

High Current Power Inductors / AMPI_ED Series

Features

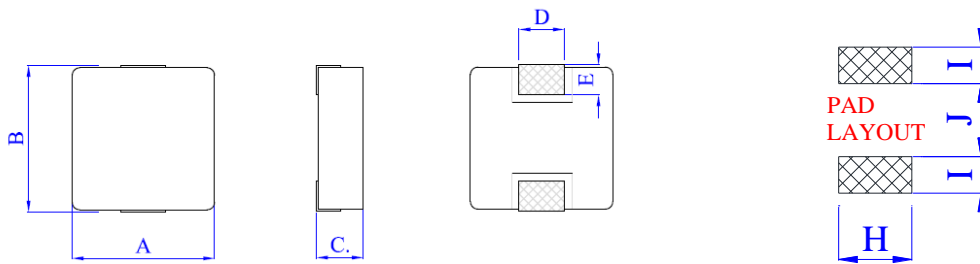
- High performance realized by metal core.
- Compact and low profile with max.3.0mm.
- Low loss realized with low DCR and high Isat.
- Applicable at high frequency up to 750 KHz.
- Magnetically shielded
- RoHS compliant.

Applications

- DC/DC converter for CPU in Notebook PC.
- Thin type on-board power supply module for exchanger VRM for server.

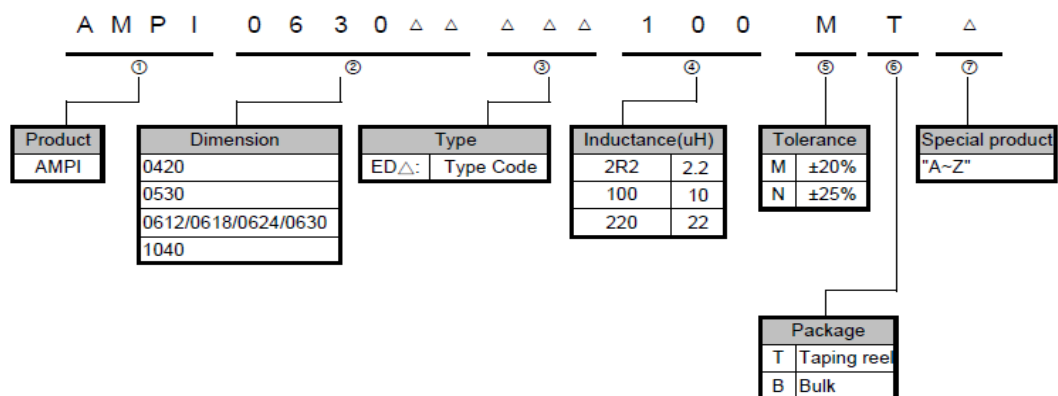


● Shape & Dimensions



| TYPE | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | H (Ref.) | I (Ref.) | J (Ref.) |
|------------|----------|-----------|----------|---------|---------|----------|----------|----------|
| AMPI0420ED | 4.1±0.2 | 4.6±0.2 | 2.0 MAX. | 1.5±0.3 | 1.0±0.5 | 2.5 | 1.50 | 2.2 |
| AMPI0530ED | 5.2±0.2 | 5.4±0.3 | 2.8±0.2 | 2.2±0.3 | 1.2±0.2 | 2.5 | 1.90 | 2.2 |
| AMPI0612ED | 6.6±0.2 | 7.1±0.2 | 1.0±0.2 | 2.9±0.1 | 1.8±0.3 | 3.43 | 1.83 | 3.71 |
| AMPI0618ED | 6.6±0.2 | 7.1±0.3 | 1.6±0.2 | 3.0±0.3 | 1.6±0.5 | 3.5 | 2.35 | 3.7 |
| AMPI0624ED | 6.6±0.2 | 7.1±0.3 | 2.4 MAX. | 3.0±0.3 | 1.6±0.5 | 3.5 | 2.35 | 3.7 |
| AMPI0630ED | 6.6±0.2 | 7.1±0.3 | 3.0 MAX. | 3.0±0.3 | 1.6±0.5 | 3.5 | 2.35 | 3.7 |
| AMPI1040ED | 10.0±0.3 | 11.5 MAX. | 3.8±0.2 | 3.0±0.5 | 2.0±0.5 | 4.1 | 4.10 | 5.4 |

■ PRODUCT IDENTIFICATION



◆ AMPI0420ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR (m Ω) Max. | Saturation Current (A) Typ. | Temp. Rise Current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0420EDR10□T | 0.10 | 100 | 4.0 | 27.0 | 13.0 |
| AMPI0420EDR22□T | 0.22 | 100 | 6.6 | 21.0 | 9.5 |
| AMPI0420EDR47□T | 0.47 | 100 | 14.0 | 11.0 | 7.5 |
| AMPI0420EDR56□T | 0.56 | 100 | 16.0 | 11.0 | 7.0 |
| AMPI0420EDR68□T | 0.68 | 100 | 18.0 | 8.6 | 7.0 |
| AMPI0420ED1R0□T | 1.0 | 100 | 27.0 | 7.0 | 4.5 |
| AMPI0420ED1R2□T | 1.2 | 100 | 27.0 | 6.5 | 4.5 |
| AMPI0420ED1R5□T | 1.5 | 100 | 46.0 | 6.0 | 4.0 |
| AMPI0420ED2R2□T | 2.2 | 100 | 58.0 | 5.0 | 3.0 |
| AMPI0420ED3R3□T | 3.3 | 100 | 87.0 | 4.0 | 2.5 |
| AMPI0420ED4R7□T | 4.7 | 100 | 105.0 | 3.0 | 2.2 |
| AMPI0420ED6R8□T | 6.8 | 100 | 135.0 | 3.0 | 2.0 |
| AMPI0420ED100□T | 10 | 100 | 258.0 | 2.0 | 1.6 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI0530ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR (m Ω) Max. | Saturation Current (A) Typ. | Temp. Rise Current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0530EDR20□T | 0.20 | 100 | 3.9 | 17.0 | 14.0 |
| AMPI0530EDR47□T | 0.47 | 100 | 8.0 | 15.0 | 11.0 |
| AMPI0530EDR68□T | 0.68 | 100 | 12.0 | 13.0 | 9.0 |
| AMPI0530ED1R0□T | 1.0 | 100 | 14.0 | 11.0 | 8.1 |
| AMPI0530ED1R2□T | 1.2 | 100 | 16.0 | 11.0 | 8.1 |
| AMPI0530ED1R5□T | 1.5 | 100 | 25.0 | 10.0 | 7.2 |
| AMPI0530ED2R2□T | 2.2 | 100 | 29.0 | 7.5 | 5.5 |
| AMPI0530ED3R3□T | 3.3 | 100 | 38.0 | 6.0 | 4.8 |
| AMPI0530ED4R7□T | 4.7 | 100 | 60.0 | 5.0 | 4.5 |
| AMPI0530ED6R8□T | 6.8 | 100 | 90.0 | 4.0 | 3.5 |
| AMPI0530ED100□T | 10 | 100 | 125.0 | 3.5 | 2.5 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI0612ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR ($m\Omega$) Max. | Saturation Current (A) Typ. | Temp. Rise current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0612EDR56□T | 0.56 | 100 | 15.5 | 11.0 | 8.0 |
| AMPI0612EDR68□T | 0.68 | 100 | 17.5 | 9.0 | 7.0 |
| AMPI0612ED1R0□T | 1.0 | 100 | 29.0 | 7.5 | 6.0 |
| AMPI0612ED2R2□T | 2.2 | 100 | 58.0 | 5.0 | 4.0 |
| AMPI0612ED3R3□T | 3.3 | 100 | 92.0 | 4.0 | 3.5 |
| AMPI0612ED4R7□T | 4.7 | 100 | 122.0 | 3.5 | 2.8 |
| AMPI0612ED6R8□T | 6.8 | 100 | 210.0 | 2.8 | 2.1 |
| AMPI0612ED100□T | 10 | 100 | 280.0 | 2.2 | 2.0 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI0618ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR ($m\Omega$) Max. | Saturation Current (A) Typ. | Temp. Rise current (A) Typ. |
|------------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0618EDR68□T | 0.68 | 100 | 12.7 | 17.0 | 9.0 |
| AMPI0618ED1R0□T | 1.0 | 100 | 17.0 | 14.0 | 7.0 |
| AMPI0618ED1R5□T | 1.5 | 100 | 26.0 | 12.0 | 6.5 |
| AMPI0618ED2R2□T | 2.2 | 100 | 35.0 | 8.0 | 5.0 |
| AMPI0618ED3R3□T | 3.3 | 100 | 60.0 | 8.0 | 3.5 |
| AMPI0618ED4R7□T | 4.7 | 100 | 70.0 | 5.0 | 3.5 |
| AMPI0618ED6R8□T | 6.8 | 100 | 110.0 | 4.0 | 2.8 |
| AMPI0618ED6R8□TA | 6.8 | 100 | 110.0 | 4.5 | 2.8 |
| AMPI0618ED100□T | 10 | 100 | 155.0 | 2.5 | 2.3 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI0624ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR ($m\Omega$) Max. | Saturation Current (A) Typ. | Temp. Rise Current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0624EDR22□T | 0.22 | 100 | 3.0 | 34.0 | 21.0 |
| AMPI0624EDR33□T | 0.33 | 100 | 4.1 | 26.0 | 18.0 |
| AMPI0624EDR47□T | 0.47 | 100 | 5.1 | 22.0 | 15.0 |
| AMPI0624EDR56□T | 0.56 | 100 | 6.5 | 17.0 | 13.0 |
| AMPI0624EDR68□T | 0.68 | 100 | 7.0 | 16.0 | 12.0 |
| AMPI0624ED1R0□T | 1.0 | 100 | 13.5 | 16.0 | 9.0 |
| AMPI0624ED1R5□T | 1.5 | 100 | 20.0 | 15.0 | 9.0 |
| AMPI0624ED2R2□T | 2.2 | 100 | 28.0 | 12.0 | 7.0 |
| AMPI0624ED3R3□T | 3.3 | 100 | 39.0 | 8.5 | 5.5 |
| AMPI0624ED4R7□T | 4.7 | 100 | 50.0 | 7.5 | 5.0 |
| AMPI0624ED6R8□T | 6.8 | 100 | 65.0 | 6.0 | 4.0 |
| AMPI0624ED100□T | 10 | 100 | 101.0 | 5.0 | 3.1 |
| AMPI0624ED150□T | 15 | 100 | 160.0 | 3.3 | 2.5 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

* I_{sat} : For Inductance drop approximately 30% from its value without current.

* I_{rms} : Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI0630ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR ($m\Omega$) Max. | Saturation Current (A) Typ. | Temp. Rise current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI0630EDR22□T | 0.22 | 100 | 3.0 | 42.0 | 24.0 |
| AMPI0630EDR24□T | 0.24 | 100 | 3.1 | 31.0 | 23.0 |
| AMPI0630EDR33□T | 0.33 | 100 | 3.5 | 30.0 | 21.0 |
| AMPI0630EDR47□T | 0.47 | 100 | 4.1 | 20.0 | 18.0 |
| AMPI0630EDR56□T | 0.56 | 100 | 4.5 | 18.0 | 16.5 |
| AMPI0630EDR68□T | 0.68 | 100 | 5.3 | 17.0 | 16.0 |
| AMPI0630EDR82□T | 0.82 | 100 | 6.0 | 17.0 | 14.0 |
| AMPI0630ED1R0□T | 1.0 | 100 | 7.4 | 15.0 | 12.0 |
| AMPI0630ED1R5□T | 1.5 | 100 | 12.1 | 14.0 | 10.0 |
| AMPI0630ED2R2□T | 2.2 | 100 | 15.0 | 10.0 | 8.0 |
| AMPI0630ED3R3□T | 3.3 | 100 | 22.0 | 9.5 | 6.5 |
| AMPI0630ED4R7□T | 4.7 | 100 | 33.0 | 6.5 | 5.5 |
| AMPI0630ED6R8□T | 6.8 | 100 | 50.0 | 6.0 | 4.5 |
| AMPI0630ED8R2□T | 8.2 | 100 | 60.0 | 6.0 | 4.2 |
| AMPI0630ED100□T | 10 | 100 | 68.0 | 5.5 | 4.0 |
| AMPI0630ED150□T | 15 | 100 | 115.0 | 4.5 | 3.0 |
| AMPI0630ED220□T | 22 | 100 | 200.0 | 3.0 | 2.3 |
| AMPI0630ED330□T | 33 | 100 | 310.0 | 3.0 | 2.0 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

* I_{sat} : For Inductance drop approximately 30% from its value without current.

* I_{rms} : Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .

◆ AMPI1040ED Series Specification :

| Part Number | Inductance (μ H) | Test Freq. (KHz) | DCR ($m\Omega$) Max. | Saturation Current (A) Typ. | Temp. Rise Current (A) Typ. |
|-----------------|--------------------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| AMPI1040EDR47□T | 0.47 | 100 | 1.7 | 40.0 | 30.0 |
| AMPI1040EDR56□T | 0.56 | 100 | 1.8 | 33.0 | 25.0 |
| AMPI1040EDR68□T | 0.68 | 100 | 2.4 | 30.0 | 23.0 |
| AMPI1040ED1R0□T | 1.0 | 100 | 3.3 | 28.0 | 19.0 |
| AMPI1040ED1R5□T | 1.5 | 100 | 4.2 | 26.0 | 16.0 |
| AMPI1040ED2R2□T | 2.2 | 100 | 7.0 | 18.0 | 12.0 |
| AMPI1040ED3R3□T | 3.3 | 100 | 11.8 | 16.0 | 11.0 |
| AMPI1040ED4R7□T | 4.7 | 100 | 20.0 | 15.5 | 9.0 |
| AMPI1040ED6R8□T | 6.8 | 100 | 25.0 | 12.0 | 8.5 |
| AMPI1040ED8R2□T | 8.2 | 100 | 27.0 | 9.0 | 8.0 |
| AMPI1040ED100□T | 10 | 100 | 30.0 | 8.5 | 7.8 |
| AMPI1040ED150□T | 15 | 100 | 45.0 | 7.0 | 6.5 |
| AMPI1040ED220□T | 22 | 100 | 66.0 | 5.5 | 5.0 |
| AMPI1040ED330□T | 33 | 100 | 92.0 | 5.5 | 4.4 |
| AMPI1040ED470□T | 47 | 100 | 145.0 | 3.5 | 3.3 |
| AMPI1040ED680□T | 68 | 100 | 195.0 | 3.0 | 2.5 |

NOTE :

* The operating temperature range is -40°C to $+125^{\circ}\text{C}$ (Including self-temperature rise).

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C current would cause an approximately ΔT of 40°C .