

Type 3631 Series

Key Features

- Very High Current Capability
- Wide Value Range
- Available in 6 different styles
- Up to 14A
- Down to 4mm height
- High reliability
- Taped and Reeled



The 3631 series of SMD shielded Power Inductors are designed to handle high current and have been designed for use in SMD power circuits. With the superior ferrite core material and its low profile construction we can ensure excellent inductance characteristics coupled with proven Tyco Sigma quality.

Electrical Characteristics - 3631A Series

| Inductance Code | Inductance (μ H) | Tolerance | Test Freq. (Hz) | R.D.C. (m Ω) Max. | I.D.C. (A) Max. |
|-----------------|-----------------------|-----------|-----------------|---------------------------|-----------------|
| 2R5 | 2.5 | \pm 20% | 1K | 24.0 | 5.00 |
| 5R0 | 5.0 | \pm 20% | 1K | 35.0 | 4.00 |
| 7R5 | 7.5 | \pm 20% | 1K | 40.0 | 3.50 |
| 100 | 10.0 | \pm 20% | 1K | 54.0 | 3.00 |
| 120 | 12.0 | \pm 20% | 1K | 65.0 | 2.80 |
| 150 | 15.0 | \pm 20% | 1K | 70.0 | 2.70 |
| 180 | 18.0 | \pm 20% | 1K | 82.0 | 2.60 |
| 220 | 22.0 | \pm 20% | 1K | 95.0 | 2.40 |
| 250 | 25.0 | \pm 20% | 1K | 120.0 | 2.00 |
| 330 | 33.0 | \pm 20% | 1K | 145.0 | 1.80 |
| 390 | 39.0 | \pm 20% | 1K | 160.0 | 1.65 |
| 500 | 50.0 | \pm 10% | 1K | 200.0 | 1.50 |
| 560 | 56.0 | \pm 10% | 1K | 240.0 | 1.40 |
| 680 | 68.0 | \pm 10% | 1K | 280.0 | 1.30 |
| 750 | 75.0 | \pm 10% | 1K | 330.0 | 1.20 |
| 101 | 100.0 | \pm 10% | 1K | 400.0 | 1.00 |
| 121 | 120.0 | \pm 10% | 1K | 500.0 | 0.90 |
| 151 | 150.0 | \pm 10% | 1K | 580.0 | 0.80 |
| 181 | 180.0 | \pm 10% | 1K | 750.0 | 0.70 |
| 221 | 220.0 | \pm 10% | 1K | 840.0 | 0.65 |
| 271 | 270.0 | \pm 10% | 1K | 1000.0 | 0.60 |
| 331 | 330.0 | \pm 10% | 1K | 1340.0 | 0.54 |
| 391 | 390.0 | \pm 10% | 1K | 1500.0 | 0.50 |
| 471 | 470.0 | \pm 10% | 1K | 1980.0 | 0.45 |
| 561 | 560.0 | \pm 10% | 1K | 2200.0 | 0.40 |
| 681 | 680.0 | \pm 10% | 1K | 2400.0 | 0.35 |
| 821 | 820.0 | \pm 10% | 1k | 3000.0 | 0.30 |

Type 3631 Series

Electrical Characteristics - 3631B Series

| Inductance Code | Inductance (μH) | Tolerance | Test Freq. (Hz) | R.D.C. (mΩ) Max. | I.D.C. (A) Max. |
|-----------------|-----------------|-----------|-----------------|------------------|-----------------|
| 2R5 | 2.5 | ±20% | 1K | 16.0 | 6.20 |
| 5R0 | 5.0 | ±20% | 1K | 22.0 | 4.70 |
| 7R5 | 7.5 | ±20% | 1K | 25.0 | 3.80 |
| 100 | 10.0 | ±20% | 1K | 35.0 | 3.30 |
| 120 | 12.0 | ±20% | 1K | 38.0 | 3.00 |
| 150 | 15.0 | ±20% | 1K | 42.0 | 2.80 |
| 180 | 18.0 | ±20% | 1K | 50.0 | 2.50 |
| 220 | 22.0 | ±20% | 1K | 62.0 | 2.30 |
| 270 | 27.0 | ±15% | 1K | 68.0 | 2.00 |
| 330 | 33.0 | ±15% | 1K | 90.0 | 1.90 |
| 390 | 39.0 | ±15% | 1K | 100.0 | 1.75 |
| 470 | 47.0 | ±15% | 1K | 130.0 | 1.60 |
| 560 | 56.0 | ±15% | 1K | 155.0 | 1.45 |
| 680 | 68.0 | ±15% | 1K | 170.0 | 1.30 |
| 820 | 82.0 | ±15% | 1K | 185.0 | 1.20 |
| 101 | 100.0 | ±10% | 1K | 220.0 | 1.10 |
| 121 | 120.0 | ±10% | 1K | 260.0 | 1.00 |
| 151 | 150.0 | ±10% | 1K | 320.0 | 0.90 |
| 181 | 180.0 | ±10% | 1K | 330.0 | 0.80 |
| 221 | 220.0 | ±10% | 1K | 460.0 | 0.70 |
| 271 | 270.0 | ±10% | 1K | 520.0 | 0.65 |
| 331 | 330.0 | ±10% | 1K | 660.0 | 0.60 |
| 391 | 390.0 | ±10% | 1K | 870.0 | 0.55 |
| 471 | 470.0 | ±10% | 1K | 970.0 | 0.50 |
| 561 | 560.0 | ±10% | 1K | 1320.0 | 0.45 |
| 681 | 680.0 | ±10% | 1K | 1500.0 | 0.40 |
| 821 | 820.0 | ±10% | 1k | 1700.0 | 0.35 |
| 102 | 1000.0 | ±10% | 1K | 2300.0 | 0.30 |
| 122 | 1200.0 | ±10% | 1K | 2650.0 | 0.25 |
| 152 | 1500.0 | ±10% | 1K | 3500.0 | 0.20 |

Electrical Characteristics - 3631C Series

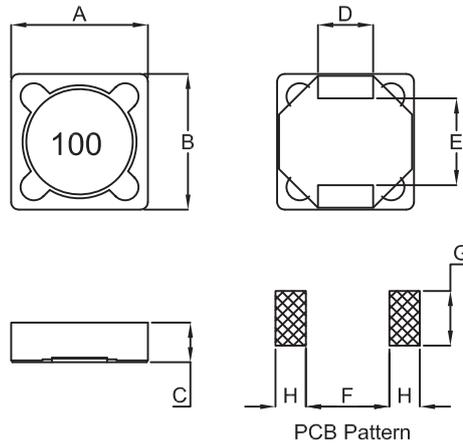
| Inductance Code | Inductance (μH) | Tolerance | Test Freq. (Hz) | R.D.C. (mΩ) Max. | I.D.C. (A) Max. |
|-----------------|-----------------|-----------|-----------------|------------------|-----------------|
| 2R5 | 2.5 | ±20% | 1K | 11.4 | 7.80 |
| 4R5 | 4.5 | ±20% | 1K | 14.0 | 6.80 |
| 6R5 | 6.5 | ±20% | 1K | 18.0 | 6.50 |
| 100 | 10.0 | ±20% | 1K | 21.0 | 5.40 |
| 120 | 12.0 | ±20% | 1K | 25.0 | 4.90 |
| 150 | 15.0 | ±20% | 1K | 36.0 | 4.50 |
| 180 | 18.0 | ±20% | 1K | 40.0 | 3.90 |
| 220 | 22.0 | ±20% | 1K | 43.0 | 3.60 |
| 270 | 27.0 | ±20% | 1K | 48.0 | 3.40 |
| 330 | 33.0 | ±15% | 1K | 62.0 | 3.00 |
| 390 | 39.0 | ±15% | 1K | 76.0 | 2.70 |
| 470 | 47.0 | ±15% | 1K | 85.0 | 2.50 |
| 560 | 56.0 | ±15% | 1K | 110.0 | 2.30 |
| 680 | 68.0 | ±15% | 1K | 135.0 | 2.10 |
| 820 | 82.0 | ±15% | 1K | 150.0 | 1.90 |
| 101 | 100.0 | ±15% | 1K | 170.0 | 1.70 |
| 121 | 120.0 | ±15% | 1K | 190.0 | 1.50 |
| 151 | 150.0 | ±15% | 1K | 240.0 | 1.40 |
| 181 | 180.0 | ±15% | 1K | 270.0 | 1.30 |
| 221 | 220.0 | ±15% | 1K | 380.0 | 1.10 |
| 271 | 270.0 | ±15% | 1K | 400.0 | 1.00 |
| 331 | 330.0 | ±15% | 1K | 650.0 | 0.90 |
| 391 | 390.0 | ±15% | 1K | 670.0 | 0.85 |
| 471 | 470.0 | ±10% | 1K | 850.0 | 0.80 |
| 561 | 560.0 | ±10% | 1K | 900.0 | 0.70 |
| 681 | 680.0 | ±10% | 1K | 1000.0 | 0.65 |
| 821 | 820.0 | ±10% | 1K | 1150.0 | 0.60 |
| 102 | 1000.0 | ±10% | 1K | 1650.0 | 0.55 |
| 122 | 1200.0 | ±10% | 1K | 2000.0 | 0.40 |
| 152 | 1500.0 | ±10% | 1K | 2350.0 | 0.36 |

Type 3631 Series

Environmental Characteristics - A, B, C, Series

| | |
|-----------------|---|
| Storage Temp: | -50°C to +125°C |
| Operating Temp: | -25°C to +105°C |
| Rated Current: | Base on temp. rise & $\Delta L/L=10\%$ typ. |
| Temp. Rise: | 40°C max. |

Dimensions A, B, C Series



| Series | A ± 0.3 | B ± 0.3 | C ± 0.5 | D ± 0.2 | E (typ) | F (ref) | G (ref) | H (ref) |
|--------|-------------|-------------|-------------|-------------|---------|---------|---------|---------|
| 3631A | 12.7 | 12.7 | 5.0 | 5.0 | 8.1 | 6.0 | 7.0 | 4.0 |
| 3631B | 12.7 | 12.7 | 6.0 | 5.0 | 8.1 | 6.0 | 7.0 | 4.0 |
| 3631C | 12.7 | 12.7 | 8.0 | 5.0 | 8.1 | 6.0 | 7.0 | 4.0 |

Electrical Characteristics - 3631D Series

| Inductance Code | Inductance (μH) | Tolerance | Test Freq. (Hz) | R.D.C. (m Ω) Max. | I _{rms} (A) | I _{sat} (A) |
|-----------------|------------------------------|------------|-----------------|---------------------------|----------------------|----------------------|
| 1R2 | 1.20 | $\pm 30\%$ | 100K | 8.0 | 9.20 | 9.80 |
| 2R4 | 2.40 | $\pm 30\%$ | 100K | 11.5 | 7.80 | 8.00 |
| 3R5 | 3.50 | $\pm 30\%$ | 100K | 13.0 | 7.50 | 7.60 |
| 4R7 | 4.70 | $\pm 30\%$ | 100K | 15.5 | 6.80 | 7.00 |
| 6R1 | 6.10 | $\pm 30\%$ | 100K | 17.0 | 6.60 | 6.80 |
| 7R6 | 7.60 | $\pm 30\%$ | 100K | 19.0 | 6.00 | 6.20 |
| 100 | 10.0 | $\pm 20\%$ | 1K | 20.0 | 5.50 | 5.50 |
| 120 | 12.0 | $\pm 20\%$ | 1K | 23.0 | 5.20 | 5.00 |
| 150 | 15.0 | $\pm 20\%$ | 1K | 27.0 | 5.00 | 4.60 |
| 180 | 18.0 | $\pm 20\%$ | 1K | 36.0 | 4.20 | 3.90 |
| 220 | 22.0 | $\pm 20\%$ | 1K | 43.0 | 4.00 | 3.70 |
| 270 | 27.0 | $\pm 20\%$ | 1K | 45.0 | 3.60 | 3.30 |
| 330 | 33.0 | $\pm 20\%$ | 1K | 60.0 | 3.00 | 2.80 |
| 390 | 39.0 | $\pm 20\%$ | 1K | 70.0 | 2.80 | 2.70 |
| 470 | 47.0 | $\pm 20\%$ | 1K | 86.0 | 2.60 | 2.50 |
| 560 | 56.0 | $\pm 20\%$ | 1K | 100.0 | 2.30 | 2.20 |
| 680 | 68.0 | $\pm 20\%$ | 1K | 110.0 | 2.10 | 2.10 |
| 820 | 82.0 | $\pm 20\%$ | 1K | 145.0 | 1.95 | 1.90 |
| 101 | 100.0 | $\pm 20\%$ | 1K | 180.0 | 1.70 | 1.70 |

Type 3631 Series

Electrical Characteristics - 3631E Series

| Inductance Code | Inductance (μH) | Tolerance | Test Freq. (Hz) | R.D.C. (mΩ) Max. | I _{rms} (A) | I _{sat} (A) |
|-----------------|-----------------|-----------|-----------------|------------------|----------------------|----------------------|
| 1R5 | 1.5 | ±30% | 100K | 9.5 | 9.20 | 9.00 |
| 3R3 | 3.3 | ±30% | 100K | 15.0 | 6.80 | 6.50 |
| 4R7 | 4.7 | ±20% | 100K | 18.0 | 6.00 | 5.60 |
| 5R6 | 5.6 | ±20% | 100K | 20.0 | 5.40 | 5.10 |
| 6R8 | 6.8 | ±20% | 100K | 23.0 | 5.20 | 4.70 |
| 100 | 10.0 | ±20% | 100K | 32.0 | 4.00 | 4.00 |
| 150 | 15.0 | ±20% | 100K | 47.0 | 3.50 | 3.20 |
| 220 | 22.0 | ±20% | 100K | 67.5 | 3.00 | 2.60 |
| 330 | 33.0 | ±20% | 100K | 97.0 | 2.30 | 2.10 |
| 470 | 47.0 | ±20% | 100K | 135.0 | 2.00 | 1.80 |
| 680 | 68.0 | ±20% | 100K | 200.0 | 1.50 | 1.50 |
| 101 | 100.0 | ±20% | 100K | 300.0 | 1.25 | 1.20 |

Electrical Characteristics - 3631F Series

| Inductance Code | Inductance (μH) | Tolerance | Test Freq. (Hz) | R.D.C. (mΩ) Max. | I _{rms} (A) | I _{sat} (A) |
|-----------------|-----------------|-----------|-----------------|------------------|----------------------|----------------------|
| 1R1 | 1.1 | ±30% | 100K | 6.5 | 10.2 | 14.0 |
| 2R4 | 2.4 | ±30% | 100K | 10.0 | 9.2 | 10.5 |
| 3R3 | 3.3 | ±30% | 100K | 12.0 | 8.8 | 9.8 |
| 4R5 | 4.5 | ±30% | 100K | 13.5 | 8.5 | 9.0 |
| 5R6 | 5.6 | ±30% | 100K | 16.0 | 8.0 | 8.5 |
| 7R5 | 7.5 | ±30% | 100K | 17.5 | 6.4 | 7.0 |
| 100 | 10.0 | ±20% | 1K | 19.5 | 6.0 | 6.3 |
| 150 | 15.0 | ±20% | 1K | 28.5 | 5.2 | 5.0 |
| 220 | 22.0 | ±20% | 1K | 38.6 | 4.3 | 4.1 |
| 330 | 33.0 | ±20% | 1K | 57.0 | 3.5 | 3.3 |
| 470 | 47.0 | ±20% | 1K | 80.0 | 2.9 | 2.8 |
| 680 | 68.0 | ±20% | 1K | 120.0 | 2.4 | 2.3 |
| 101 | 100.0 | ±20% | 1K | 150.0 | 2.1 | 2.0 |

Environmental Characteristics - D, E, F Series

| | |
|------------------------|---------------------------------------|
| Storage Temp: | -40°C to +125°C |
| Operating Temp: | -40°C to +125°C (Temp. Rise Included) |
| Rated Current: | Base on temp. rise & ΔL/L=25% typ. |
| Temp. Rise: | 40°C typ. |

Type 3631 Series

Electrical Characteristics - 3631G Series

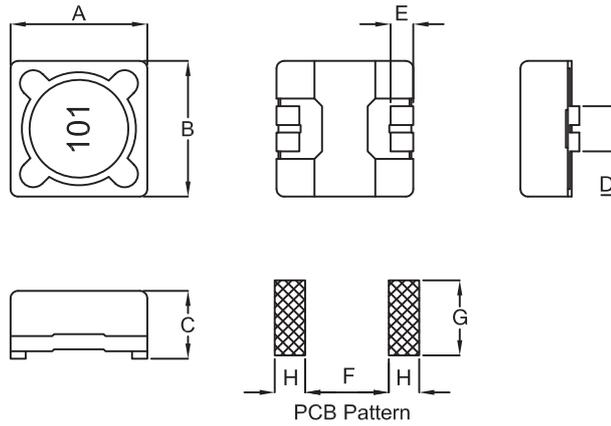
| Inductance Code | Inductance (μ H) | DC Resistance (milli Ohm max) | Rated Current (A max) |
|-----------------|-----------------------|-------------------------------|-----------------------|
| 1R2 | 1.2 | 7.0 | 9.80 |
| 2R4 | 2.4 | 11.5 | 8.00 |
| 3R5 | 3.5 | 13.5 | 7.50 |
| 4R7 | 4.7 | 15.8 | 6.80 |
| 6R1 | 6.1 | 17.6 | 6.60 |
| 7R6 | 7.6 | 20.0 | 5.90 |
| 100 | 10 | 21.6 | 5.40 |
| 120 | 12 | 24.3 | 4.90 |
| 150 | 15 | 27.0 | 4.50 |
| 180 | 18 | 39.2 | 3.90 |
| 220 | 22 | 43.2 | 3.60 |
| 270 | 27 | 45.9 | 3.40 |
| 330 | 33 | 64.8 | 3.00 |
| 390 | 39 | 72.9 | 2.75 |
| 470 | 47 | 100 | 2.50 |
| 560 | 56 | 110 | 2.35 |
| 680 | 68 | 140 | 2.10 |
| 820 | 82 | 180 | 1.95 |
| 101 | 100 | 220 | 1.70 |
| 121 | 120 | 250 | 1.60 |
| 151 | 150 | 280 | 1.42 |
| 181 | 180 | 450 | 1.30 |
| 221 | 220 | 390 | 1.16 |
| 271 | 270 | 560 | 1.06 |
| 331 | 330 | 640 | 0.95 |
| 391 | 390 | 700 | 0.88 |
| 471 | 470 | 980 | 0.79 |
| 561 | 560 | 1070 | 0.73 |
| 681 | 680 | 1460 | 0.67 |
| 821 | 820 | 1640 | 0.60 |
| 102 | 1000 | 1820 | 0.55 |

Environmental Characteristics - G Series

| | |
|--|---|
| Inductance Measuring Frequency: | 1,0-8.2 μ H (7,96MHz) 10 μ H (1KHz 1Vrms) |
| Inductance Tolerance: | J \pm 5%, K \pm 10%, L \pm 15%, M \pm 20%, N \pm 30% |
| Inductance Drop: | 20% typ. or temperature rise Δ t \leq 40°C at rated current |
| Operating Temperature Range: | -40°C to +85°C |
| Electrical Specifications: | at 25°C |

Type 3631 Series

Dimensions D, E, F, G Series



| Series | A ±0.3 | B ±0.3 | C ±0.5 | D ±0.3 | E (typ) | F (ref) | G (ref) | H (ref) |
|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 3631D | 12.5 | 12.5 | 6.0 | 5.0 | 7.0 | 6.8 | 5.4 | 2.9 |
| 3631E | 12.5 | 12.5 | 4.0 | 5.0 | 7.0 | 6.8 | 5.4 | 2.9 |
| 3631F | 12.5 | 12.5 | 7.5 | 5.0 | 7.0 | 6.8 | 5.4 | 2.9 |
| 3631G | 12.0 | 12.0 | 8.0 max | 4.9±0.2 | 2.0 | 7.4 | 5.4 | 2.6 |

Reliability Test - D, E, F Series

| Test Item | Specification | Test Condition |
|------------------------------------|----------------------------|---|
| Temperature Cycling: | $\Delta L/L \leq \pm 20\%$ | Room Temp. $\rightarrow -25 \pm 2^\circ\text{C}$ 15 minutes \rightarrow 30 minutes Room Temp. $\rightarrow 85 \pm 2^\circ\text{C}$ 15 minutes \rightarrow 30 minutes Total: 50 cycles |
| Humidity Resistance Test: | $\Delta L/L \leq \pm 20\%$ | Temperature: $40 \pm 2^\circ\text{C}$ Humidity: 90 ~ 95% Applied Current: Per spec. Time: 500 hours |
| High Temp. Resistance Test: | $\Delta L/L \leq \pm 20\%$ | Temperature: $85 \pm 2^\circ\text{C}$ Applied Current: Per spec. Time: 500 hours |

How to Order

| 3631 | A | 2R5 | K | T |
|-------------|-----------------------|--|--|----------------------|
| Common Part | Style | Inductance | Tolerance | Package |
| 3631 | A, B, C, D, E, F or G | See Relevant Table for Inductance Code | K - $\pm 10\%$ L - $\pm 15\%$ M - 20% N - 30% | T - Taped and Reeled |

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