

# APPROVAL SHEET

## WLPM131365 Series SMD Molded Power Inductors



\*Contents in this sheet are subject to change without prior notice.

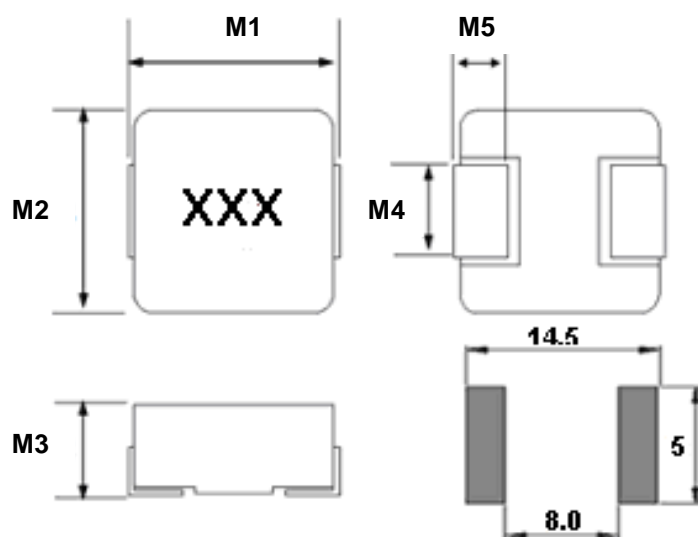
## Features

1. Shielded construction.
2. Ultra low buzz noise.
3. Low DCR.
4. Handles high transient current spikes without saturation.
5. Encapsulated body offers improved environmental protection and moisture resistance.
6. Higher dielectric withstanding voltage.
7. Corrosion resistant package.
8. RoHS Compliance.

## Applications

1. PDA/Notebook/Desktop/Server applications high current and low profile power supplier.
2. High current POL converters.
3. Battery powered devices.

## Shape and Dimension

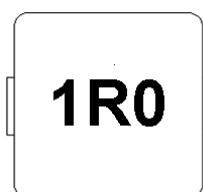


UNIT: mm

	DIM.	TOL.
M1	13.5	±1.0
M2	12.8	±0.5
M3	6.5	Max
M4	3.2	±0.5
M5	2.5	±0.5

## Marking code

Marking ex:1.0uH → 1R0



## Ordering Information

WL	PM	1313	65	M	R33	L	C
Product Code WL: Inductor	Series SMD molded power inductor.	Dimensions 13.5 *12.8mm	Thickness 6.5mm	Tolerance M: $\pm 20\%$	Value R33=0.33uH 2R2=2.20uH	Packing Code L=13" Reeled (Embossed tape)	C:General

## Electrical Characteristics

### WLPM131365\*LC series

PART NO.	Inductance(uH)	Tolerance	DCR Maximum (mΩ)		Rated Current	I sat
			TYP	MAX	Typical (A)	Typical (A)
WLPM131365MR10LC	0.1	M	0.47	0.5	60	120
WLPM131365MR15LC	0.15	M	0.53	0.6	55	118
WLPM131365MR22LC	0.22	M	0.63	0.7	53	112
WLPM131365MR30LC	0.3	M	0.7	0.8	48	72
WLPM131365MR33LC	0.33	M	0.83	0.9	46	65
WLPM131365MR47LC	0.47	M	1	1.2	41	63
WLPM131365MR56LC	0.56	M	1.2	1.4	37	62
WLPM131365MR68LC	0.68	M	1.4	1.6	35	60
WLPM131365MR82LC	0.82	M	1.6	1.9	33	50
WLPM131365M1R0LC	1	M	1.7	2	32	49
WLPM131365M1R2LC	1.2	M	2.1	2.5	30	48
WLPM131365M1R5LC	1.5	M	2.5	3	27	45
WLPM131365M1R8LC	1.8	M	2.8	3.2	24	41
WLPM131365M2R2LC	2.2	M	3.5	4.2	22	40
WLPM131365M3R3LC	3.3	M	5.7	6.8	18	35
WLPM131365M4R7LC	4.7	M	9.3	11.2	13.5	30
WLPM131365M5R6LC	5.6	M	11.8	12.8	12	26.5
WLPM131365M6R8LC	6.8	M	13.1	14	11.5	16.5
WLPM131365M8R2LC	8.2	M	14.5	15.5	10.5	16
WLPM131365M100LC	10	M	15.8	16.8	10	15.5
WLPM131365M150LC	15	M	25	29	6	9
WLPM131365M220LC	22	M	34	39.5	5	7.5
WLPM131365M330LC	33	M	55	65	4	6
WLPM131365M470LC	47	M	80	92	3	5
WLPM131365M680LC	68	M	122	134	2	3.5

TEST INSTRUMENT: CHROMA 16502 、Zentech1320+Zentech3305

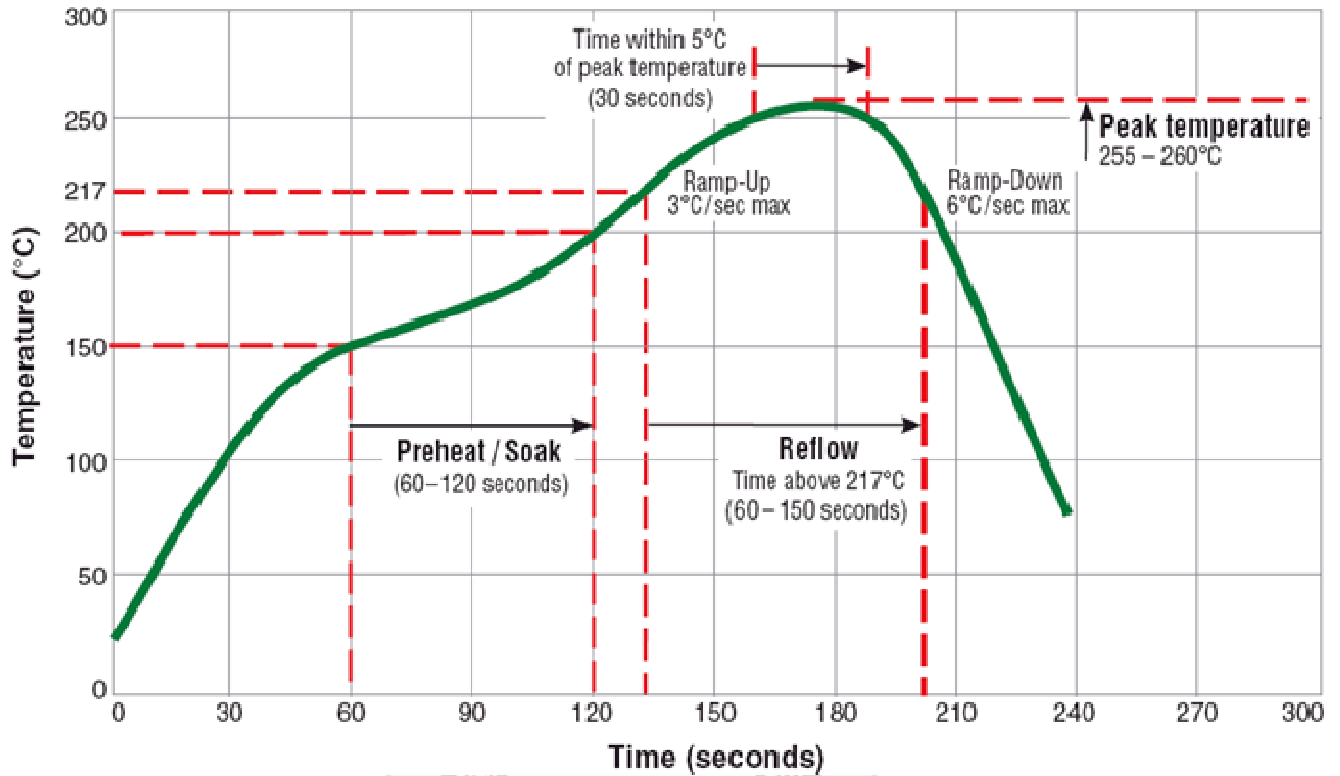
- (1). Test Freq : 100KHz , 1.0V
- (2). All test data is referenced to 25°C ambient.
- (3). Operating Temperature Range -55°C to +125°C.
- (4). Rated Current: DC current(A)that will cause an approximate  $\Delta T$  of 40°C.
- (5). I sat: DC current(A)that will cause Lo to drop approximately 30%.
- (6). The part temperature(ambient +temp rise)should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature Part temperature should be verified

## Reliability Performance

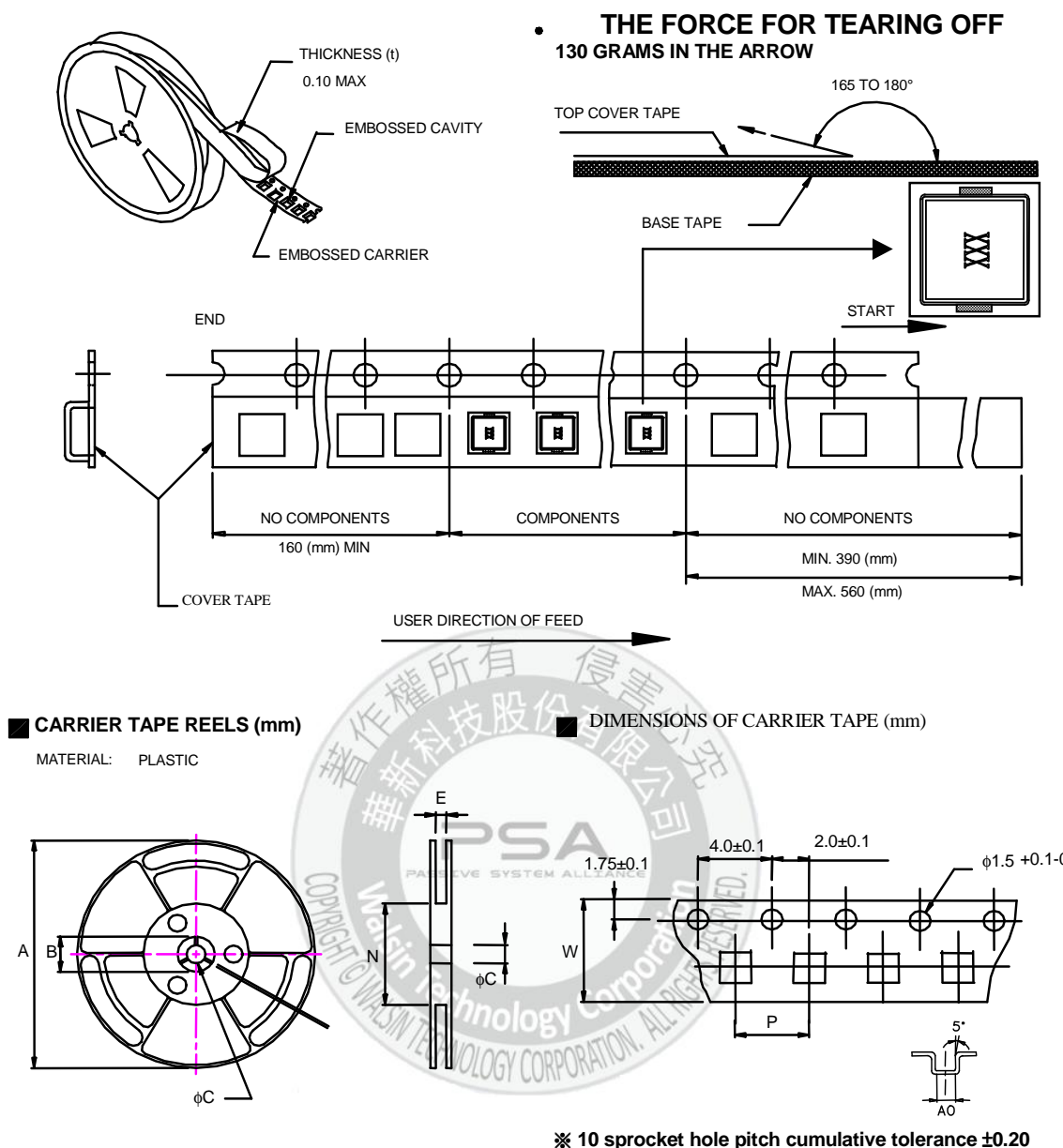
Test Item	Test Condition	Standard Source
Humidity Test	+40°C $\pm$ 2°C, humidity of 90% $\pm$ 5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1.Temperature: +125°C $\pm$ 2°C 2.Test time: 48 $\pm$ 2hrs	IEC 68-2 Test Condition B
Low Temperature Test	1.Temperature: -40°C $\pm$ 2°C 2.Test time: 48 $\pm$ 2hrs	IEC 68-2 Test Condition A
Thermal Shock	+125°C $\pm$ 5°C (30 minutes) ~ -40 $\pm$ 5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	MIL-STD-202G Method 107G Test Condition B-2
Life Test	+70°C $\pm$ 5°C (250Hours)	MIL-STD-202G Method 108A Test Condition B
Vibration Test	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202G Method 201A
Solder Heat Resistance Test	IR/convection reflow:Peak Temp 260 $\pm$ 5°C for 30Sec in air, Through 2 Cycle. Temperature Ramp:+1~4°C/sec; Above 217°C, must keep 90 s - 120 s.	J-STD-020D Classification Reflow Profiles
Solder Ability Test	Soak in 245 °C solder pot of 3Sec, PAD must have 95% above coverage.	J-STD-003B

## Typical RoHS Reflow Profile

### Typical RoHS Reflow Profile



## Packaging



UNIT : mm

	A	B	C	E	N	P	W	t
DIM.	330	20.0	13.0	25.0	100	20.0	24.0	0.4
TOL.	$\pm 0.2$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	MIN	$\pm 0.1$	$\pm 0.3$	$\pm 0.05$

Quantity per reel : 400 pcs