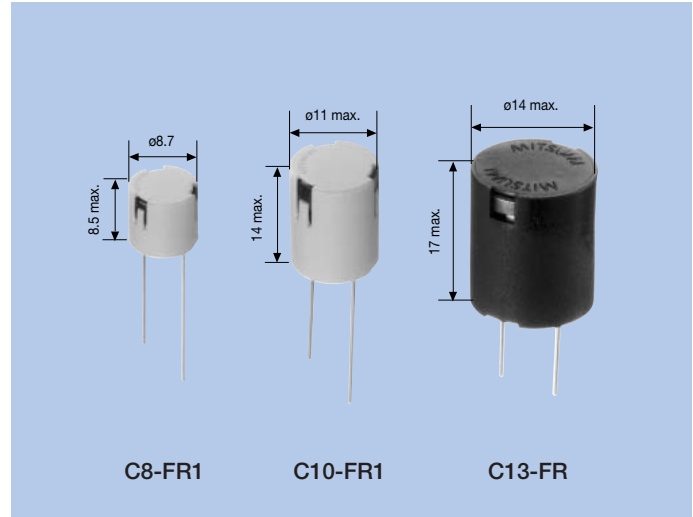


Power Inductors

C8-FR1, C10-FR1, C13-FR Series

OUTLINE

Power inductors for preventing the diffusion of noises generated from power circuits and suppressing noise components coming through the power lines.



FEATURES

1. Power inductors are made of materials resistible to a large current (5.0A max. to 9.0A max.) .
2. Winding start terminal can be indicated.
3. These products can be packaged by radial taping for delivery.

USES

Power circuits of TV, VCR, display monitors, computers, and other units.

Power circuits of air conditioners, electric rice boilers, refrigerators, washing machines, cleaners, pots, and other devices.

SPECIFICATIONS

| Type | Inductance | Rated Current (A) | DC Resistance (Ω) | Operational Frequency (kHz) | Pcs/Reel |
|----------------|-------------|----------------------|-----------------------|-----------------------------|----------|
| C8-FR1 Series | 2.2μH~3.3mH | 0.14~5.00 (L=2.2μH) | 0.018~11.0 (L=3.3mH) | 10~500 | 1000 |
| C10-FR1 Series | 3.3μH~150mH | 0.048~9.00 (L=3.3μH) | 0.019~300.0 (L=150mH) | 10~500 | 500 |
| C13-FR Series | 10μH~10mH | 0.22~7.60 (L=10μH) | 0.023~10.0 (L=10mH) | 10~500 | 500 |

DATA LIST (C8-FR1 Series)

| Distinctive Name | Marking | Inductance | | Unloaded Q | | Self Resonant Frequency | DC Resistance | Rated Current * | | Remarks |
|------------------|---------|------------------|---------------|------------|--------------------------|-------------------------|---------------|-----------------|-------------|---------|
| | | (μH) (f=1kHz) | Tolerance (%) | min. | Measured Frequency (MHz) | (MHz) min. | (Ω) max. | (A) | | |
| | | | | | | | | L | Temperature | |
| DE | 2R2 | 2.2 | ±20 | 10 | 7.96 | 40 | 0.018 | 5.0 | 2.9 | |
| DG | 3R3 | 3.3 | ±15 | 10 | 7.96 | 34 | 0.021 | 4.5 | 2.7 | |
| DH | 3R9 | 3.9 | ±15 | 10 | 7.96 | 30 | 0.028 | 4.1 | 2.6 | |
| DJ | 4R7 | 4.7 | ±15 | 10 | 7.96 | 27 | 0.030 | 3.7 | 2.5 | |
| DK | 5R6 | 5.6 | ±15 | 10 | 7.96 | 23 | 0.032 | 3.4 | 2.4 | |
| DL | 6R8 | 6.8 | ±15 | 10 | 7.96 | 21 | 0.035 | 3.1 | 2.3 | |
| DM | 8R2 | 8.2 | ±15 | 10 | 7.96 | 19 | 0.038 | 2.6 | 2.1 | |
| EA | 100 | 10 | ±10 | 20 | 2.52 | 17 | 0.042 | 2.5 | 2.0 | |
| EB | 120 | 12 | ±10 | 20 | 2.52 | 15 | 0.057 | 2.3 | 1.9 | |
| EC | 150 | 15 | ±10 | 20 | 2.52 | 13 | 0.066 | 2.0 | 1.8 | |
| ED | 180 | 18 | ±10 | 20 | 2.52 | 12 | 0.071 | 1.8 | 1.6 | |
| EE | 220 | 22 | ±10 | 20 | 2.52 | 10 | 0.087 | 1.6 | 1.3 | |
| EF | 270 | 27 | ±10 | 20 | 2.52 | 9.0 | 0.14 | 1.4 | 1.2 | |
| EG | 330 | 33 | ±10 | 20 | 2.52 | 8.0 | 0.15 | 1.3 | 1.2 | |
| EH | 390 | 39 | ±10 | 20 | 2.52 | 7.1 | 0.17 | 1.2 | 1.1 | |
| EJ | 470 | 47 | ±10 | 20 | 2.52 | 6.5 | 0.18 | 1.1 | 1.0 | |
| EK | 560 | 56 | ±10 | 20 | 2.52 | 5.9 | 0.21 | 1.0 | 0.96 | |
| EL | 680 | 68 | ±10 | 20 | 2.52 | 5.4 | 0.24 | 0.91 | 0.90 | |
| EM | 820 | 82 | ±10 | 20 | 2.52 | 4.8 | 0.28 | 0.83 | 0.80 | |
| FA | 101 | 100 | ±10 | 20 | 0.796 | 4.4 | 0.32 | 0.75 | 0.72 | |
| FB | 121 | 120 | ±10 | 20 | 0.796 | 4.0 | 0.36 | 0.68 | 0.63 | |
| FC | 151 | 150 | ±10 | 20 | 0.796 | 3.6 | 0.44 | 0.61 | 0.57 | |
| FD | 181 | 180 | ±10 | 20 | 0.796 | 3.2 | 0.66 | 0.56 | 0.53 | |
| FE | 221 | 220 | ±10 | 15 | 0.796 | 2.9 | 0.73 | 0.50 | 0.50 | |
| FF | 271 | 270 | ±10 | 15 | 0.796 | 2.6 | 0.85 | 0.45 | 0.45 | |
| FG | 331 | 330 | ±10 | 15 | 0.796 | 2.4 | 1.1 | 0.41 | 0.41 | |
| FH | 391 | 390 | ±10 | 15 | 0.796 | 2.1 | 1.3 | 0.37 | 0.38 | |
| FJ | 471 | 470 | ±10 | 15 | 0.796 | 2.0 | 1.8 | 0.34 | 0.36 | |
| FK | 561 | 560 | ±10 | 15 | 0.796 | 1.8 | 1.9 | 0.31 | 0.33 | |
| FL | 681 | 680 | ±10 | 15 | 0.796 | 1.6 | 2.2 | 0.28 | 0.29 | |
| FM | 821 | 820 | ±10 | 15 | 0.796 | 1.4 | 2.9 | 0.25 | 0.26 | |
| GA | 102 | 1,000 | ±10 | 30 | 0.252 | 1.3 | 3.3 | 0.23 | 0.24 | |
| GB | 122 | 1,200 | ±10 | 30 | 0.252 | 1.2 | 4.4 | 0.21 | 0.22 | |
| GC | 152 | 1,500 | ±10 | 30 | 0.252 | 1.1 | 5.1 | 0.18 | 0.19 | |
| GD | 182 | 1,800 | ±10 | 30 | 0.252 | 1.0 | 5.8 | 0.16 | 0.16 | |
| GE | 222 | 2,200 | ±10 | 50 | 0.252 | 0.88 | 8.0 | 0.14 | 0.15 | |
| GF | 272 | 2,700 | ±10 | 50 | 0.252 | 0.79 | 9.5 | 0.14 | 0.13 | |
| GG | 332 | 3,300 | ±10 | 50 | 0.252 | 0.71 | 11.0 | 0.14 | 0.12 | |

* Rated current (L value) : A current value obtained when the inductance value has dropped by 10% of the initial value in DC superimposition characteristic.

Rated current (temperature) : A current value where the temperature rise becomes 20°C when flowing a current at normal temperature.

DATA LIST (C10-FR1 Series)

| Distinctive Name | Marking | Inductance | | Unloaded Q | | Self Resonant Frequency | DC Resistance | Rated Current * | | Remarks |
|------------------|---------|------------------|---------------|------------|--------------------------|-------------------------|---------------|-----------------|-------------|---------|
| | | (μH) (f=1kHz) | Tolerance (%) | min. | Measured Frequency (MHz) | (MHz) min. | (Ω) max. | (A) | | |
| | | | | | | | | L | Temperature | |
| DG | 3R3 | 3.3 | ±20 | 20 | 7.96 | 46 | 0.019 | 9.0 | 4.2 | |
| DH | 3R9 | 3.9 | ±20 | 20 | 7.96 | 40 | 0.022 | 8.0 | 4.1 | |
| DJ | 4R7 | 4.7 | ±20 | 20 | 7.96 | 38 | 0.024 | 7.1 | 4.0 | |
| DK | 5R6 | 5.6 | ±20 | 20 | 7.96 | 34 | 0.025 | 6.7 | 3.8 | |
| DL | 6R8 | 6.8 | ±20 | 20 | 7.96 | 30 | 0.028 | 6.3 | 3.4 | |
| DM | 8R2 | 8.2 | ±20 | 20 | 7.96 | 24 | 0.031 | 5.5 | 3.3 | |
| EA | 100 | 10 | ±10 | 50 | 2.52 | 19 | 0.034 | 4.7 | 3.2 | |
| EB | 120 | 12 | ±10 | 50 | 2.52 | 16 | 0.038 | 4.4 | 2.8 | |
| EC | 150 | 15 | ±10 | 60 | 2.52 | 12 | 0.042 | 4.3 | 2.6 | |
| ED | 180 | 18 | ±10 | 60 | 2.52 | 9.2 | 0.046 | 3.9 | 2.4 | |
| EE | 220 | 22 | ±10 | 60 | 2.52 | 8.6 | 0.061 | 3.4 | 2.1 | |
| EF | 270 | 27 | ±10 | 60 | 2.52 | 7.1 | 0.069 | 3.0 | 2.0 | |
| EG | 330 | 33 | ±10 | 50 | 2.52 | 6.8 | 0.078 | 2.7 | 1.9 | |
| EH | 390 | 39 | ±10 | 50 | 2.52 | 6.7 | 0.085 | 2.5 | 1.8 | |
| EJ | 470 | 47 | ±10 | 40 | 2.52 | 6.2 | 0.093 | 2.3 | 1.7 | |
| EK | 560 | 56 | ±10 | 40 | 2.52 | 5.2 | 0.10 | 2.1 | 1.6 | |
| EL | 680 | 68 | ±10 | 40 | 2.52 | 4.6 | 0.12 | 2.0 | 1.5 | |
| EM | 820 | 82 | ±10 | 40 | 2.52 | 4.2 | 0.13 | 1.8 | 1.4 | |
| FA | 101 | 100 | ±10 | 40 | 0.796 | 3.8 | 0.18 | 1.5 | 1.2 | |
| FB | 121 | 120 | ±10 | 40 | 0.796 | 3.2 | 0.25 | 1.4 | 1.0 | |
| FC | 151 | 150 | ±10 | 40 | 0.796 | 2.9 | 0.29 | 1.3 | 0.95 | |
| FD | 181 | 180 | ±10 | 40 | 0.796 | 2.6 | 0.40 | 1.2 | 0.80 | |
| FE | 221 | 220 | ±10 | 40 | 0.796 | 2.3 | 0.44 | 1.1 | 0.75 | |
| FF | 271 | 270 | ±10 | 40 | 0.796 | 2.1 | 0.50 | 1.0 | 0.70 | |
| FG | 331 | 330 | ±10 | 30 | 0.796 | 2.0 | 0.56 | 0.91 | 0.68 | |
| FH | 391 | 390 | ±10 | 30 | 0.796 | 1.8 | 0.62 | 0.82 | 0.63 | |
| FJ | 471 | 470 | ±10 | 30 | 0.796 | 1.7 | 0.84 | 0.77 | 0.57 | |
| FK | 561 | 560 | ±10 | 30 | 0.796 | 1.5 | 0.93 | 0.70 | 0.52 | |
| FL | 681 | 680 | ±10 | 30 | 0.796 | 1.4 | 1.0 | 0.66 | 0.48 | |
| FM | 821 | 820 | ±10 | 30 | 0.796 | 1.3 | 1.4 | 0.52 | 0.42 | |
| GA | 102 | 1,000 | ±5 | 50 | 0.252 | 1.2 | 1.8 | 0.49 | 0.41 | |
| GB | 122 | 1,200 | ±5 | 50 | 0.252 | 0.87 | 1.8 | 0.49 | 0.41 | |
| GC | 152 | 1,500 | ±5 | 50 | 0.252 | 0.83 | 2.7 | 0.40 | 0.30 | |
| GD | 182 | 1,800 | ±5 | 50 | 0.252 | 0.75 | 3.0 | 0.37 | 0.29 | |
| GE | 222 | 2,200 | ±5 | 50 | 0.252 | 0.70 | 3.9 | 0.33 | 0.25 | |
| GF | 272 | 2,700 | ±5 | 50 | 0.252 | 0.67 | 4.3 | 0.32 | 0.24 | |
| GG | 332 | 3,300 | ±5 | 50 | 0.252 | 0.56 | 5.8 | 0.30 | 0.21 | |

* Rated current (L value) : A current value obtained when the inductance value has dropped by 10% of the initial value in DC superimposition characteristic.

Rated current (temperature) : A current value where the temperature rise becomes 20°C when flowing a current at normal temperature.

DATA LIST (C10-FR1 Series)

| Distinctive Name | Marking | Inductance | | Unloaded Q | | Self Resonant Frequency | DC Resistance | Rated Current * | | Remarks |
|------------------|---------|------------------|---------------|------------|--------------------------|-------------------------|---------------|-----------------|-------------|---------|
| | | (μH) (f=1kHz) | Tolerance (%) | min. | Measured Frequency (MHz) | (MHz) min. | (Ω) max. | (A) | | |
| | | | | | | | | L | Temperature | |
| GH | 392 | 3,900 | ±5 | 50 | 0.252 | 540 | 6.4 | 0.28 | 0.20 | |
| GJ | 472 | 4,700 | ±5 | 50 | 0.252 | 490 | 7.1 | 0.25 | 0.19 | |
| GK | 562 | 5,600 | ±5 | 50 | 0.252 | 410 | 9.0 | 0.22 | 0.17 | |
| GL | 682 | 6,800 | ±5 | 50 | 0.252 | 380 | 10 | 0.21 | 0.16 | |
| GM | 822 | 8,200 | ±5 | 50 | 0.252 | 360 | 12 | 0.19 | 0.15 | |
| HA | 103 | 10,000 | ±5 | 60 | 0.0796 | 290 | 19 | 0.15 | 0.12 | |
| HB | 123 | 12,000 | ±5 | 60 | 0.0796 | 270 | 21 | 0.14 | 0.11 | |
| HC | 153 | 15,000 | ±5 | 60 | 0.0796 | 240 | 34 | 0.13 | 0.090 | |
| HD | 183 | 18,000 | ±5 | 60 | 0.0796 | 210 | 38 | 0.12 | 0.081 | |
| HE | 223 | 22,000 | ±5 | 60 | 0.0796 | 200 | 43 | 0.11 | 0.075 | |
| HF | 273 | 27,000 | ±5 | 60 | 0.0796 | 150 | 67 | 0.098 | 0.060 | |
| HG | 333 | 33,000 | ±5 | 40 | 0.0796 | 140 | 76 | 0.094 | 0.056 | |
| HH | 393 | 39,000 | ±5 | 40 | 0.0796 | 130 | 84 | 0.084 | 0.053 | |
| HJ | 473 | 47,000 | ±5 | 40 | 0.0796 | 120 | 96 | 0.075 | 0.050 | |
| HK | 563 | 56,000 | ±5 | 40 | 0.0796 | 100 | 170 | 0.072 | 0.036 | |
| HL | 683 | 68,000 | ±5 | 30 | 0.0796 | 95 | 200 | 0.071 | 0.035 | |
| HM | 823 | 82,000 | ±5 | 30 | 0.0796 | 88 | 210 | 0.063 | 0.033 | |
| JA | 104 | 100,000 | ±5 | 30 | 0.0252 | 85 | 240 | 0.058 | 0.031 | |
| JB | 124 | 120,000 | ±5 | 30 | 0.0252 | 70 | 260 | 0.053 | 0.030 | |
| JC | 154 | 150,000 | ±5 | 30 | 0.0252 | 69 | 300 | 0.048 | 0.028 | |

* Rated current (L value) : A current value obtained when the inductance value has dropped by 10% of the initial value in DC superimposition characteristic.

Rated current (temperature) : A current value where the temperature rise becomes 20°C when flowing a current at normal temperature.

DATA LIST (C13-FR Series)

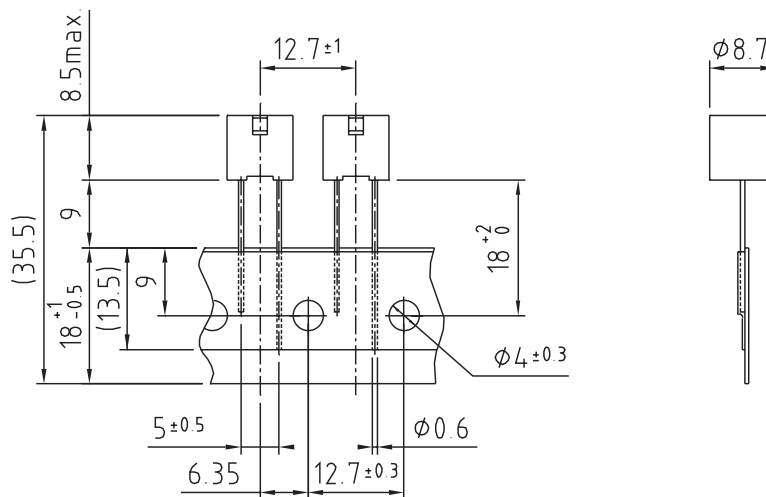
| Distinctive Name | Marking | Inductance | | Unloaded Q | | Self Resonant Frequency | DC Resistance | Rated Current * | | Remarks |
|------------------|---------|------------------|---------------|------------|--------------------------|-------------------------|---------------|-----------------|-------------|---------|
| | | (μH) (f=1kHz) | Tolerance (%) | min. | Measured Frequency (MHz) | (MHz) min. | (Ω) max. | (A) | | |
| | | | | | | | | L | Temperature | |
| EA | 100 | 10 | ±10 | 60 | 2.52 | 19 | 0.023 | 7.6 | 4.5 | |
| EC | 150 | 15 | ±10 | 60 | 2.52 | 12 | 0.028 | 6.2 | 4.0 | |
| EE | 220 | 22 | ±10 | 60 | 2.52 | 7.6 | 0.035 | 4.9 | 3.4 | |
| EG | 330 | 33 | ±10 | 50 | 2.52 | 6.9 | 0.043 | 4.1 | 3.2 | |
| EJ | 470 | 47 | ±10 | 40 | 2.52 | 5.6 | 0.052 | 3.5 | 2.8 | |
| EL | 680 | 68 | ±10 | 30 | 2.52 | 4.4 | 0.070 | 3.0 | 2.4 | |
| FA | 101 | 100 | ±10 | 50 | 0.796 | 3.3 | 0.12 | 2.2 | 2.0 | |
| FC | 151 | 150 | ±10 | 50 | 0.796 | 2.6 | 0.19 | 1.9 | 1.5 | |
| FE | 221 | 220 | ±10 | 40 | 0.796 | 2.2 | 0.23 | 1.5 | 1.3 | |
| FG | 331 | 330 | ±10 | 30 | 0.796 | 1.8 | 0.35 | 1.3 | 1.1 | |
| FJ | 471 | 470 | ±10 | 20 | 0.796 | 1.5 | 0.43 | 1.1 | 0.90 | |
| FL | 681 | 680 | ±10 | 20 | 0.796 | 1.2 | 0.61 | 0.95 | 0.80 | |
| GA | 102 | 1,000 | ±5 | 30 | 0.252 | 1.0 | 1.2 | 0.74 | 0.60 | |
| GC | 152 | 1,500 | ±5 | 30 | 0.252 | 0.83 | 1.8 | 0.60 | 0.45 | |
| GE | 222 | 2,200 | ±5 | 20 | 0.252 | 0.70 | 2.2 | 0.51 | 0.40 | |
| GG | 332 | 3,300 | ±5 | 20 | 0.252 | 0.60 | 3.4 | 0.41 | 0.33 | |
| GJ | 472 | 4,700 | ±5 | 20 | 0.252 | 0.43 | 4.7 | 0.39 | 0.28 | |
| GL | 682 | 6,800 | ±5 | 20 | 0.252 | 0.38 | 5.6 | 0.31 | 0.25 | |
| HA | 103 | 10,000 | ±5 | 70 | 0.0796 | 0.30 | 10 | 0.22 | 0.19 | |

* Rated current (L value) : A current value obtained when the inductance value has dropped by 10% of the initial value in DC superimposition characteristic.

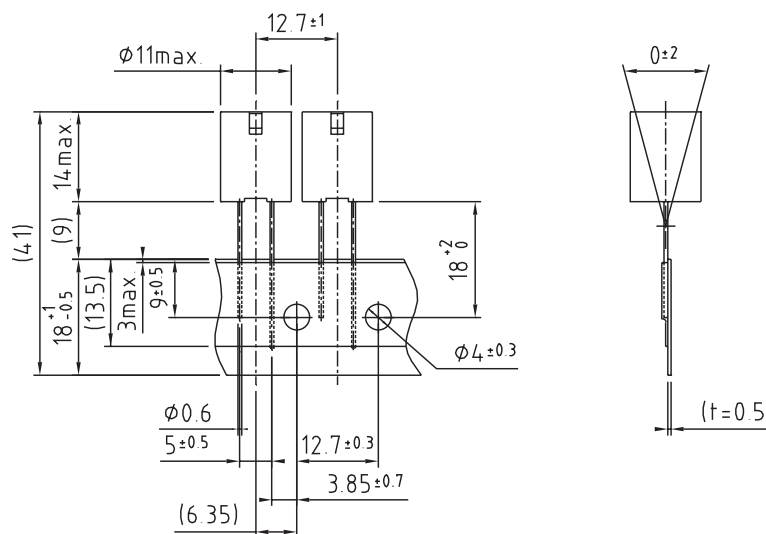
Rated current (temperature) : A current value where the temperature rise becomes 20°C when flowing a current at normal temperature.

DIMENSIONS

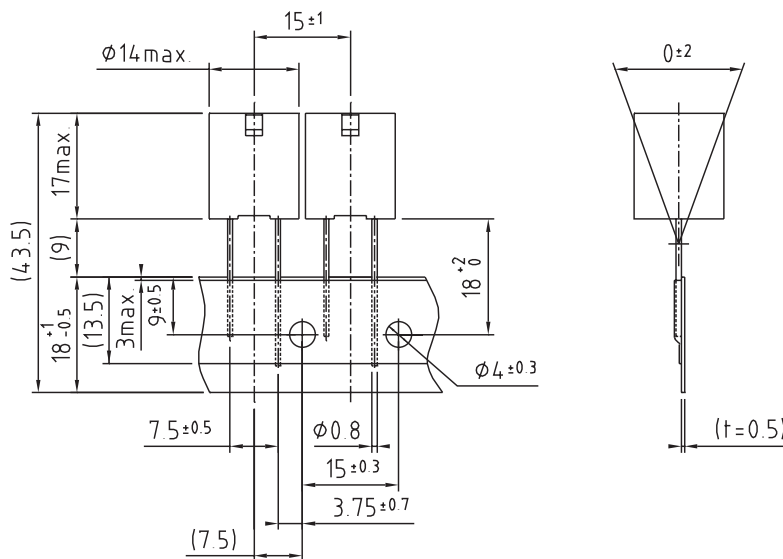
C8-FR1 Series



C10-FR1 Series



C13-FR Series



Unit : mm