

APPROVAL SHEET



WLQC1515 Series
SMD Square Air Wound Coil Inductors

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

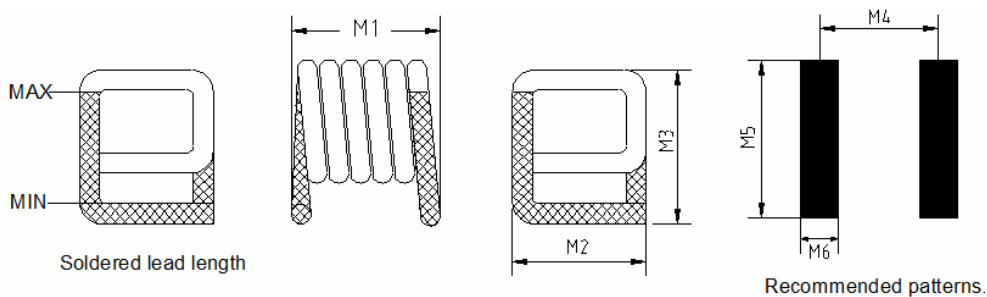
FEATURES

1. Excellence Q and SRF characteristics for RF application.
2. Wide range inductance and various tolerance options.
3. RoHS compliant

APPLICATIONS

1. Communication system front-end circuit: GSM/3G/LTE, Wi-Fi, GPS.
2. Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wireless.
4. EMI solution in high frequency circuits.

Shape and Dimension



Unit: mm

| WLQC1515 Series | M1 | M2 | M3 | M4 | M5 | M6 |
|------------------|------------|------------|------------|------|------|------|
| WLQC1515H0□47NLB | 4.06±0.254 | 3.56±0.178 | 3.73±0.178 | 3.56 | 4.45 | 1.78 |
| WLQC1515H0□68NLB | 5.33±0.254 | 3.56±0.178 | 3.73±0.178 | 4.83 | 4.45 | 1.78 |
| WLQC1515H0□82NLB | 5.84±0.254 | 3.56±0.178 | 3.73±0.178 | 5.33 | 4.45 | 1.78 |

Ordering Information

| WL | QC | 1515 | H0 | J | 47N | L | B |
|---------------------|--|-------------------|-------------------------|--------------------|--------------|---------------------------------|-------|
| Product Code | Series | Dimensions | Series extension | Tolerance | Value | Packing Code | |
| WL: Inductor | Square air wound coil inductor. | 1515 | H0 | G: ± 2% J: ± 5% | 47N = 47nH | L=13" Reeled (Embossed Tape) | B:STD |

Electrical Characteristics

| WLQC1515 Series | Tolerance | L (nH) | Q (min) | Test Freq (MHz) | DCR (mΩ)Max | SRF (GHz) Typ | Irms (A) |
|------------------|-----------|--------|---------|-----------------|-------------|---------------|----------|
| WLQC1515H0□47NLB | G、J | 47 | 230 | 400 | 6.35 | 1.87 | 4.9 |
| WLQC1515H0□68NLB | G、J | 68 | 230 | 400 | 8.60 | 2.13 | 5.5 |
| WLQC1515H0□82NLB | G、J | 82 | 230 | 400 | 9.40 | 1.79 | 5.6 |

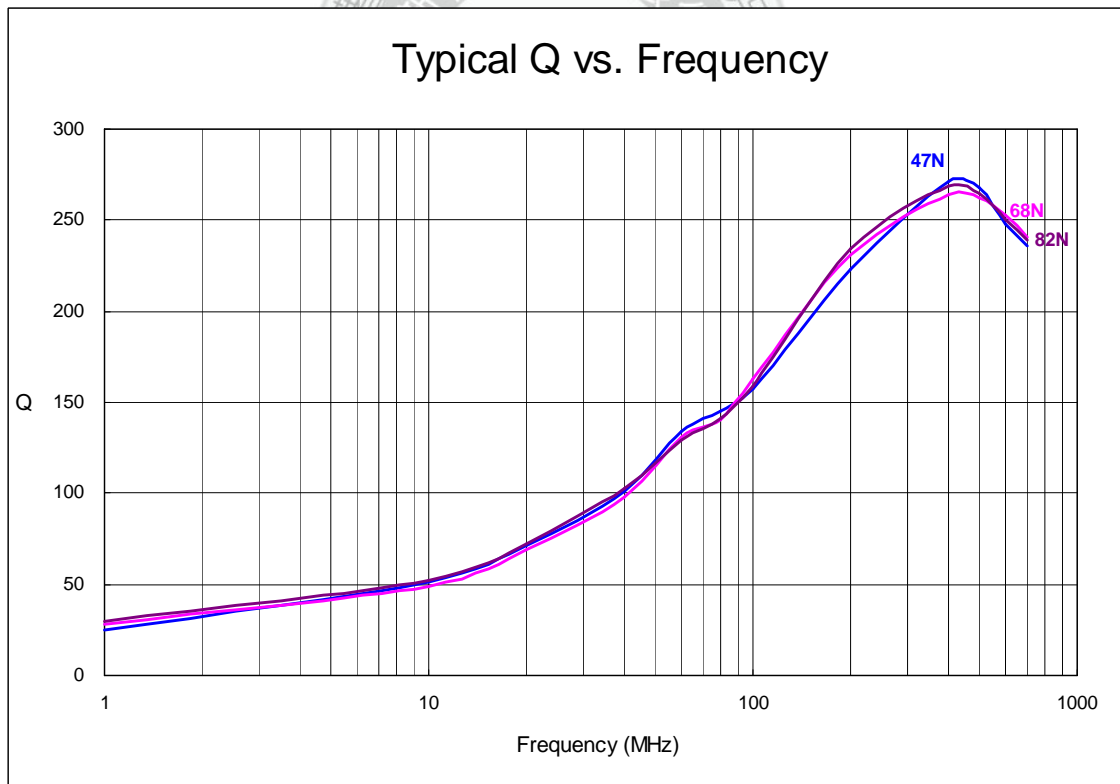
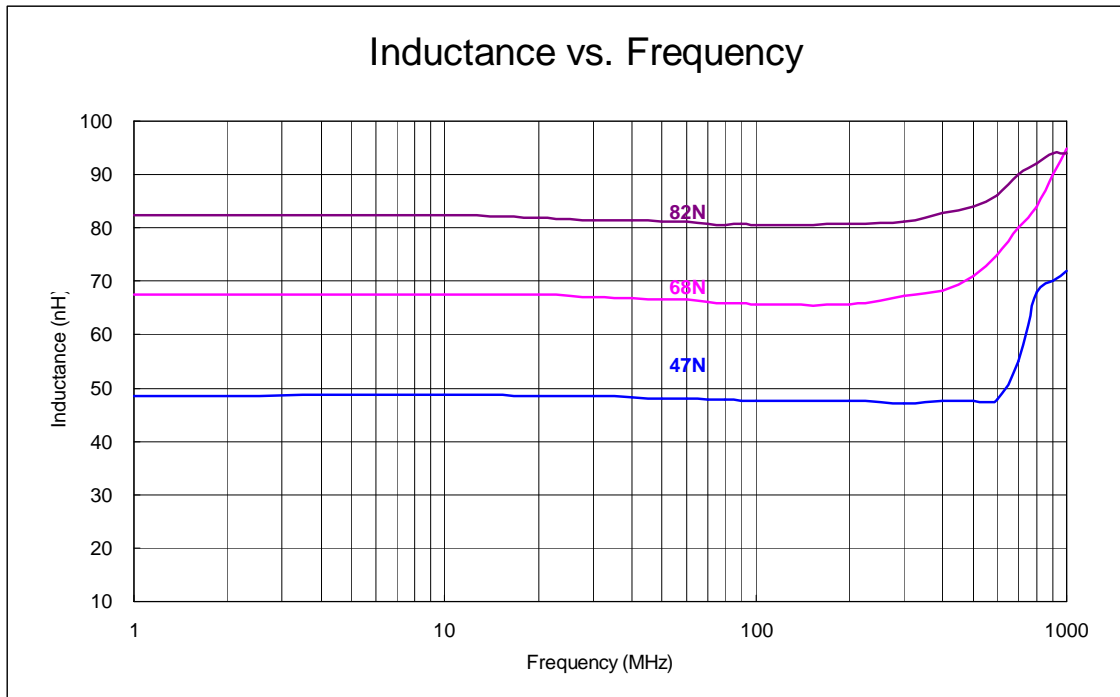
TEST INSTRUMENT : HP4291B / FIXTURE HP16193A

NOTE :

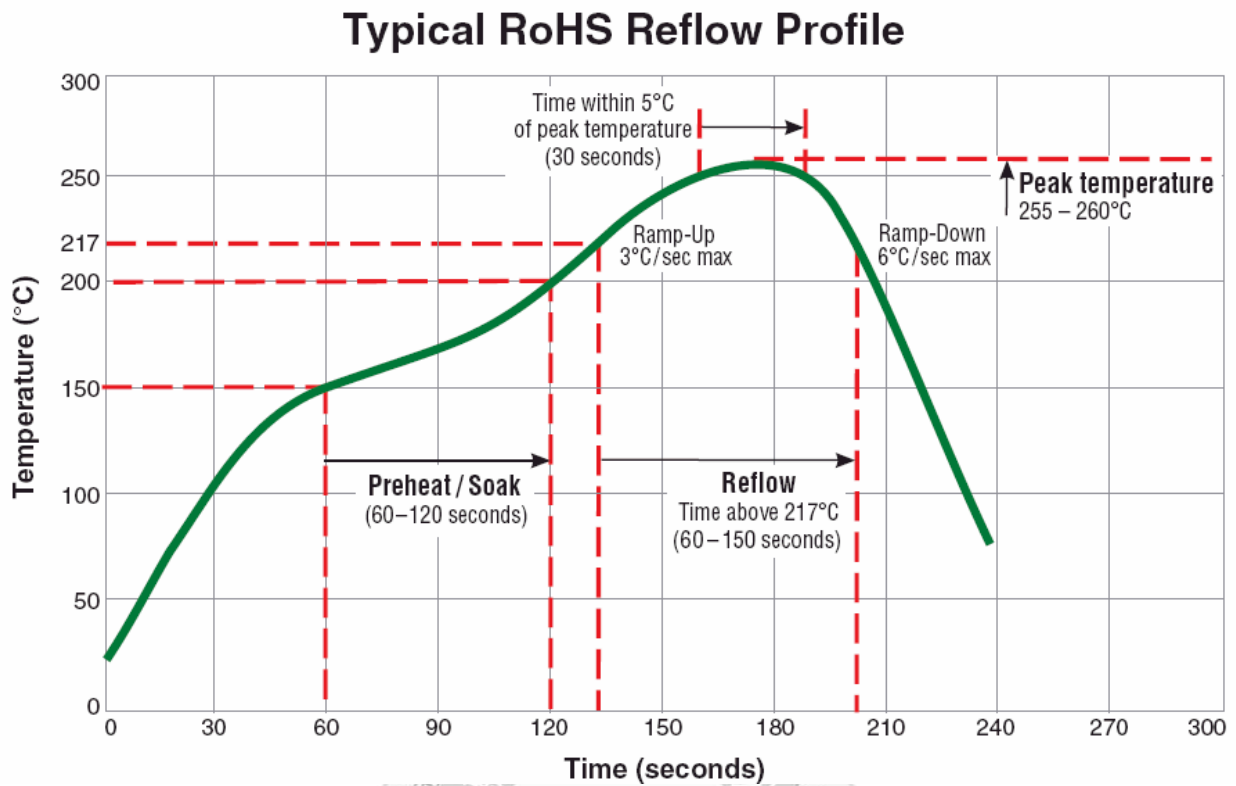
1. Inductance & Q measured on the HP4291B. With HP16193A test fixture.
2. Ambient temperature: -40°C to +125°C with Irms current, +125°C to +145°C with derated current.
3. Storage temperature Component: -40°C. TO +145°C, Packaging : -40°C. TO +80°C.
4. SRF measured using an Agilent/HP 8753 network analyzer.
5. Current that causes a 20°C temperature rise from 25°C ambient.
6. Tolerance: G=2%,J=5%
7. MSL:LEVEL 1



ELECTRICAL Curve



TYPICAL RoHS REFLOW PROFILE



RELIABILITY PERFORMANCE

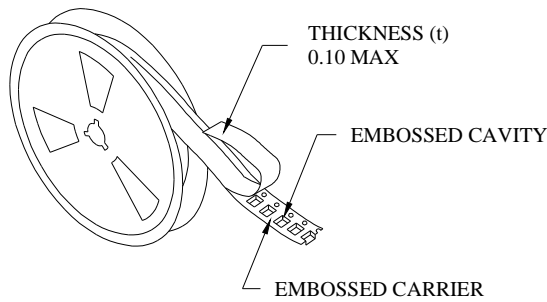
Reliability Experiment For Electrical

| 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 |

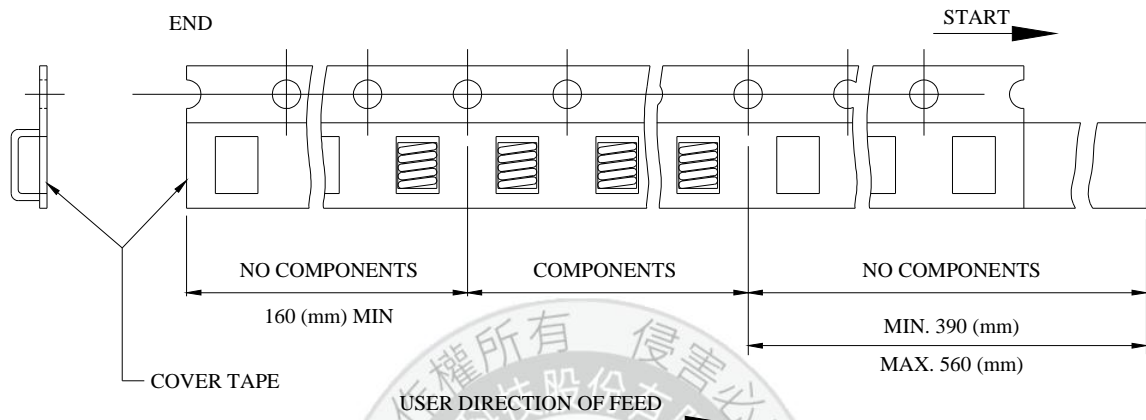
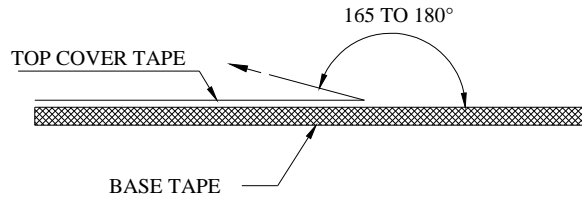
Reliability Experiment For Physical

| 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 |

Packaging Specification



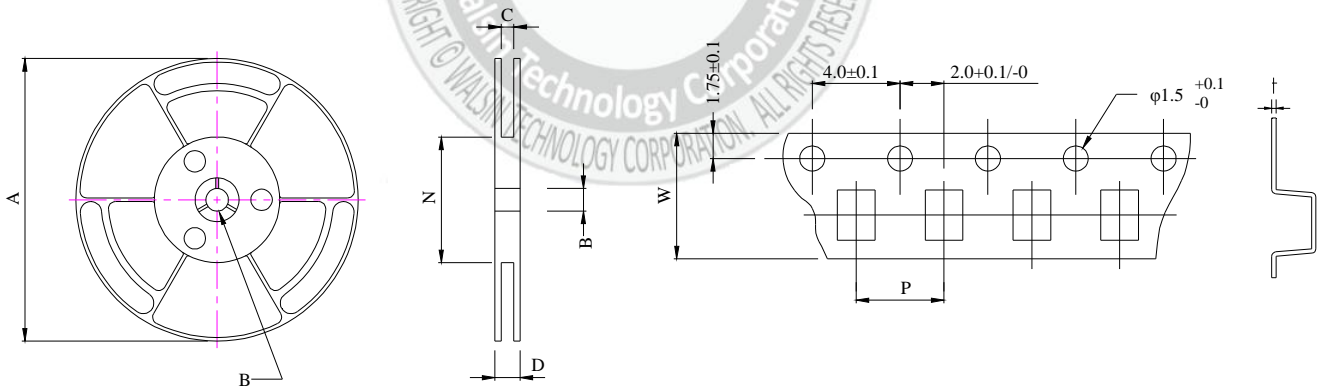
- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 130 GRAMS IN THE ARROW DIRECTION.



■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



Unit: mm

| ITEM | A | B | C | D | N | P | W | t |
|------|------|------|------|------|------|------|------|-------|
| DIM. | 330 | 13.0 | 12.4 | 18.4 | 100 | 8.0 | 12.0 | 0.4 |
| TOL. | MAX. | ±0.2 | ±0.2 | MAX. | ±0.5 | ±0.1 | ±0.3 | ±0.05 |

Quantity per reel : 2000 pcs