

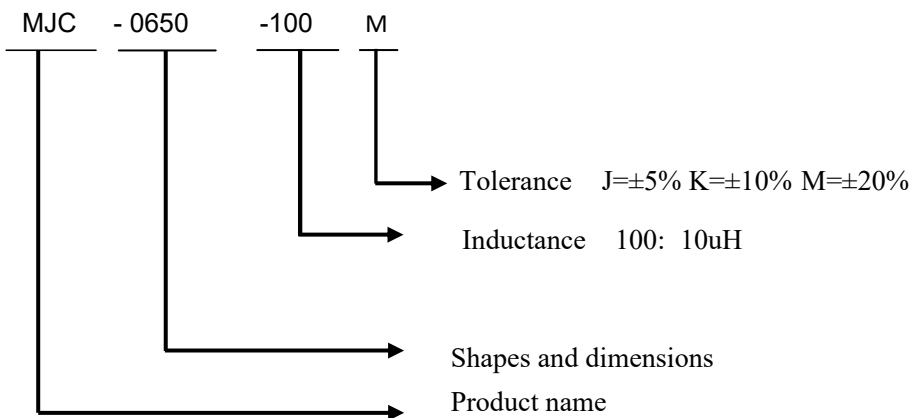
1. Features

- Low profile and low DCR.
- Shielded construction.
- handles high transient current spikes without saturation
- frequency up to 3MHz
- Ultra Low buzz noise, due to composite construction
- 100% lead (Pb) free meet RoHS standard

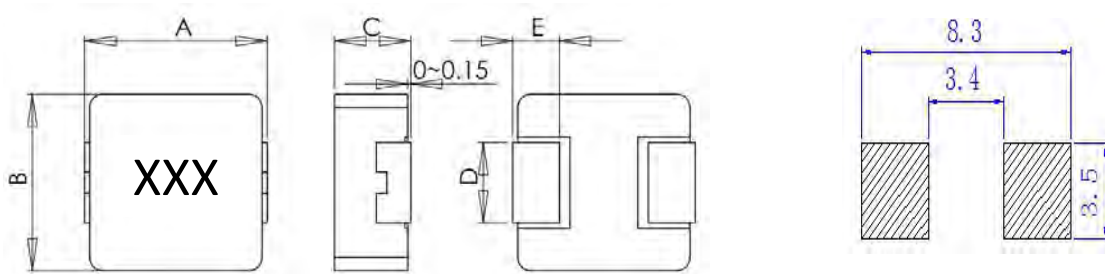
2. Applications

- PDA/Notebook/Desktop, and server applications.
- Low profile,high current power supplies.
- Battery powered devices.
- DC/DC converters.

3. Product Identification



4. Shapes and Dimensions



| ITEM | A | B | C | D | E |
|----------|---------|---------|---------|---------|---------|
| MJC-0650 | 7.1±0.5 | 6.6±0.2 | 5.0 MAX | 3.0±0.3 | 1.6±0.3 |

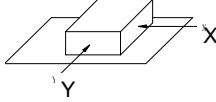
5. Electrical Characteristics

| Part number | Inductance (uH) | Rdc (mΩ) | | Heat Rating Current DC Amps. Idc (A) | Saturation Current DC Amps. Isat (A) |
|----------------|-----------------|----------|--------|---|---|
| | 100KHz/0.25V | Typical | Max | Max | Max |
| MJC-0650-R13-M | 0.13±20% | 1.00 | 1.20 | 42.00 | 48.00 |
| MJC-0650-R22-M | 0.22±20% | 1.10 | 1.30 | 30.00 | 35.00 |
| MJC-0650-R36-M | 0.36±20% | 2.70 | 3.10 | 21.00 | 25.00 |
| MJC-0650-R40-M | 0.40±20% | 3.20 | 3.50 | 20.00 | 23.00 |
| MJC-0650-R47-M | 0.47±20% | 3.25 | 3.75 | 20.00 | 21.00 |
| MJC-0650-R56-M | 0.56±20% | 3.40 | 3.60 | 18.00 | 20.00 |
| MJC-0650-R68-M | 0.68±20% | 3.90 | 4.20 | 16.50 | 18.00 |
| MJC-0650-R82-M | 0.82±20% | 4.60 | 4.90 | 16.00 | 17.00 |
| MJC-0650-1R0-M | 1.00±20% | 5.60 | 6.50 | 12.50 | 15.00 |
| MJC-0650-1R2-M | 1.20±20% | 6.70 | 7.50 | 11.00 | 13.00 |
| MJC-0650-1R5-M | 1.50±20% | 6.70 | 7.50 | 11.00 | 12.00 |
| MJC-0650-2R2-M | 2.20±20% | 11.20 | 12.50 | 9.00 | 10.00 |
| MJC-0650-3R3-M | 3.30±20% | 19.90 | 20.90 | 8.50 | 9.00 |
| MJC-0650-4R7-M | 4.70±20% | 26.00 | 29.00 | 6.00 | 8.00 |
| MJC-0650-5R6-M | 5.60±20% | 31.50 | 34.40 | 6.00 | 7.00 |
| MJC-0650-6R8-M | 6.80±20% | 36.50 | 41.00 | 5.50 | 6.00 |
| MJC-0650-8R2-M | 8.20±20% | 40.00 | 43.00 | 5.50 | 5.50 |
| MJC-0650-100-M | 10.00±20% | 54.00 | 60.00 | 4.50 | 5.30 |
| MJC-0650-120-M | 12.00±20% | 58.00 | 65.00 | 4.00 | 5.00 |
| MJC-0650-150-M | 15.00±20% | 78.00 | 90.00 | 3.10 | 4.00 |
| MJC-0650-180-M | 18.00±20% | 83.00 | 105.00 | 3.00 | 3.50 |
| MJC-0650-220-M | 22.00±20% | 120.00 | 140.00 | 2.60 | 3.50 |
| MJC-0650-330-M | 33.00±20% | 165.00 | 190.00 | 2.30 | 3.00 |
| MJC-0650-470-M | 47.00±20% | 250.00 | 290.00 | 2.00 | 2.80 |

NOTE:

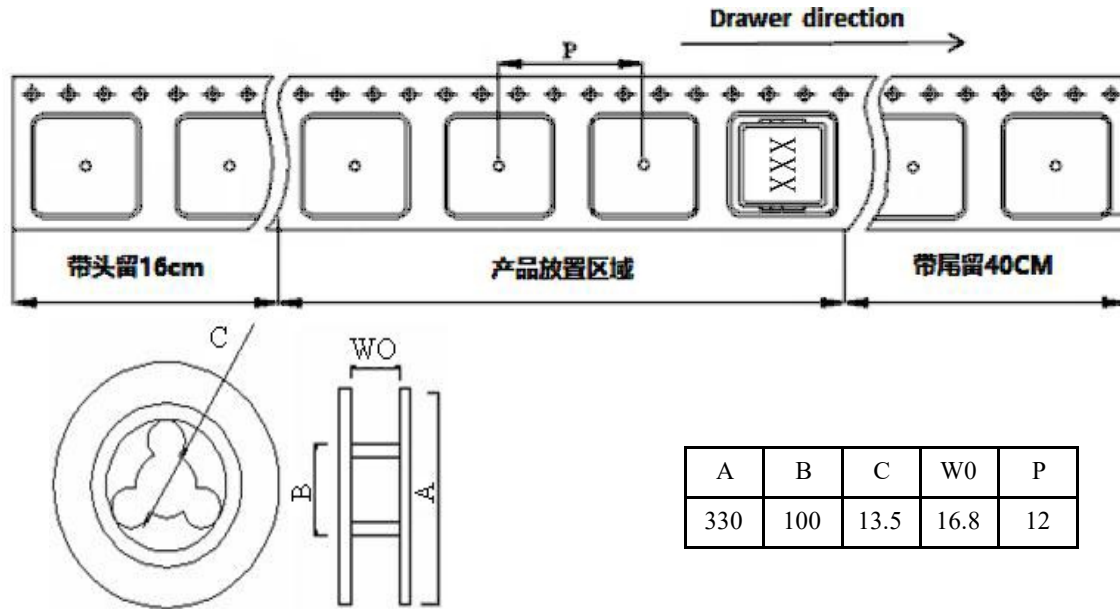
- (1) All test data is referenced to 25°C ambient .
- (2) When applying the heat rating current DC (Idc) to coil, it will cause an approximate ΔT of 40°C.
- (3) When applying the saturation current DC(Isat) to coil, it will cause the initial inductance value to drop 30% Typical.
- (4) Operating Temperature Range-40°C to +125°C

6. Reliability Test

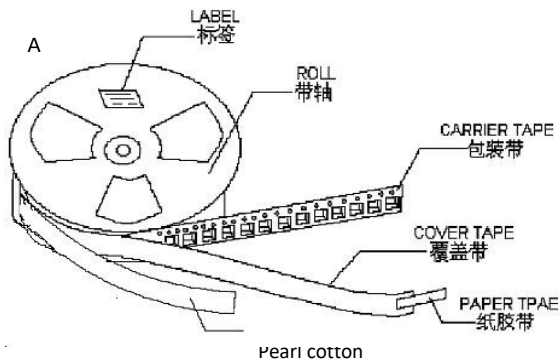
| No. | ITEM | REQUEST | CONDITIONS |
|-----|-----------------------------------|---|--|
| 1 | TERMINAL STRENGTH | A STATIC PULLING FORCE OF 10N IN A DIRECTION PARALLEL TO THE TERMINALS FOR 5 SECONDS | NO TERMINAL BREAKAGE OR LOOSENING  |
| 2 | RESISTANCE TO SOLDERING HEAT TEST | FIX THE SAMPLES ON A 1.6mm THICKNESS PCB, THEN DIP THE SAMPLE LEADS INTO A SOLDERING BATH OF 260±5°C UP TO THE PCB FOR 5±1 SECONDS. | NO MECHANICAL BREAKAGE. DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |
| 3 | SOLDER ABILITY TEST | IMMERSE THE TERMINAL IN FLUX FOR 5 SECONDS. THEN DIP THE TERMINAL INTO A SOLDERING BATH OF 245±5°C FOR 2±0.5 SECONDS. | OVER 90% OF THE SURFACE BEING IMMersed SHALL BE COVERED WITH NEW SOLDER UNIFORMITY. |
| 4 | HUMIDITY TEST | TEMPERATURE :40±2°C HUMIDITY :90%~95%RH DURATION:96±4 Hours | DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |
| 5 | HIGH TEMPERATURE TEST | TEMPERATURE: 125±2°C TIME: 96±4 Hours ROOM CONDITION: 1~2 hours | DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |
| 6 | LOW TEMPERATURE TEST | TEMPERATURE: -25±2°C TIME: 96 Hours ROOM CONDITION: 1~2 hours | DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |
| 7 | THERMAL SHOCK TEST | FIRST -25±5°C FOR 30±2 MINUTES, LAST 125°C 30±2 MINUTES AS 1 CYCLE. TOTAL 10 CYCLES. | DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |
| 8 | VIBRATION TEST | APPLY FREQUENCY 10~55Hz 1.55mm AMPLITUDE IN EACH OF PERPENDICULAR DIRECTION FOR 2 HOURS.(TOTAL6H) | DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10.0% |

7. Packaging Information

(1) Tape&Reel Dimension



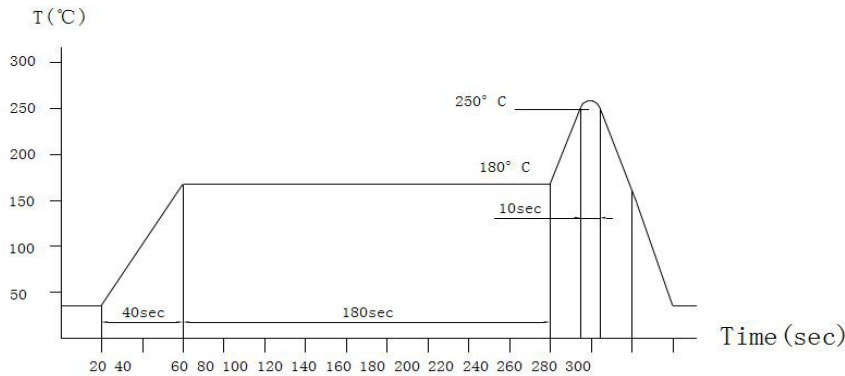
(2) The packing way and quantity



| Type | Reel |
|-----------------|----------------|
| MJC-0650 Series | 1000pcs / reel |

8. Soldering and Mounting

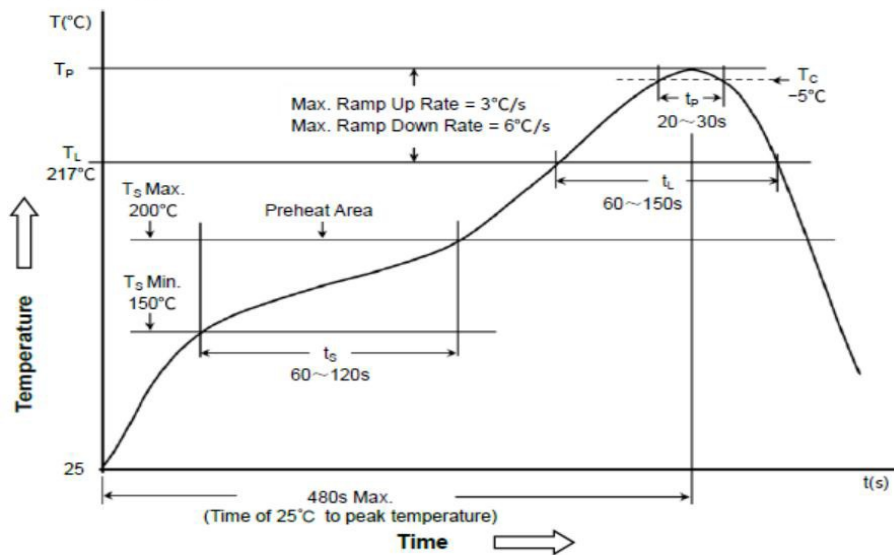
(1). Recommended Reflow Conditions (Lead-free)



The above recommended reflow test conditions are based on the company's reflow welding equipment

(2). Reflow Soldering Heat Endurance

Reflow profile for SMT components
SMT 回流焊温度曲线



Classification of peak package body temperature (T_P)
封装体峰值温度(T_P)分类

| | Package Thickness 封装厚度 | Package Volume 封装体积 | | |
|--------------------------|---------------------------|------------------------|--------------------------|-----------------------|
| | | <350 mm ³ | 350~2000 mm ³ | >2000 mm ³ |
| PB-Free Assembly 无铅装配 | <1.6mm | 260°C | 260°C | 260°C |
| | 1.6~2.5mm | 260°C | 250°C | 245°C |
| | ≥2.5mm | 250°C | 245°C | 245°C |

- a. Reflow soldering is carried out under this condition and placed under normal temperature and humidity conditions
- b. Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions.
- c. The reflow test profile may vary with the testing instruments.