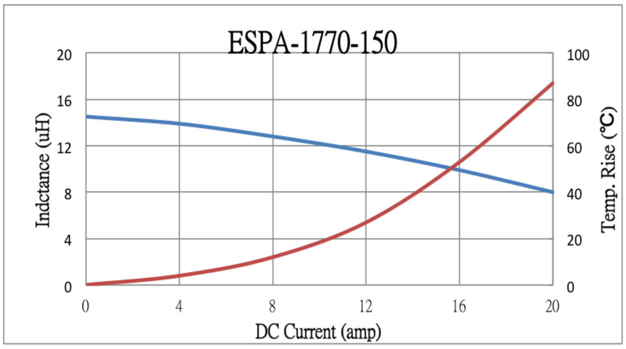

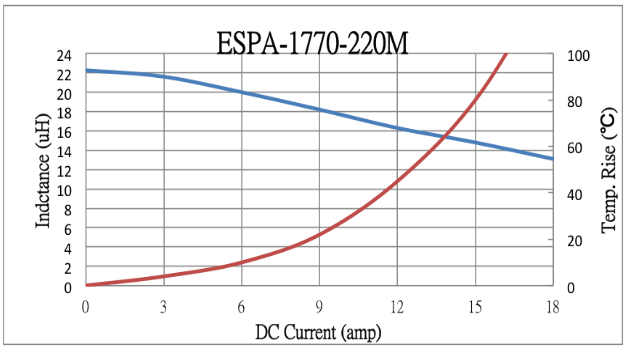

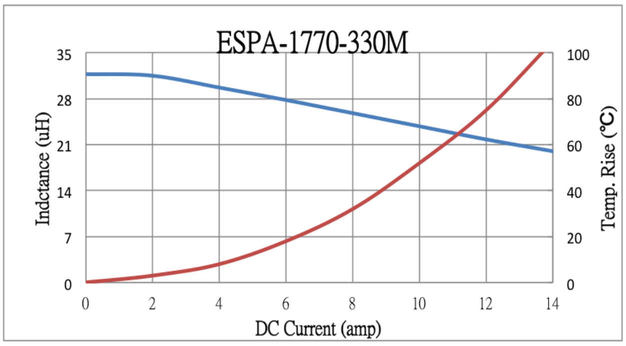

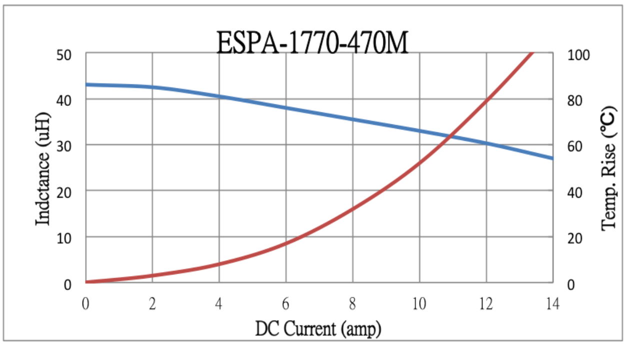

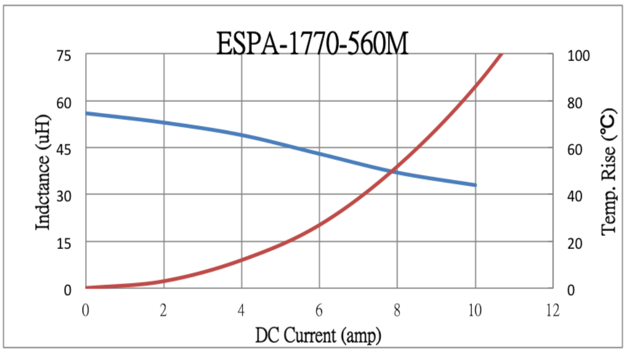

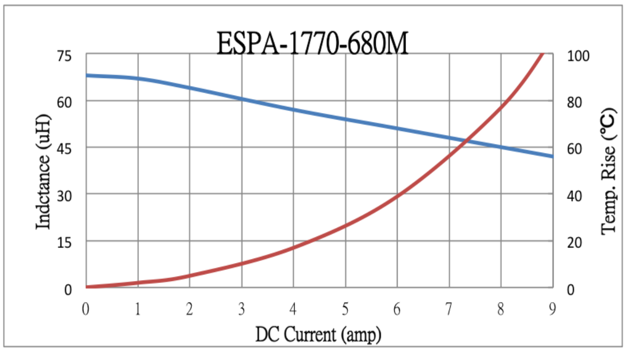

CHARACTERISTICS

RoHS COMPLIANT

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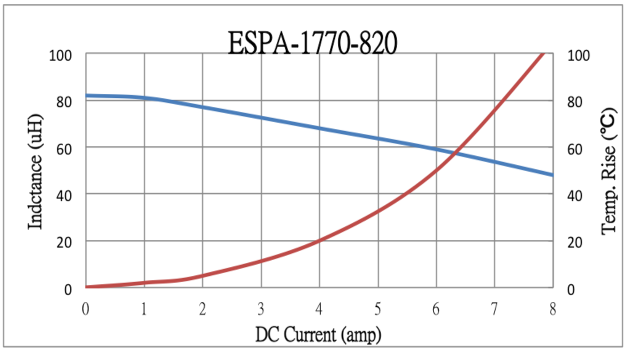

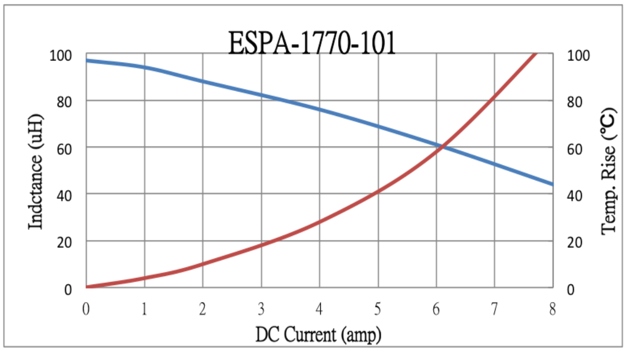

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PRODUCT	**SMD Inductor**	**TEST FREQUENCY**	**100 kHz / 1.0V**

MECHANICAL RELIABILITY

TEST	Specification & Requirement	Method Used
Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof: Preheating: 180 ±10℃ 90 seconds Soldering: 255 ±5℃ for 3 ±1 sec
Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s2 (100G) shock Attitude upon a rubber block method shock testing machinem, 3 tests.
Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle Vibration time: 2 hours

ENDURANCE RELIABILITY

TEST	Specification & Requirement	Method Used
Thermal Shock	Inductance change within ± 5% Without mechanical damage	-55℃，(30 mins) -> room temp. (5 mins) -> 125℃，(30 mins) -> room temp. (5 mins) 100 cycles
Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85℃ ambient Duration: 1000 hrs
Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60℃ ambient Humidity: 90~95％ Duration: 1000 hrs
Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -55 ±2 ℃ for total 1,000 +4/-0 hours
High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. 125 ±2 ℃ for total 1,000 +4/-0 hours

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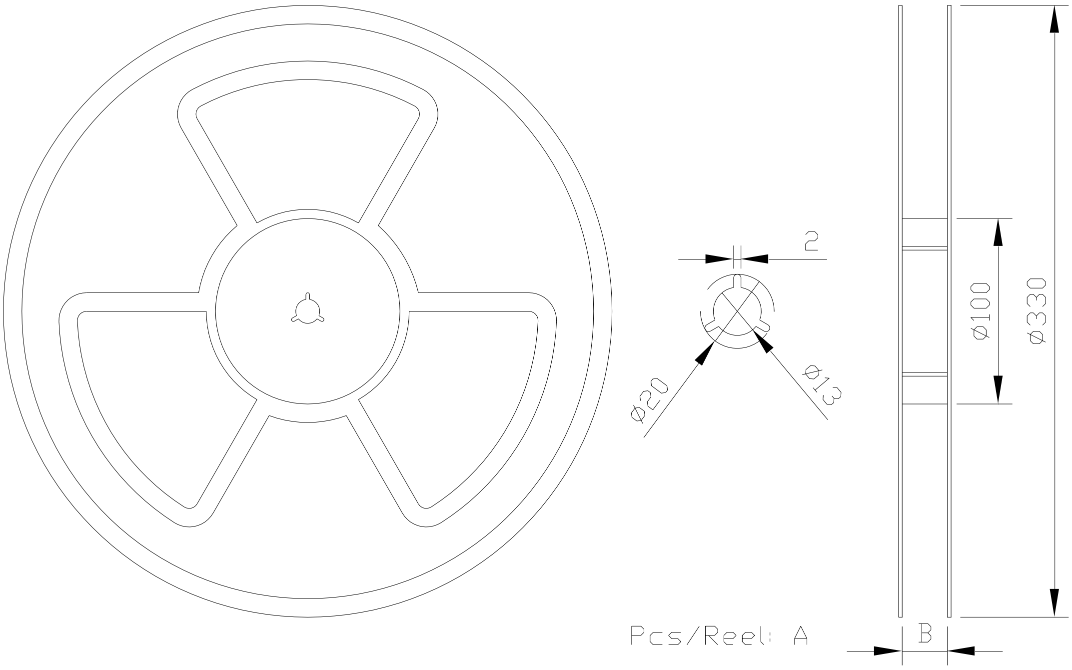
PACKING FOR SMD

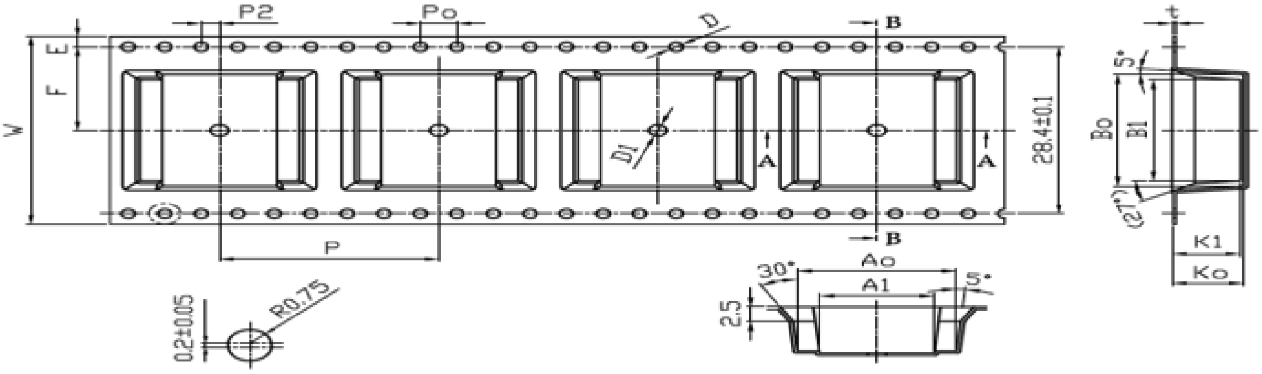
RoHS COMPLIANT

ITEM P/N	**ESPA-1770-SERIES**	**TEST INSTRUMENT**	**Zentech-3305 / Zentech502BC**
PRODUCT	**SMD Inductor**	**TEST FREQUENCY**	**100 kHz / 1.0V**

CARRIERTAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)



A	B	Ao	Bo	Ko
150	32	17.7	19.4	7.9



W	P
32	24

Typical Pulling Force:

10 grams