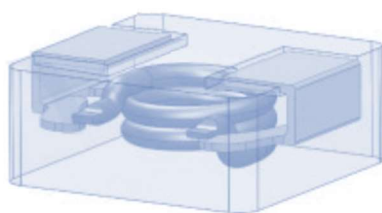
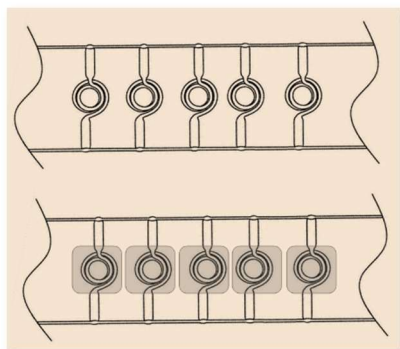


ABOUT MOLDING POWER CHOKES

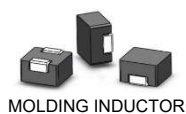


Molding power choke is an inductor made by die-casting a round wire coil or a flat wire coil into a metal magnetic powder. It is divided into plug-in type and SMD patch type. Its pins are also the pins of the coil itself, which are directly formed on the surface of the base.

Its structure is designed for SMD, which can not only damage the inductor body, but also improve production efficiency. Compared with the traditional SMD inductor, it has higher inductance and smaller leakage inductance.

Molding power chokes are more reliable than traditional inductors and NR inductors, and can have a larger current in the same size. The working frequency can reach 5MHz. The fully shielded structure has better magnetic shielding effect. The magnetic powder core and the coil are closely combined to avoid noise. Through the production of fully automated equipment, the consistency and stability of the product is very high, which is suitable for high reliability products.

Performance Comparison



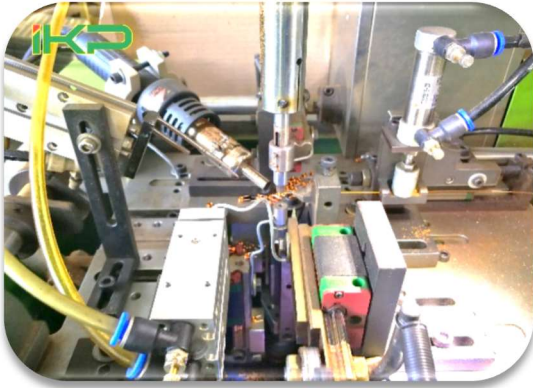
MOLDING INDUCTOR



TRADITIONAL SMD INDUCTOR

| | MOLDING INDUCTOR | TRADITIONAL SMD INDUCTOR |
|---------------------------|------------------|--------------------------|
| Magnetic Shielding Effect | Excellent | Normal |
| Thermal Stability | Excellent | Weak |
| Saturation Current | High | Low |
| Leakage Inductance | Low | High |
| Working Frequency | High | Low |
| Productivity | Excellent | Normal |
| Product Consistency | Excellent | Normal |
| Product Stability | Excellent | Normal |
| DC Impedance | Low | High |
| Product Durability | Excellent | Normal |
| Beep Noise | Weak | Normal |
| Application Reliability | Excellent | Normal |

Molding Power Choke Process



1. coil winding



2. assembling



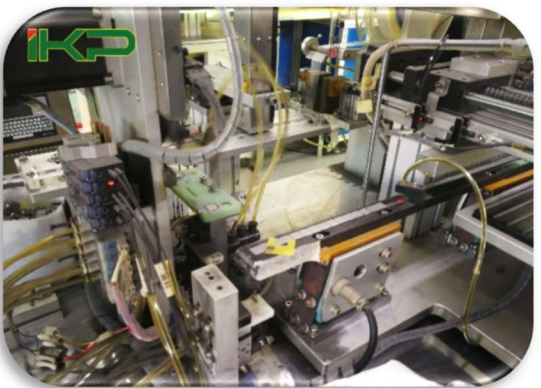
3. soldering



4. molding



5. cutting



6. shaping



7. testing



8. packaging

Products Category

| Small Size | | | | | | | | | | |
|------------|------|------|------|------|------|------|------|------|------|------|
| 2*2 | | 3*3 | | 4*4 | | 5*8 | | | | |
| 0212 | 0218 | 0312 | 0320 | 0412 | 0420 | 0512 | 0515 | 0518 | 0520 | 0530 |

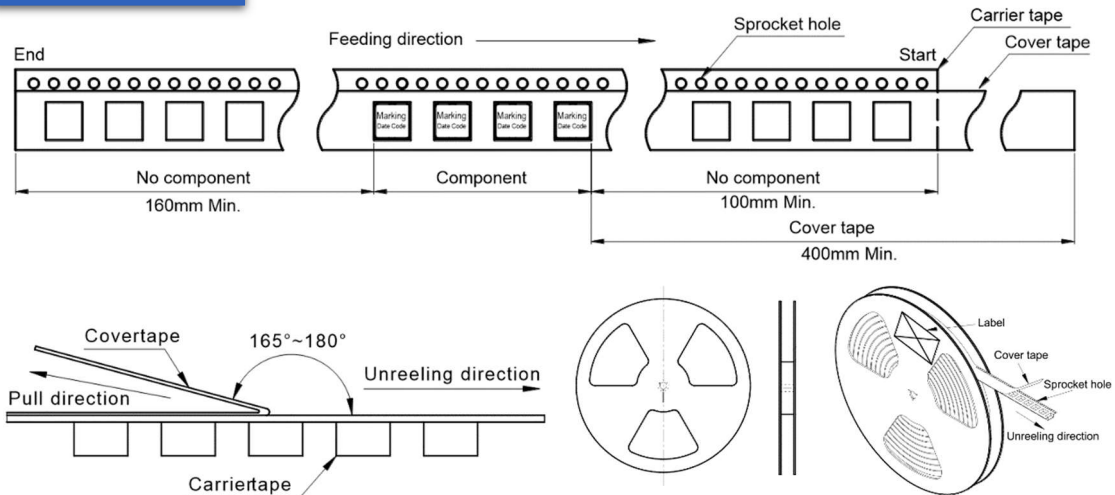
| Normal Size | | | | | | | | | | | | | |
|-------------|------|------|------|------|-------|------|------|------|------|-------|------|------|------|
| 6*6 | | | | | 10*10 | | | | | 13*13 | | | |
| 0612 | 0615 | 0618 | 0624 | 0630 | 0650 | 1015 | 1030 | 1036 | 1040 | 1045 | 1335 | 1350 | 1360 |

| Big Size | | | | Other Size | | | |
|----------|--|-------|-------|------------|------|------|------|
| 13*17 | | 15*15 | 17*17 | 22*22 | 8*8 | | |
| custom | | 1550 | 1770 | custom | 0814 | 0824 | 0850 |

Application & Size Guide

| APPLICATIONS | SIZE |
|--------------------------------------------|--------------------------------------------------------|
| Mainboard | 0650,1040etc. |
| High Current POL Converters | 0618,0624,0630 etc. |
| LED | 0210,0630,1040,1335,1350,1360 etc. |
| Digital Products (camera, vidicon etc.) | 0530,0618,0624,0630,1030,1040 etc. |
| Mobile Phone, Lap Top | 0212,0312,0412,0512,0618 etc. |
| Server Applications | 0650,1030,1040,1050,1350,1360 etc. |
| Medical Apparatus & Instruments | 0530,0618,0624,0630,1030,1040,1050,1335,1350,1360,etc. |
| Office Supplies (printer, duplicator etc.) | 0530,0624,0630,1030 etc. |

Packaging



**Packaging is referred to the international standard IED 60286-3

Alloy Powder Molding Power Inductor/Choke

0420 Series

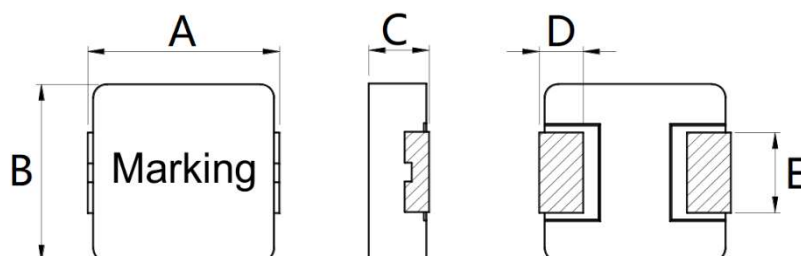
FEATURES:

- Magnetic shielded structure, outstanding EMI performance.
- Withstand high current and temperature
- High-performance metal alloy powder
- Meet international quality
- High precision and strong reliability
- Exquisite workmanship and high production capacity
- RoHS compliant and halogen free
- Adequate inventory, timely delivery and high cost performance.



EXTERNAL DIMENSIONS: (unit: mm)

| | |
|---|-----------|
| A | 4.45±0.40 |
| B | 4.06±0.30 |
| C | 2.0MAX |
| D | 1.1±0.3 |
| E | 2.0±0.2 |



HOW TO ORDER

MPC - 0420 - 4R7 - M

① ② ③ ④

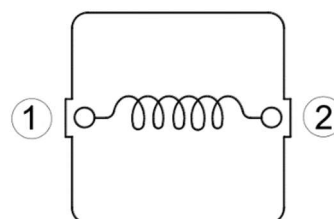
①Molding Power Choke

②Model (Dimensions)

③Inductance

④Tolerance: "J" =±5%; "K" =±10%; "M" =±20%

ELECTRICAL SCHEMATIC



ELECTRICAL CHARACTERISTICS

| PART NO. | L0 Inductance ($\mu\text{H} \pm 20\%$) | Heat Rating Current I _{rms} (A) | Saturation Current I _{sat} (A) | DCR (m Ω) | |
|---------------|---------------------------------------------|------------------------------------------------|-----------------------------------------------|-------------------|-------|
| | | | | TYP. | MAX. |
| MPC-0420-R10M | 0.10 | 12.0 | 22.0 | 3.5 | 4.0 |
| MPC-0420-R22M | 0.22 | 9.0 | 12.5 | 6.6 | 8.0 |
| MPC-0420-R36M | 0.36 | 7.0 | 11.1 | 11.0 | 16.0 |
| MPC-0420-R47M | 0.47 | 6.5 | 10.0 | 16.5 | 25.0 |
| MPC-0420-R56M | 0.56 | 6.5 | 9.0 | 18.0 | 27.0 |
| MPC-0420-R68M | 0.68 | 6.0 | 8.0 | 20.0 | 29.0 |
| MPC-0420-1R0M | 1.0 | 5.0 | 7.0 | 28.0 | 37.0 |
| MPC-0420-1R2M | 1.2 | 4.5 | 7.0 | 28.0 | 37.0 |
| MPC-0420-1R5M | 1.5 | 4.0 | 6.5 | 38.0 | 46.0 |
| MPC-0420-2R2M | 2.2 | 3.0 | 5.0 | 52.0 | 58.0 |
| MPC-0420-3R3M | 3.3 | 2.5 | 4.5 | 74.0 | 87.0 |
| MPC-0420-4R7M | 4.7 | 2.2 | 4.0 | 92.0 | 105.0 |
| MPC-0420-5R6M | 5.6 | 2.0 | 3.5 | 121.0 | 138.0 |
| MPC-0420-6R8M | 6.8 | 1.8 | 2.5 | 148.0 | 155.0 |
| MPC-0420-100M | 10 | 1.0 | 2.0 | 260.0 | 260.0 |

**Note 1: All test data is referenced to 25°C ambient

**Note 2: I_{dc}: DC current (A) that will cause an approximate ΔT of 40°C

**Note 3: I_{sat}: DC current (A) that will cause L0 to drop approximately 30%

**Special remind: Circuit design, components placement, PWB size and thickness, cooling system etc. all will affect the product temperature. Please verify the product temperature in the final application.