



## HPI2016/2520 P SERIES

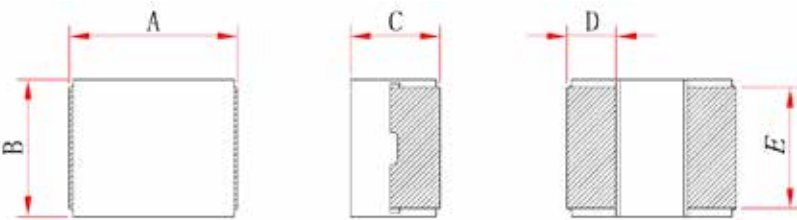
HIGH POWER INDUCTOR

### Applications:

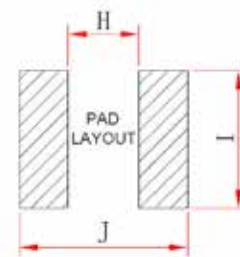
- DC/DC converter for CPU in Notebook PC
- Cellular phones, LCD displays, HDDs, DVCs, PDAs etc..
- Thin type on-board power supply module for exchanger
- VRM for server



### Shape and Dimensions



### Recommend Land Pattern Dimensions



| Item       | A       | B       | C       | D       | E    | H   | I   | J   |
|------------|---------|---------|---------|---------|------|-----|-----|-----|
| HPI201610P | 2.0±0.2 | 1.6±0.2 | 1.0 Max | 0.5±0.2 | 1.44 | 0.9 | 1.6 | 2.3 |
| HPI201612P | 2.0±0.2 | 1.6±0.2 | 1.2 Max | 0.5±0.2 | 1.44 | 0.9 | 1.6 | 2.3 |
| HPI252010P | 2.5±0.2 | 2.0±0.2 | 1.0 Max | 0.6±0.2 | 1.84 | 1.2 | 2.0 | 2.8 |
| HPI252012P | 2.5±0.2 | 2.0±0.2 | 1.2 Max | 0.6±0.2 | 1.84 | 1.2 | 2.0 | 2.8 |

### Features :

- High performance (I sat) realized by metal dust core.
- Low profile: 2.0mm x 1.6mm x 1.0mm  
2.0mm x 1.6mm x 1.2mm  
2.5mm x 2.0mm x 1.0mm  
2.5mm x 2.0mm x 1.2mm
- Low loss realized with low DCR
- Magnetically Shielded.
- RoHS compliant.

### Characteristics:

- Saturation Current (I<sub>sat</sub>) : The current will cause L<sub>0</sub> to drop approximately 30% typical
- Temperature Rise Current ( I<sub>rms</sub>) : The current will cause the coil temperature rise approximately Δ T=40°C.
- Operating Temperature : -55°C to 125°C

### Product Identification:

**HPI 201610 P - 1R0 M**

(1) (2) (3) (4) (5)

- (1) Series :High Power Inductors.
- (2) Dimensions :**201610** is size.
- (3) Special code: Extra low DCR
- (4) Inductance: **1R0** for 1.0uH.
- (5) Inductance tolerance: **M**: ± 20%

### Handling and precautions:

- Please contact us before cleaning this product.

### Test equipments :

- L: Agilent E4980 Precision LCR Meter (Upgraded version of Agilent HP4284A) with HP42841A Current Source
- DCR: Milli-ohm meter


**● HPI2016/2520 P series**

| Part No.        | Inductance<br>L<br>(uH) | Tolerance<br>(±%) | DCR<br>(mΩ) |      | I sat<br>(A) |      | I rms<br>(A) |     |
|-----------------|-------------------------|-------------------|-------------|------|--------------|------|--------------|-----|
|                 |                         |                   | Typ         | Max  | Typ          | Max  | Typ          | Max |
| HPI201610P-R24M | 0.24                    | 20                | 17.0        | 20.5 | 6.0          | 5.4  | 4.7          | 4.2 |
| HPI201610P-R33M | 0.33                    | 20                | 25.0        | 30.0 | 5.2          | 4.7  | 4.1          | 3.6 |
| HPI201610P-R47M | 0.47                    | 20                | 32.0        | 38.0 | 5.0          | 4.4  | 3.8          | 3.3 |
| HPI201610P-R68M | 0.68                    | 20                | 42.0        | 48.0 | 4.0          | 3.6  | 3.2          | 2.7 |
| HPI201610P-1R0M | 1.0                     | 20                | 60.0        | 68.0 | 2.9          | 2.4  | 2.6          | 2.3 |
| HPI201610P-1R5M | 1.5                     | 20                | 100         | 116  | 2.4          | 1.8  | 2.1          | 1.8 |
| HPI201610P-2R2M | 2.2                     | 20                | 147         | 163  | 1.9          | 1.6  | 1.8          | 1.6 |
| HPI201612P-R24M | 0.24                    | 20                | 15.0        | 19.0 | 6.5          | 5.6  | 5.2          | 4.4 |
| HPI201612P-R33M | 0.33                    | 20                | 22.0        | 26.0 | 5.4          | 4.6  | 4.6          | 3.9 |
| HPI201612P-R47M | 0.47                    | 20                | 25.0        | 30.0 | 4.5          | 3.8  | 4.0          | 3.4 |
| HPI201612P-R68M | 0.68                    | 20                | 36.0        | 44.0 | 3.8          | 3.2  | 3.5          | 3.0 |
| HPI201612P-1R0M | 1.0                     | 20                | 50.0        | 60.0 | 2.9          | 2.5  | 3.0          | 2.5 |
| HPI201612P-1R5M | 1.5                     | 20                | 86.0        | 104  | 2.3          | 2.0  | 2.2          | 2.0 |
| HPI201612P-2R2M | 2.2                     | 20                | 120         | 144  | 2.0          | 1.65 | 1.8          | 1.6 |
| HPI252010P-R22M | 0.22                    | 20                | 15.0        | 17.0 | 8.5          | 7.0  | 6.5          | 5.5 |
| HPI252010P-R33M | 0.33                    | 20                | 16.5        | 20.0 | 6.5          | 5.8  | 5.5          | 4.8 |
| HPI252010P-R47M | 0.47                    | 20                | 23.0        | 29.0 | 5.5          | 5.0  | 4.1          | 3.6 |
| HPI252010P-R68M | 0.68                    | 20                | 36.0        | 44.0 | 4.6          | 4.1  | 3.6          | 3.1 |
| HPI252010P-1R0M | 1.0                     | 20                | 44.0        | 53.0 | 4.0          | 3.6  | 3.4          | 3.0 |
| HPI252010P-1R5M | 1.5                     | 20                | 61.0        | 70.0 | 3.0          | 2.5  | 2.8          | 2.4 |
| HPI252010P-2R2M | 2.2                     | 20                | 90.0        | 105  | 2.6          | 2.2  | 2.0          | 1.8 |
| HPI252012P-R22M | 0.22                    | 20                | 11.0        | 13.0 | 8.5          | 7.0  | 10.0         | 8.0 |
| HPI252012P-R33M | 0.33                    | 20                | 15.0        | 16.5 | 7.0          | 5.8  | 5.8          | 5.2 |
| HPI252012P-R47M | 0.47                    | 20                | 20.0        | 25.0 | 6.0          | 5.0  | 4.8          | 4.2 |
| HPI252012P-R68M | 0.68                    | 20                | 30.0        | 34.0 | 4.6          | 4.0  | 3.9          | 3.5 |
| HPI252012P-1R0M | 1.0                     | 20                | 38.0        | 45.0 | 4.3          | 3.9  | 3.7          | 3.2 |
| HPI252012P-1R5M | 1.5                     | 20                | 53.0        | 60.0 | 3.0          | 2.6  | 2.9          | 2.6 |
| HPI252012P-2R2M | 2.2                     | 20                | 78.0        | 90.0 | 2.7          | 2.3  | 2.4          | 2.0 |

**If you require another part number please contact with us.**

Note 1: Referenced ambient temperature 20°C.

Note 2: Test Condition :1MHz ,1.0 Vrms.

Note 3: I sat (Typ) : DC current (A) that will cause L0 to drop approximately 30%

I sat (Max) : DC current (A) that will cause L0 to drop 30% Max

I rms (Typ) : DC current (A) that will cause an approximate ΔT of 40°C

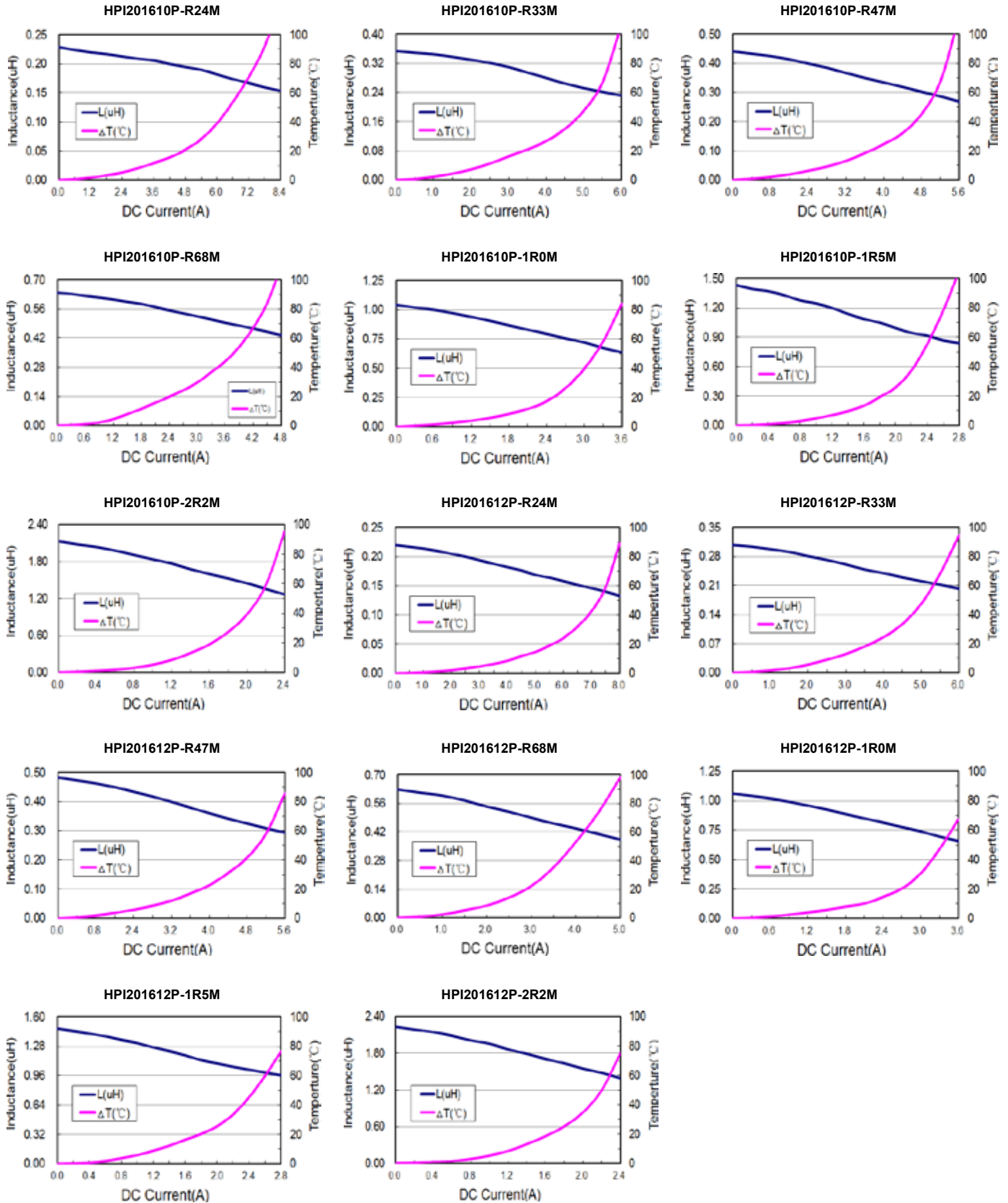
I rms (Max): DC current (A) that will cause an ΔT of 40°C Max

Note 4: Operating temperature range includes self-temperature rise.

Note 5: The rated current as listed is either the saturation current or the heating current depending on which value is lower.



Typical performance curves :



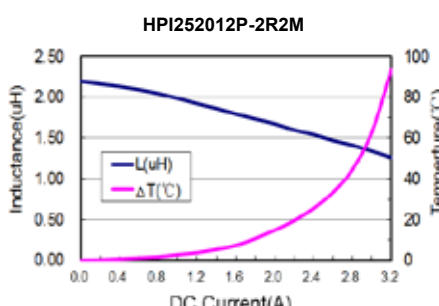
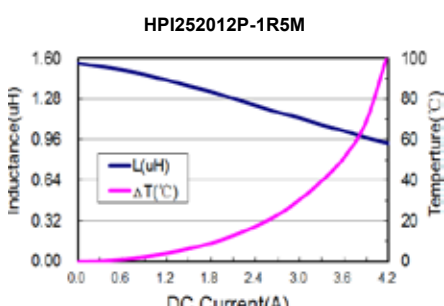
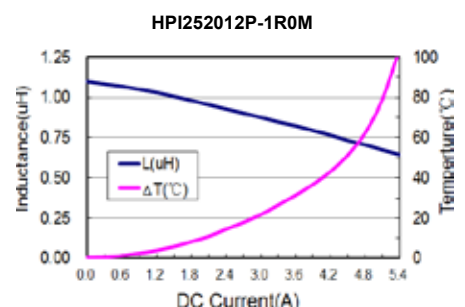
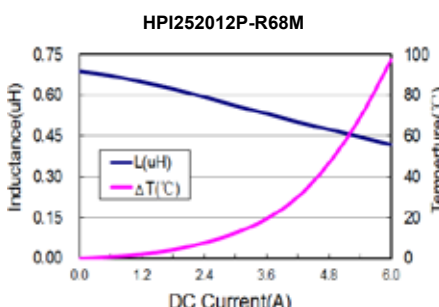
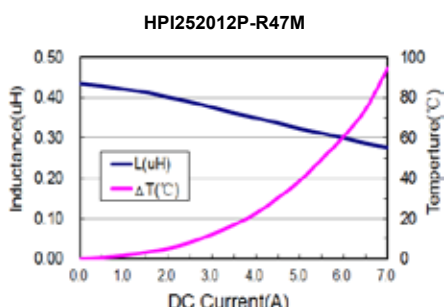
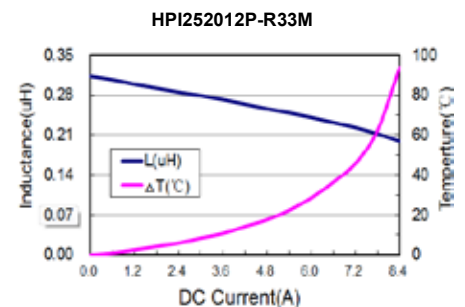
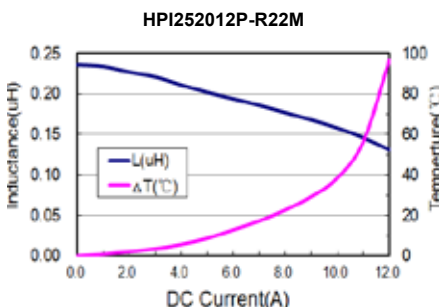
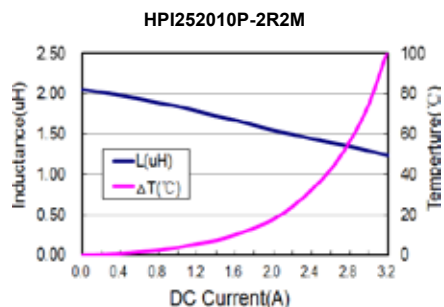
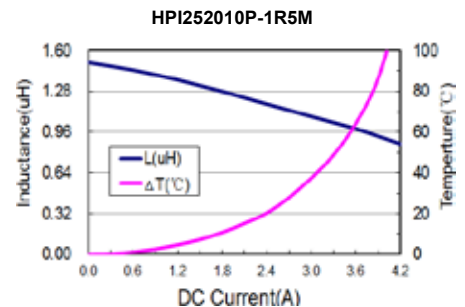
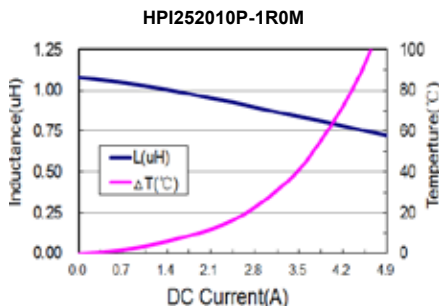
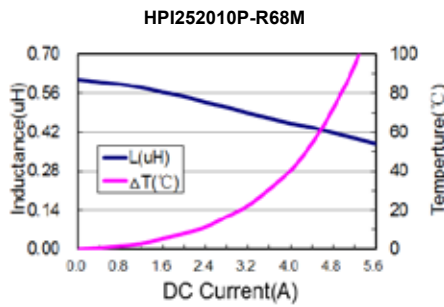
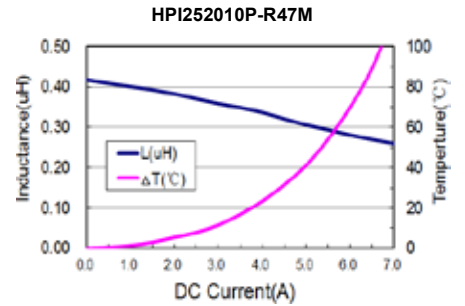
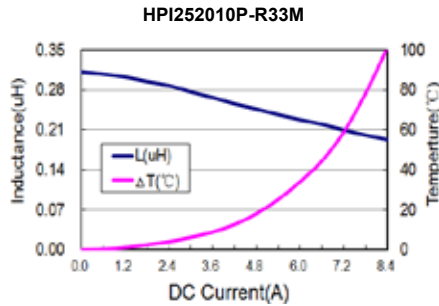
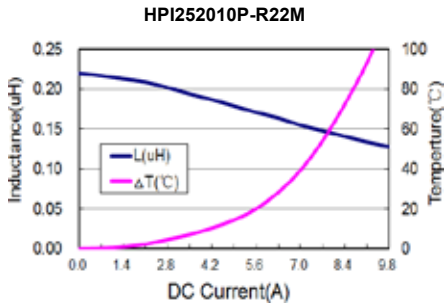
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Power Inductor-SMT Type



Typical performance curves :

Power Inductor-SMT Type



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