

# Molder Power Inductor

## High Current Low DCR AEC-Q200

PIM-0421WMA2 Series

MERITEK

### FEATURE

- High Current, Low DCR, High Efficiency
- Soft Saturation
- Minimized Acoustic and Leakage Flux Noise
- Shielded and Compact Construction Design
- AEC-Q200 Compliant
- Application: Note PC Power System, incl. IMVP-6, DC/DC Converter



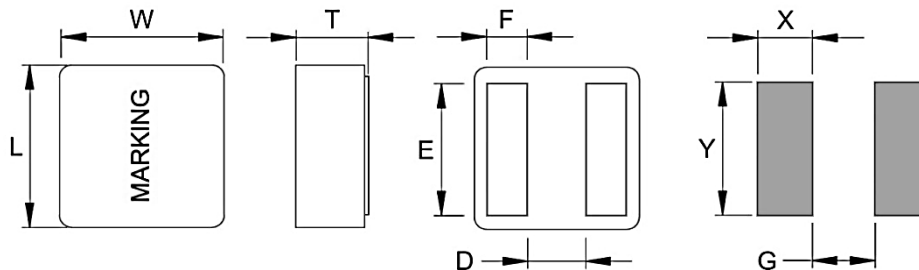
### ELECTRICAL CHARACTERISTICS

| Part Number     | Inductance<br>$\pm 20\%$<br>( $\mu\text{H}$ ) | DCR Max<br>(m $\Omega$ ) | Isat (A) |      | Irms (A) |      |
|-----------------|-----------------------------------------------|--------------------------|----------|------|----------|------|
|                 |                                               |                          | Max      | Typ  | Max      | Typ  |
| PIMR10M0421WMA2 | 0.10                                          | 2.42                     | 33.0     | 38.0 | 13.5     | 18.0 |
| PIMR22M0421WMA2 | 0.22                                          | 4.60                     | 18.8     | 19.5 | 13.0     | 16.8 |
| PIMR36M0421WMA2 | 0.36                                          | 6.30                     | 15.0     | 17.0 | 11.0     | 14.5 |
| PIMR40M0421WMA2 | 0.40                                          | 7.73                     | 13.5     | 15.5 | 10.0     | 14.0 |
| PIMR47M0421WMA2 | 0.47                                          | 8.58                     | 13.0     | 14.5 | 9.0      | 12.5 |
| PIMR56M0421WMA2 | 0.56                                          | 9.30                     | 12.6     | 14.0 | 8.5      | 12.0 |
| PIMR60M0421WMA2 | 0.60                                          | 9.52                     | 12.3     | 13.7 | 8.0      | 11.7 |
| PIMR72M0421WMA2 | 0.72                                          | 11.6                     | 10.6     | 12.0 | 7.6      | 10.5 |
| PIM1R0M0421WMA2 | 1.00                                          | 14.6                     | 8.8      | 9.6  | 6.8      | 9.6  |
| PIM1R2M0421WMA2 | 1.20                                          | 17.9                     | 7.8      | 9.0  | 6.6      | 9.0  |
| PIM1R5M0421WMA2 | 1.50                                          | 23.5                     | 7.4      | 8.0  | 5.8      | 7.6  |
| PIM1R8M0421WMA2 | 1.80                                          | 28.0                     | 7.0      | 7.5  | 5.2      | 7.0  |
| PIM2R2M0421WMA2 | 2.20                                          | 38.7                     | 6.0      | 6.5  | 4.6      | 5.6  |

Note:

1. Inductance test under 100KHz, 0.1V
2. All test data referenced to 25°C ambient
3. Isat based on inductance drop ( $\Delta L/L_0$ :  $\leq 30\%$ ) approximately.
4. Irms based on temperature rise ( $\Delta T$ : 40°C) approximately.
5. Operating temperature: -55°C ~ +155°C (Including self-temperature rise)

### DIMENSIONS



| Size Code | L             | W             | T Max | D             | E             | F               | X   | Y   | G   |
|-----------|---------------|---------------|-------|---------------|---------------|-----------------|-----|-----|-----|
| 0421      | 4.1 $\pm$ 0.2 | 4.1 $\pm$ 0.2 | 2.1   | 1.7 $\pm$ 0.3 | 3.4 $\pm$ 0.3 | 0.88 $\pm$ 0.30 | 1.0 | 3.8 | 1.4 |

Unit: mm

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PART NUMBERING SYSTEM

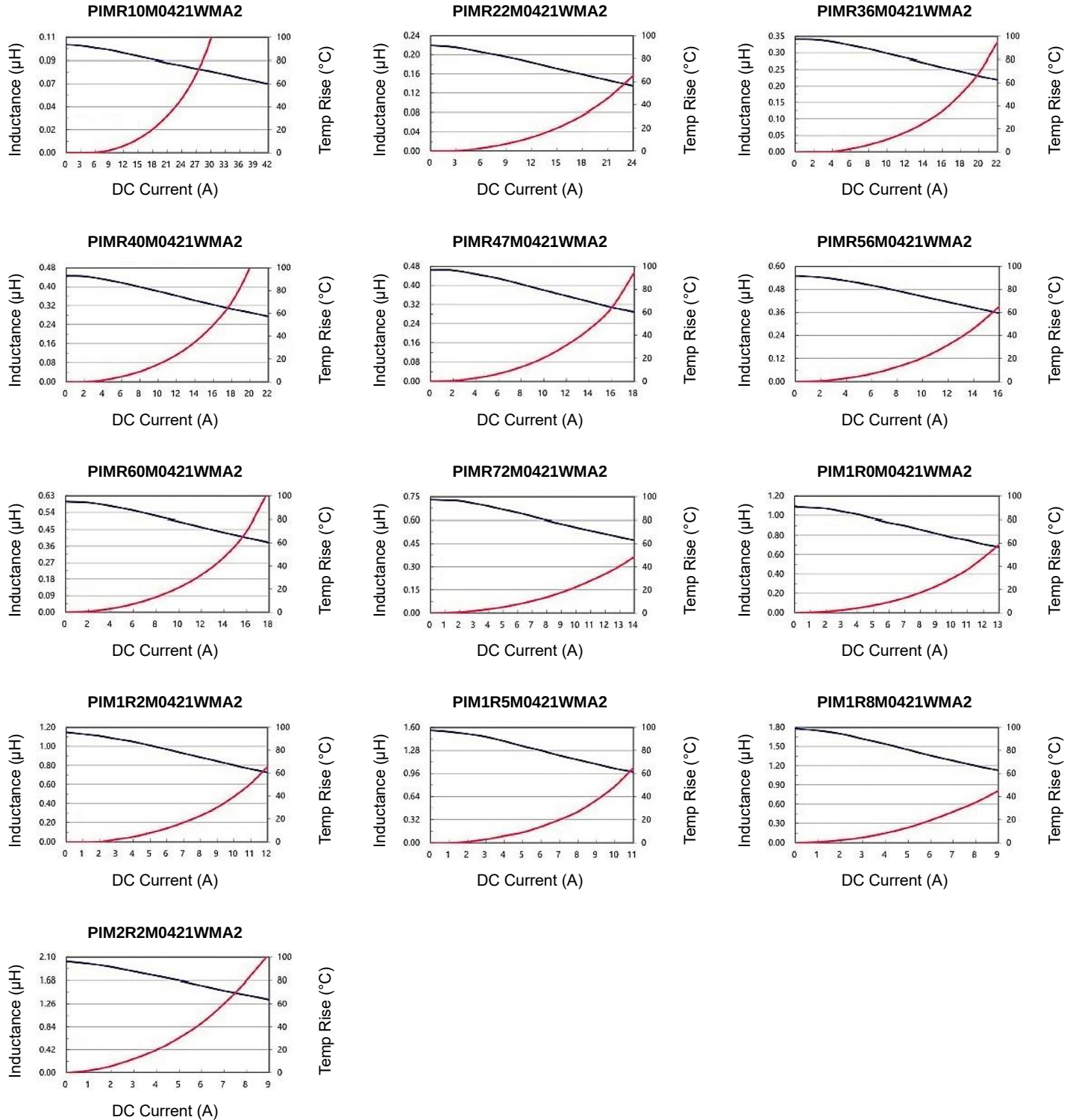
| <u>PIM</u><br>(1) | <u>2R2M</u><br>(2) | <u>0421</u><br>(3) | <u>WMA2</u><br>(4)                               |
|-------------------|--------------------|--------------------|--------------------------------------------------|
| No.               | Item               | Code               | Description                                      |
| (1)               | Product Code       | PIM                | Power Inductor, Molded Type                      |
| (2)               | Inductance         | 2R2M               | 2.2μH ±20% (M)R47: 0.47μH, 2R2: 2.2μH, 100: 10μH |
| (3)               | Size Code          | 0421               | 0421: 4.1 x 2.1mm (L x T)See dimensions table    |
| (4)               | Series Code        | WMA2               | Molded High Current, Low RDC AEC-Q200 series     |

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## CHARACTERISTIC CURVES

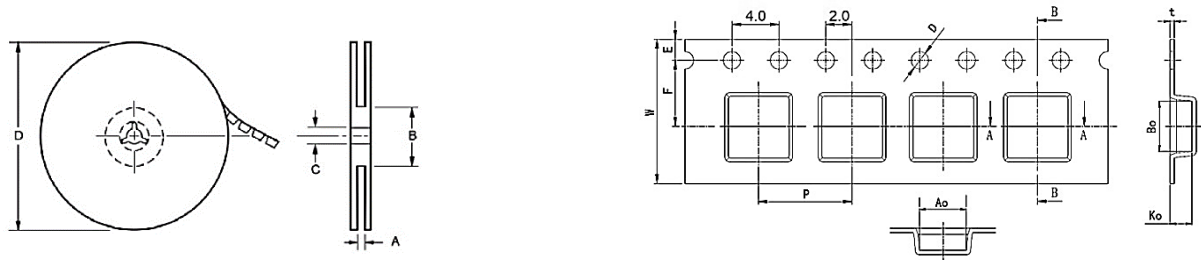


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PACKAGING SPECIFICATION



| Size Code | Reel Dimension (mm) |      |      |      | Tape Dimensions (mm) |      |      |       |       |       |       |       |       | Qty  |
|-----------|---------------------|------|------|------|----------------------|------|------|-------|-------|-------|-------|-------|-------|------|
|           | A                   | B    | C    | D    | W                    | P    | D    | E     | F     | A0    | B0    | K0    | T     | 13"  |
|           | ±0.5                | ±0.5 | ±0.2 | +2.0 | ±0.3                 | ±0.1 | ±0.1 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 | Reel |
| 0421      | 12.8                | 97   | 13.0 | 330  | 12.0                 | 8.0  | 1.5  | 1.75  | 5.50  | 4.50  | 4.50  | 2.30  | 0.35  | 3000 |

\*Specifications subject to change without notice.