

APPROVAL SHEET

WLPN303015 Series SMD Shielded Power Inductors



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

Features

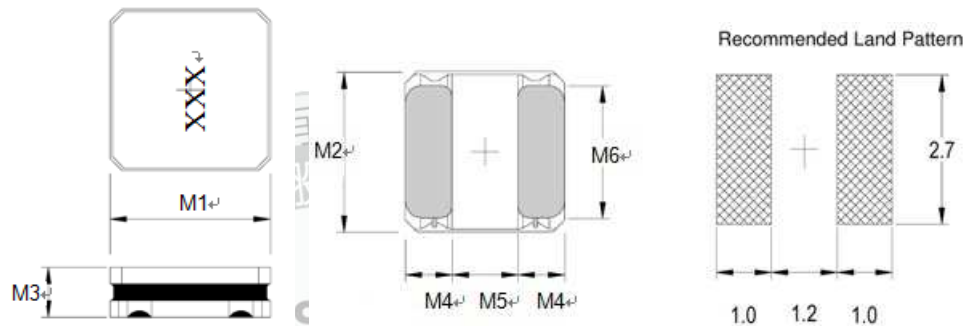
1. Close magnetic loop with magnetic resin shielded.
2. Low profile, High inductance.

Applications

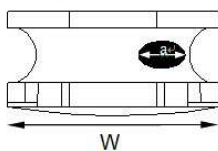
1. General propose power inductor in DC power system.
2. Inductor in DC/DC converter.
3. Low profile for portable and wearable device.
4. LC filter in Audio D class Amplifier.

Shape and Dimension

Unit: mm



※Void appearance tolerance limit



$a \leq W/3$ Good
 $a > W/3$ NG

| Package Size | M1 | M2 | M3 | M4 | M5 | M6 |
|--------------|---------|---------|----------|---------|---------|----------|
| WLPN303015 | 3.0±0.1 | 3.0±0.1 | 1.5 MAX. | 0.9±0.2 | 1.2±0.2 | 2.7 TYP. |

Ordering Information

| WL | PN | 3030 | 15 | N | 1R0 | P | B |
|---------------------|---------------------------------------|-------------------|------------------|----------------------|-----------------------------|--------------------------------|-------|
| Product Code | Series | Dimensions | Thickness | Tolerance | Value | Packing Code | |
| WL: Inductor | SMD Shielded Power Inductors | 3.0 * 3.0 mm | 1.5 mm | M: ± 20% N: ± 30% | 1R0 = 1.0uH 100 = 10.0uH | P=7" Reeled (Embossed tape) | B:STD |

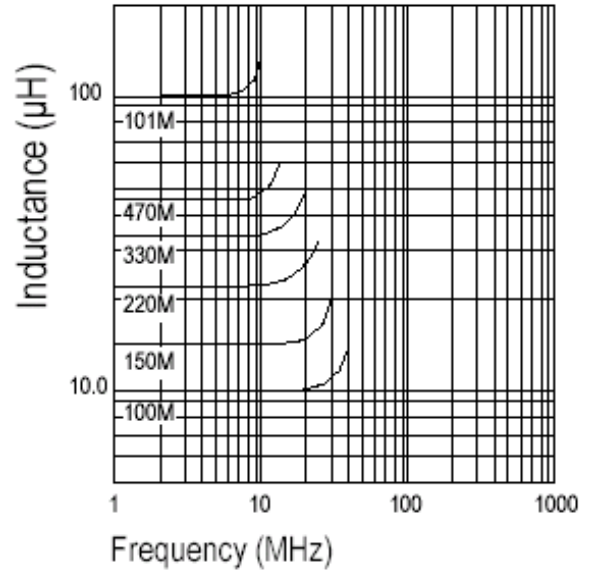
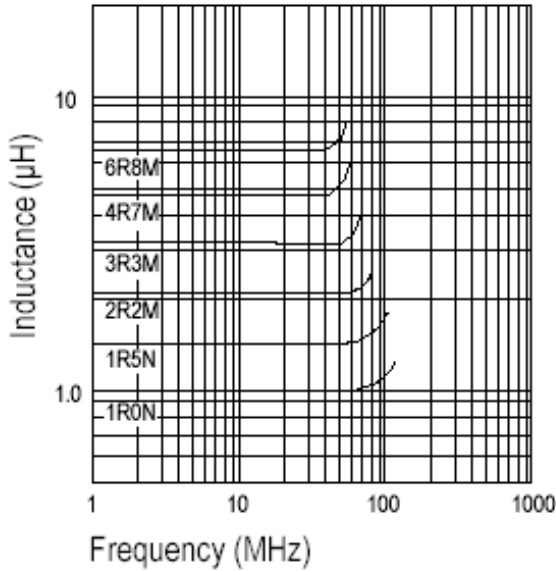
Electrical Characteristics

| WLPN303015 Series | Marking | L (uH) | Inductance Tolerance | Test Freq (MHz) | DCR (Ω)MAX. | I _{rms} (A) | I _{sat} (A) |
|-------------------|---------|--------|----------------------|-----------------|-------------|----------------------|----------------------|
| WLPN303015N1R0PB | 1R0 | 1.0 | ±30% | 1 | 0.048 | 2.10 | 2.10 |
| WLPN303015N1R5PB | 1R5 | 1.5 | ±30% | 1 | 0.066 | 1.90 | 1.80 |
| WLPN303015M2R2PB | 2R2 | 2.2 | ±20% | 1 | 0.072 | 1.60 | 1.48 |
| WLPN303015M2R7PB | 2R7 | 2.7 | ±20% | 1 | 0.097 | 1.43 | 1.52 |
| WLPN303015M3R3PB | 3R3 | 3.3 | ±20% | 1 | 0.112 | 1.45 | 1.21 |
| WLPN303015M3R6PB | 3R6 | 3.6 | ±20% | 1 | 0.136 | 1.20 | 1.28 |
| WLPN303015M4R7PB | 4R7 | 4.7 | ±20% | 1 | 0.136 | 1.25 | 1.08 |
| WLPN303015M5R1PB | 5R1 | 5.1 | ±20% | 1 | 0.162 | 1.09 | 1.08 |
| WLPN303015M6R2PB | 6R2 | 6.2 | ±20% | 1 | 0.253 | 0.86 | 1.00 |
| WLPN303015M6R8PB | 6R8 | 6.8 | ±20% | 1 | 0.211 | 0.90 | 0.90 |
| WLPN303015M100PB | 100 | 10 | ±20% | 1 | 0.276 | 0.87 | 0.75 |
| WLPN303015M120PB | 120 | 12 | ±20% | 1 | 0.416 | 0.68 | 0.70 |
| WLPN303015M150PB | 150 | 15 | ±20% | 1 | 0.422 | 0.65 | 0.58 |
| WLPN303015M180PB | 180 | 18 | ±20% | 1 | 0.559 | 0.59 | 0.56 |
| WLPN303015M220PB | 220 | 22 | ±20% | 1 | 0.622 | 0.55 | 0.47 |
| WLPN303015M330PB | 330 | 33 | ±20% | 1 | 0.959 | 0.45 | 0.39 |
| WLPN303015M390PB | 390 | 39 | ±20% | 1 | 1.294 | 0.39 | 0.41 |
| WLPN303015M430PB | 430 | 43 | ±20% | 1 | 1.378 | 0.37 | 0.37 |
| WLPN303015M470PB | 470 | 47 | ±20% | 1 | 1.406 | 0.40 | 0.32 |
| WLPN303015M560PB | 560 | 56 | ±20% | 1 | 1.664 | 0.34 | 0.33 |
| WLPN303015M680PB | 680 | 68 | ±20% | 1 | 3.51 | 0.23 | 0.28 |
| WLPN303015M101PB | 101 | 100 | ±20% | 1 | 2.920 | 0.25 | 0.23 |

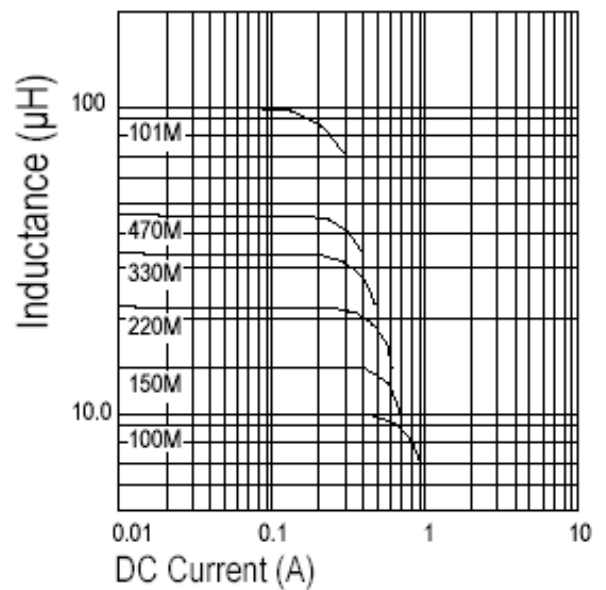
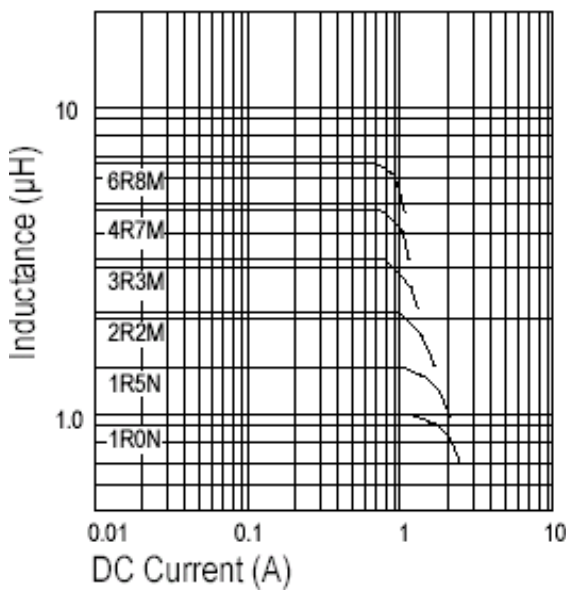
1. Test Frequency:1MHz ,1V
2. Test Equipment:
L:CHROMA-3302+1320. or equivalent.
RDC:CH16502BC or equivalent.
3. I_{sat} : Based on inductance decrease 30% Max.(at 20°C)
4. I_{rms} : Base on temperature increase 40% Max.(at 20°C)
5. Operating temperature range:-25°C to +120°C(Include self-temperature rise)
6. Storage temperature: -40°C to +85°C
7. MSL:LEVEL 1

ELECTRICAL CURVE

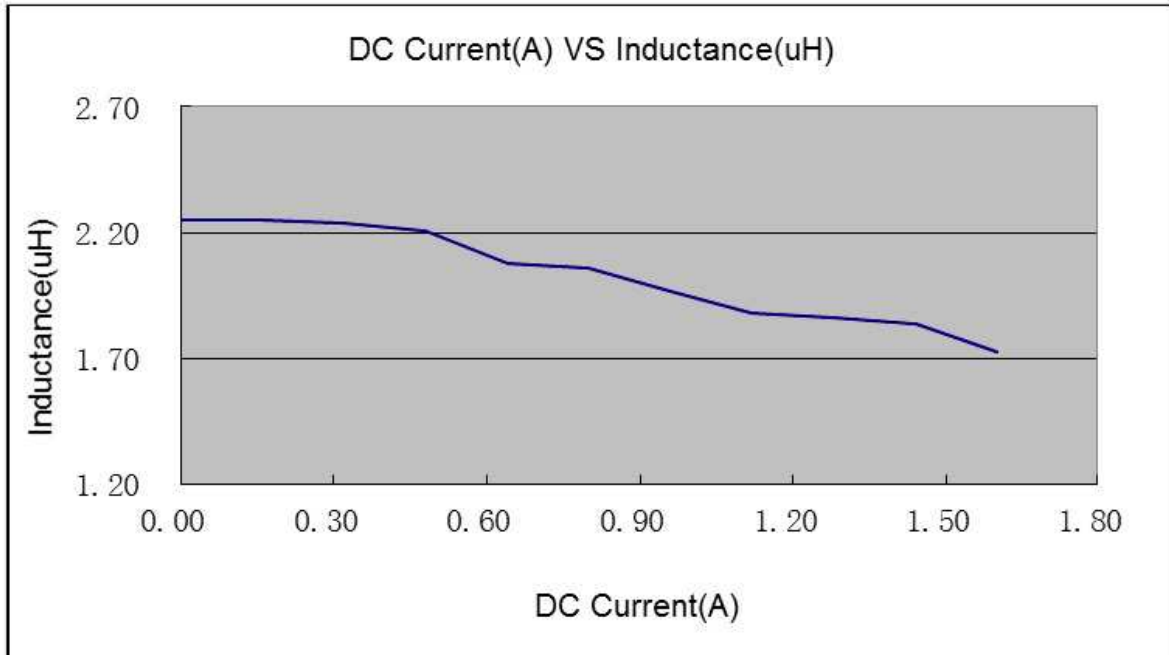
L vs Frequency



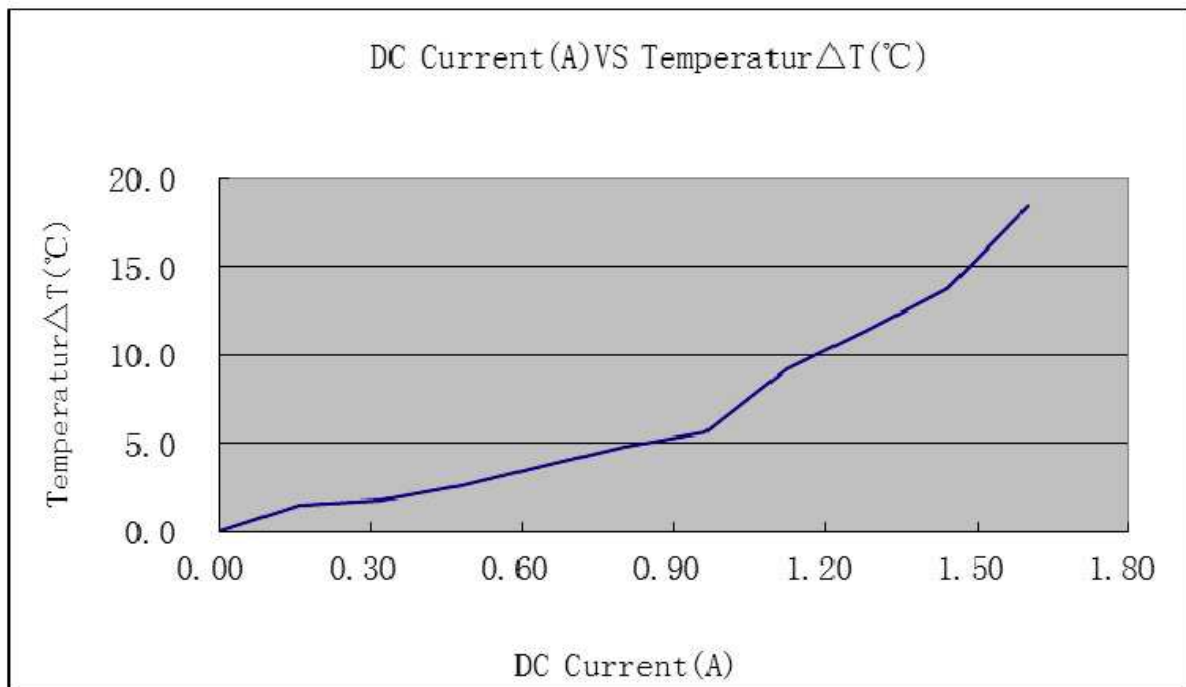
L vs Current



TEMPERATURE VS DC CURRENT

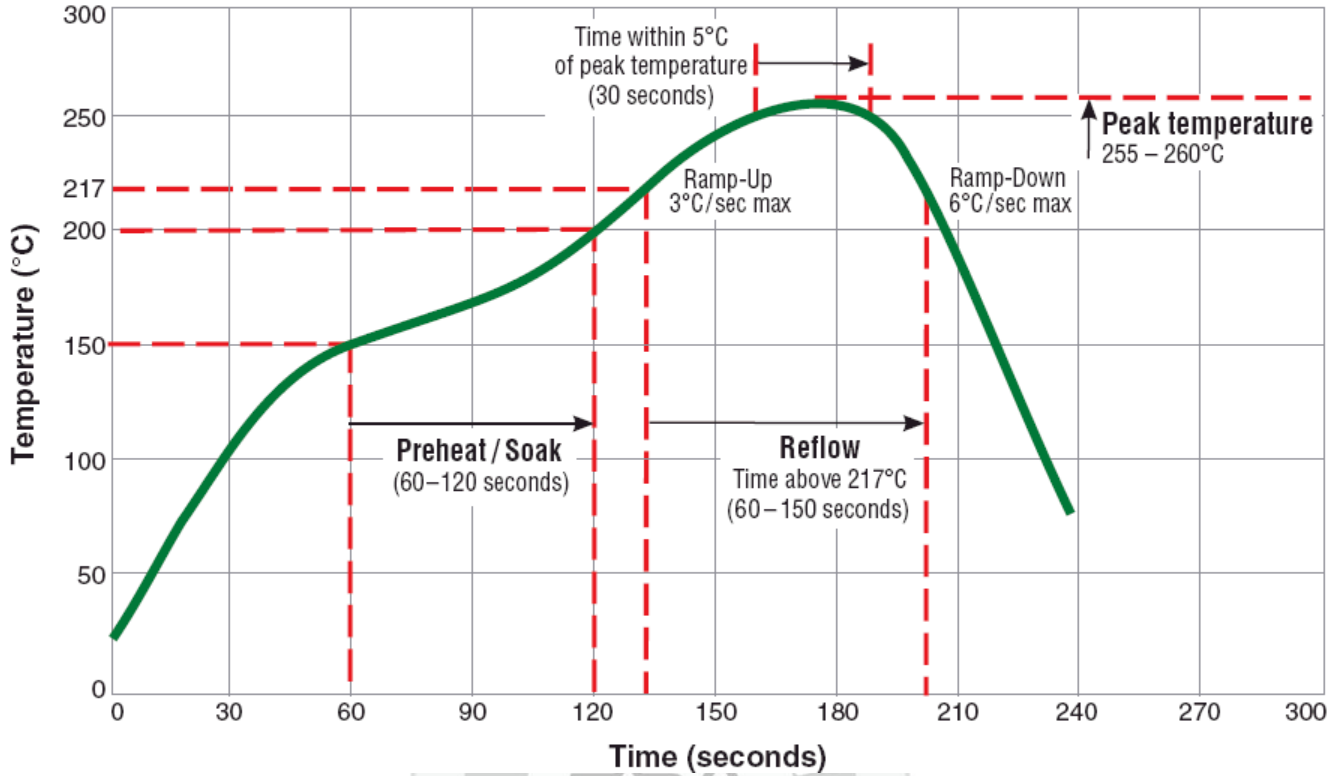


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TYPICAL RoHS REFLOW PROFILE

Typical RoHS Reflow Profile



RELIABILITY PERFORMANCE

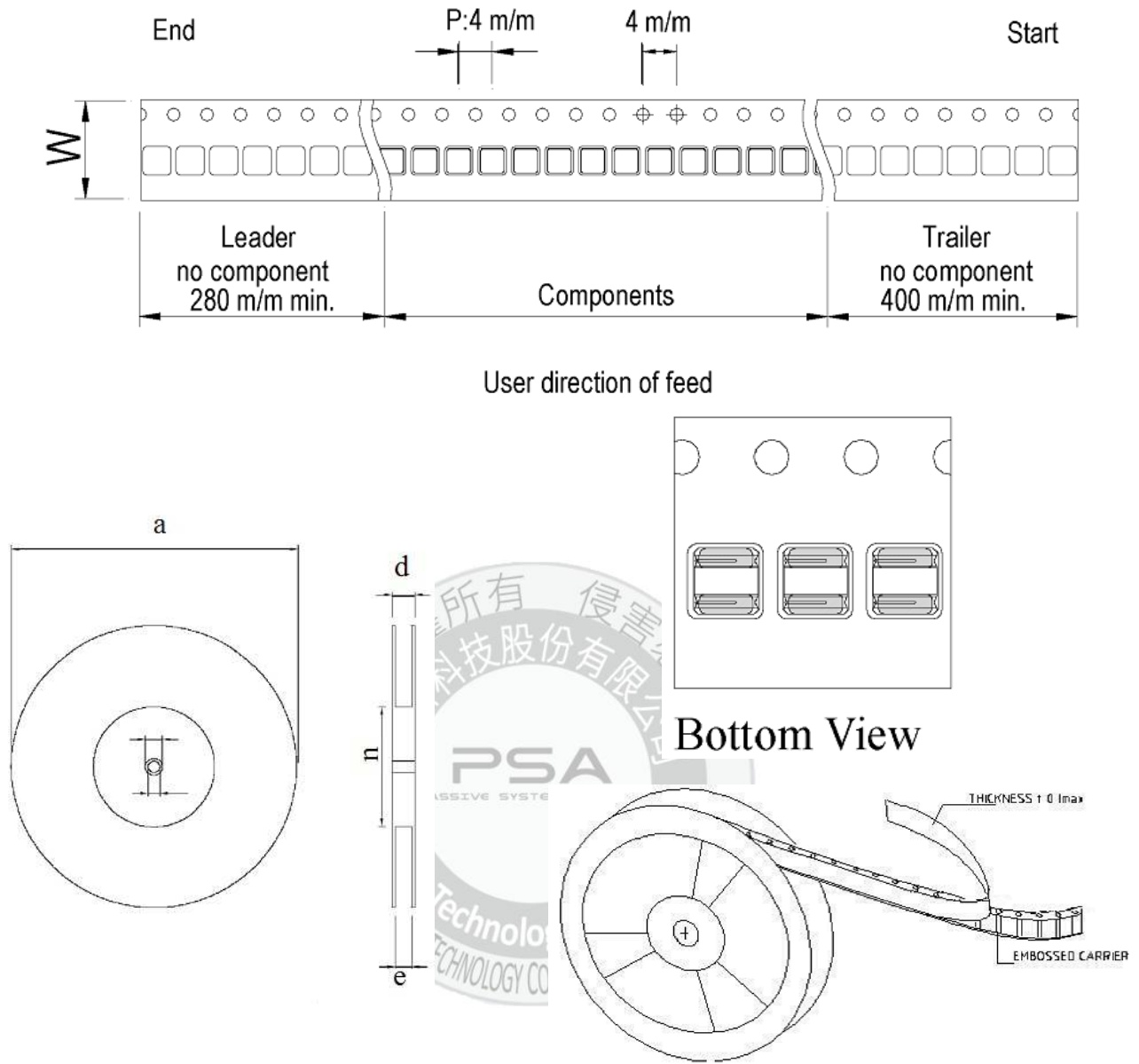
Reliability Experiment For Electrical

| Test Item | Test Condition | Standard Source |
|-----------------------|--|---|
| Humidity Test | +40°C ± 2°C, humidity of 90% ± 5% (total 96 hours). | MIL-STD-202G Method 103B Test Condition B |
| High Temperature Test | 1. Temperature: +125°C ± 2°C 2. Test time: 48 ± 2hrs | IEC 68-2 Test Condition B |
| Low Temperature Test | 1. Temperature: -40°C ± 2°C 2. Test time: 48 ± 2hrs | IEC 68-2 Test Condition A |
| Thermal Shock | +125°C ± 5°C (30 minutes) ~ -40 ± 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 ± 5°C (250Hours) | MIL-STD-202G Method 108A Test Condition B |

Reliability Experiment For Physical

| Test Item | Test Condition | Standard Source |
|-----------------------------|--|--|
| 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 250 ± 5°C for 5Sec in air, Through 2 Cycle. Temperature Ramp: +1~4°C/sec; Above 183°C, must keep 90 s - 120 s | MIL-STD-202G Method 210F Test Condition (Reflow) |
| Solder Ability Test | Soak in 245 °C solder pot of 3Sec, PAD must have 95% above coverage. | J-STD-003B |

Tape & Reel Packaging Dimensions:



| Product Series | t | P1 | P | P0 | W | A0 | B0 | K0 | a | b | c | d | e | n |
|----------------|---------------|--------------|-------------|-------------|-------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|-------------|------------|
| WLPN303015 | 0.25 ±0.05 | 2.0 ±0.05 | 4.0 ±0.1 | 0.4 ±0.1 | 8.0 ±0.2 | 3.15 ±0.1 | 3.15 ±0.1 | 1.65 MAX. | 178.0 ±2.0 | 21.0 ±0.8 | 13.0 ±0.8 | 12.5 MAX. | 8.4 ±0.1 | 50 MIN. |

Quantity per reel : 2K pcs

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Walsin:

[WLPN303015M100PB](#) [WLPN303015M101PB](#) [WLPN303015M120PB](#) [WLPN303015M150PB](#) [WLPN303015M180PB](#)
[WLPN303015M220PB](#) [WLPN303015M2R2PB](#) [WLPN303015M2R7PB](#) [WLPN303015M330PB](#) [WLPN303015M390PB](#)
[WLPN303015M3R3PB](#) [WLPN303015M3R6PB](#) [WLPN303015M430PB](#) [WLPN303015M470PB](#)
[WLPN303015M4R7PB](#) [WLPN303015M560PB](#) [WLPN303015M5R1PB](#) [WLPN303015M680PB](#) [WLPN303015M6R2PB](#)
[WLPN303015M6R8PB](#) [WLPN303015N1R0PB](#) [WLPN303015N1R5PB](#)