

# APPROVAL SHEET

## WLPN303015.E Series SMD Shielded Power Inductor



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

## Features

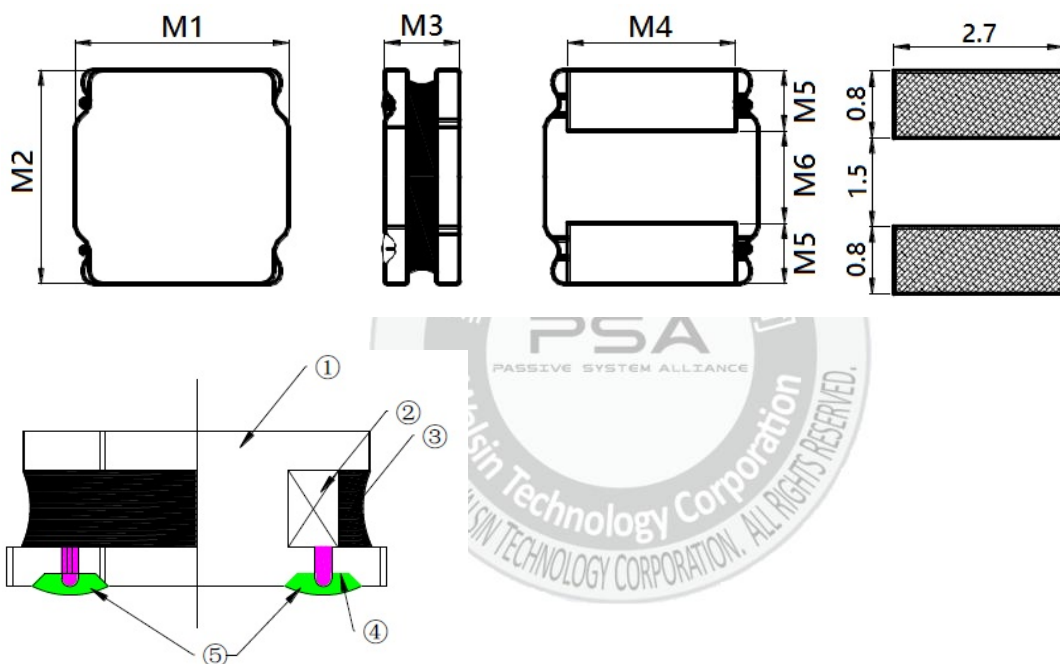
1. Close magnetic loop with magnetic resin shielded.
2. Low profile, High inductance.

## Applications

1. General propose power inductor in DC power system.
2. Inductor in DC/DC converter.
3. Low profile for portable and wearable device.
4. LC filter in Audio D class Amplifier.

## Shape and Dimension

Unit: mm



## MATERIAL LIST

NO	PARTS	MATERIAL
1	DRUM CORE	Ni-Zn FERRITE CORE
2	WIRE	POLYURETHANE ENAMELED COPPER WIRE
3	ADHESIVE	EPOXY RESIN MAGNETIC POWDER
4	PLATING ELECTRODES	PLATING: Ag 10-20 um Ni 1-3 um Sn 3-7 um
5	OUTER ELECTRODES	TOP SURFACE SOLDER COATING Sn99% 、 Ag0.3% 、Cu0.7%

## Ordering Information

WL	PN	3030	15	N	1R0	P	E
<b>Product Code</b> WL: Inductor	<b>Series</b> SMD Shielded Power Inductors	<b>Dimensions</b> 3.0 * 3.0 mm	<b>Thickness</b> 1.5 mm	<b>Tolerance</b> M: $\pm 20\%$ N: $\pm 30\%$	<b>Value</b> 1R0 = 1.0uH 100 = 10.0uH	<b>Packing Code</b> P=7" Reeled (Embossed tape)	<b>E:STD</b>

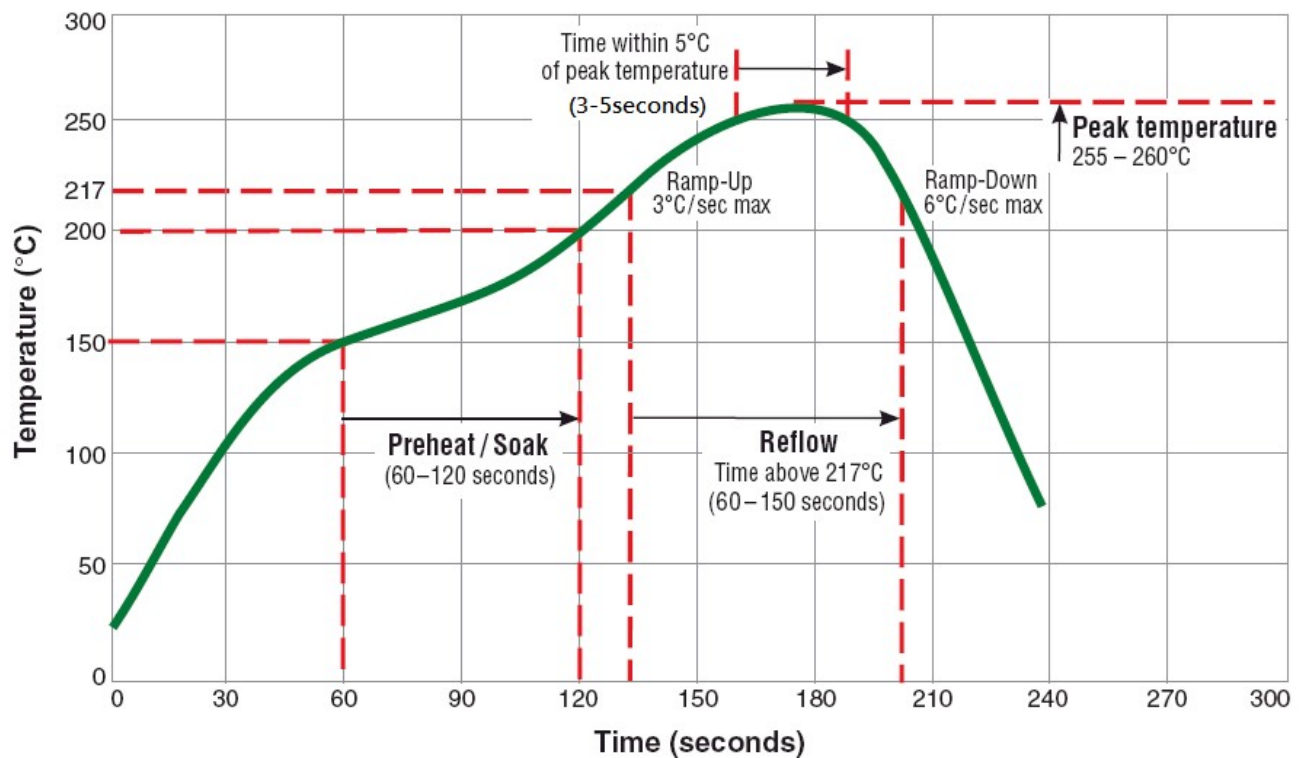
## Electrical Characteristics

WLPN303015 Series	Marking	L (uH)	Inductance Tolerance	Test Freq (KHz)	DCR ( $\Omega$ )MAX.	Irms (A)	Isat (A)
WLPN303015N1R0PE	1R0	1.0	$\pm 30\%$	100	0.030	2.10	2.10
WLPN303015N1R5PE	1R5	1.5	$\pm 30\%$	100	0.038	1.82	1.80
WLPN303015M2R2PE	2R2	2.2	$\pm 20\%$	100	0.058	1.50	1.48
WLPN303015M3R3PE	3R3	3.3	$\pm 20\%$	100	0.078	1.23	1.21
WLPN303015M4R7PE	4R7	4.7	$\pm 20\%$	100	0.120	1.04	1.02
WLPN303015M6R8PE	6R8	6.8	$\pm 20\%$	100	0.160	0.88	0.87
WLPN303015M100PE	100	10	$\pm 20\%$	100	0.222	0.71	0.70
WLPN303015M220PE	220	22	$\pm 20\%$	100	0.520	0.47	0.47
WLPN303015M101PE	101	100	$\pm 20\%$	100	2.300	0.25	0.23

1. TOLERANCE : M: $\pm 20\%$ 、N: $\pm 30\%$
2. INDUCTANCE : @100KHz,0.25V
3. TEST MACHINE : HIOKI3532-50 OR EQUIVALENT
4. DC RESISTANCE : HIOKI 3540 OR EQUIVALENT
5. ISat / Irms : HP4284+42841A OR EQUIVALENT
6. OPERATING TEMPERATURE : -40°C ~ +125°C.
7. INDUCTANCE DROPS NO MORE THAN 30% OF INITIAL VALUE AT ISAT.
8. TEMPERATURE RISES :  $\Delta t < 40^{\circ}\text{C}$  AT IRMS
9. MSL : LEVEL 1.

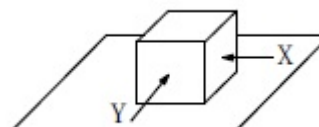
## TYPICAL RoHS REFLOW PROFILE

### Typical RoHS Reflow Profile

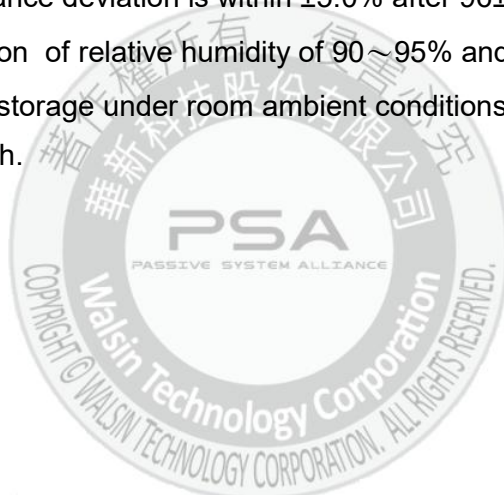


## RELIABILITY PERFORMANCE

1. Storage Temperature range :  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
2. Operating temperature range :  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (Including coil's self temperature rise)
3. External appearance : No external defects can be found in the visual inspection.
4. Electrode strength : No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 10.0N for  $10 \pm 2$  seconds after soldering between copper plate and the electrodes. (Refer to figure at right)

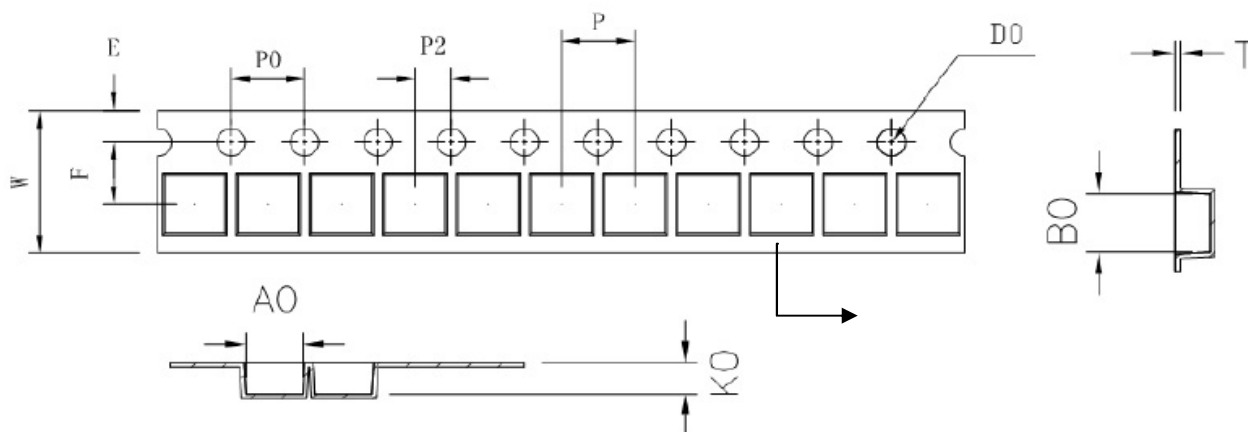


5. Vibration test : Inductance deviation is within  $\pm 10.0\%$  after 1 hour sweeping vibration in each three directions, namely, forward and backward, up and down, right and left. The frequency is  $10 \sim 55 \sim 10\text{Hz}$  and the amplitude of 1 minute cycle is 1.5mm PP.
6. Humidity test : Inductance deviation is within  $\pm 5.0\%$  after  $96 \pm 4$  hours test under the condition of relative humidity of  $90 \sim 95\%$  and temperature of  $60 \pm 2^{\circ}\text{C}$ , and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.



## Tape & Reel Packaging Dimensions:

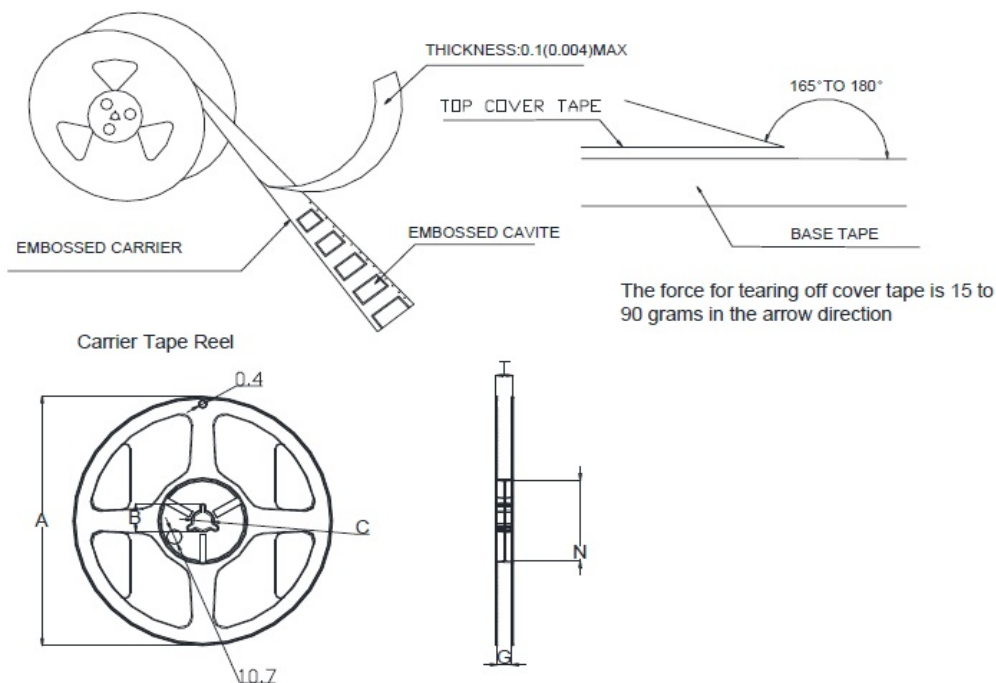
1. OUTER PACKING  
2 KPCS/REEL;20 KPCS/INNER BOX;80 KPCS/OUTER BOX
2. CARRIER TAPE DIMENSIONS



UNIT : mm

ITEM	W	P	F	E	D0	P0	P2	T	A0	B0	K0
DIM	8.00	4.00	3.50	1.75	1.50	4.00	2.00	0.25	3.3	3.3	1.9
TOLE	±0.3	±0.1	±0.05	±0.1	+0.1	±0.1	±0.05	±0.05	±0.05	±0.05	±0.05

## 3. CARRIER REEL DIMENSIONS



UNIT : mm

Type	A	B	C	G	N	T
8mm	178	20.7±0.8	13±0.4	9	60	10.8