

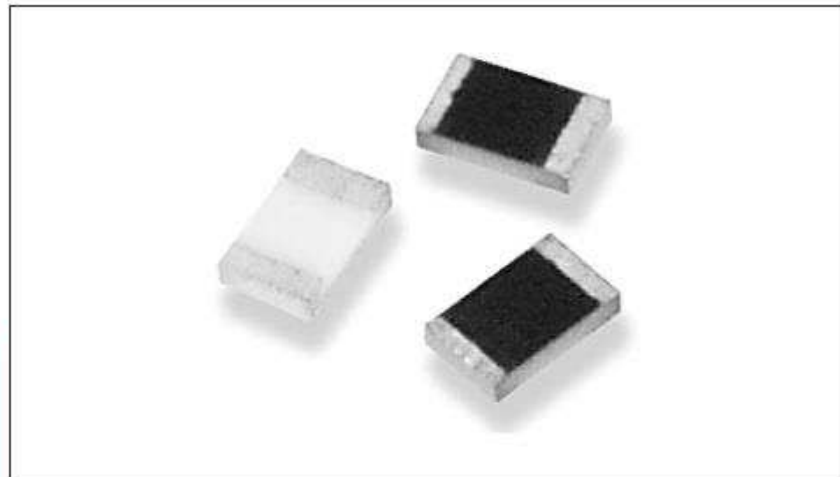
Type 3640 Series

Key Features

- Low Inductor Values
- Low DC Resistance
- High Q Factor
- High Self Resonant Frequency
- Suitable for Reflow Solder
- Lab Kits Available

**PRODUCT
PLANNED FOR
E.O.L.**

LTB 18/08/2023



The 3640 series is an innovative thin film chip inductor designed for high frequency application in the communications industry. This inductor combines very small size (to 02:01) with a robustness and durability only previously seen in moulded parts.

Available in values down to 0.2 nanohenry and packaged in 2 standard sizes, this is the perfect solution for your design requirements. Available via our distribution network.

Characteristics - Electrical - 0201 Package

| Inductance (nH) | Inductance Tolerance (% or nH) | Quality Factor (Min) | Measuring Frequency (MHz) | Resistance DC/Max. (Ohm) | Current DC/Max. (mA) | Self Resonant Frequency/Min. (GHz) |
|-----------------|--------------------------------|----------------------|---------------------------|--------------------------|----------------------|------------------------------------|
| 0.1 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.20 | 400 | 9 |
| 0.2 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.20 | 400 | 9 |
| 0.3 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.20 | 400 | 9 |
| 0.4 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.25 | 350 | 9 |
| 0.5 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.25 | 350 | 9 |
| 0.6 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.25 | 350 | 9 |
| 0.7 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.30 | 300 | 9 |
| 0.8 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.30 | 300 | 9 |
| 0.9 | ±0.1/0.2/0.3 nH | 8 | 500 | 0.30 | 300 | 9 |
| 1 | 0.1/0.2/0.3 nH | 8 | 500 | 0.3 | 300 | 9 |
| 1.1 | 0.1/0.2/0.3 nH | 8 | 500 | 0.35 | 300 | 9 |
| 1.2 | 0.1/0.2/0.3 nH | 8 | 500 | 0.35 | 300 | 9 |
| 1.3 | 0.1/0.2/0.3 nH | 8 | 500 | 0.45 | 250 | 9 |
| 1.4 | 0.1/0.2/0.3 nH | 8 | 500 | 0.45 | 250 | 9 |
| 1.5 | 0.1/0.2/0.3 nH | 8 | 500 | 0.45 | 250 | 9 |
| 1.6 | 0.1/0.2/0.3 nH | 8 | 500 | 0.55 | 200 | 9 |
| 1.7 | 0.1/0.2/0.3 nH | 8 | 500 | 0.55 | 200 | 9 |
| 1.8 | 0.1/0.2/0.3 nH | 8 | 500 | 0.55 | 200 | 9 |
| 1.9 | 0.1/0.2/0.3 nH | 8 | 500 | 0.55 | 200 | 9 |
| 2 | 0.1/0.2/0.3 nH | 8 | 500 | 0.7 | 200 | 8 |
| 2.1 | 0.1/0.2/0.3 nH | 8 | 500 | 0.7 | 200 | 8 |
| 2.2 | 0.1/0.2/0.3 nH | 8 | 500 | 0.7 | 200 | 8 |
| 2.3 | 0.1/0.2/0.3 nH | 8 | 500 | 0.8 | 150 | 8 |
| 2.4 | 0.1/0.2/0.3 nH | 8 | 500 | 0.8 | 150 | 8 |
| 2.5 | 0.1/0.2/0.3 nH | 8 | 500 | 0.8 | 150 | 8 |
| 2.6 | 0.1/0.2/0.3 nH | 8 | 500 | 0.8 | 150 | 8 |
| 2.7 | 0.1/0.2/0.3 nH | 8 | 500 | 0.8 | 150 | 8 |
| 2.8 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 2.9 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 3 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 3.1 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 3.2 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 3.3 | 0.1/0.2/0.3 nH | 8 | 500 | 1 | 150 | 8 |
| 3.4 | 0.1/0.2/0.3 nH | 8 | 500 | 1.2 | 150 | 8 |



Characteristics - Electrical - 0201 Package (continued)

| Inductance (nH) | Inductance Tolerance (% or nH) | Quality Factor (Min) | Measuring Frequency (MHz) | Resistance DC/Max. (Ohm) | Current DC/Max. (mA) | Self Resonant Frequency/Min. (GHz) |
|-----------------|--------------------------------|----------------------|---------------------------|--------------------------|----------------------|------------------------------------|
| 3.5 | 0.1/0.2/0.3 nH | 8 | 500 | 1.2 | 150 | 6 |
| 3.6 | 0.1/0.2/0.3 nH | 8 | 500 | 1.2 | 150 | 6 |
| 3.7 | 0.1/0.2/0.3 nH | 8 | 500 | 1.2 | 150 | 6 |
| 3.9 | 0.1/0.2/0.3 nH | 8 | 500 | 1.2 | 150 | 6 |
| 4.7 | 0.1/0.2/0.3 nH | 8 | 500 | 1.4 | 130 | 6 |
| 5.6 | 2 / 5 % | 8 | 500 | 1.8 | 130 | 4 |
| 6.8 | 2 / 5 % | 8 | 500 | 2.3 | 110 | 4 |
| 8.2 | 2 / 5 % | 8 | 500 | 3 | 110 | 3 |
| 10 | 2 / 5 % | 8 | 500 | 3.5 | 80 | 2 |

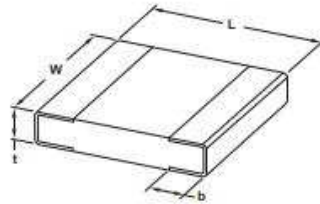
Characteristics - Electrical - 0402 Package

| Inductance (nH) | Inductance Tolerance (% or nH) | Quality Factor (Min) | Measuring Frequency (MHz) | Resistance DC/Max. (Ohm) | Current DC/Max. (mA) | Self Resonant Frequency/Min. (GHz) |
|-----------------|--------------------------------|----------------------|---------------------------|--------------------------|----------------------|------------------------------------|
| 0.2 | 0.1/0.2/0.3nH | 13 | 500 | 0.1 | 800 | 14 |
| 0.4 | 0.1/0.2/0.3nH | 13 | 500 | 0.1 | 800 | 14 |
| 0.8 | 0.1/0.2/0.3nH | 13 | 500 | 0.15 | 700 | 14 |
| 1 | 0.1/0.2/0.3nH | 13 | 500 | 0.15 | 700 | 12 |
| 1.1 | 0.1/0.2/0.3nH | 13 | 500 | 0.15 | 700 | 12 |
| 1.2 | 0.1/0.2/0.3nH | 13 | 500 | 0.15 | 700 | 12 |
| 1.3 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 700 | 10 |
| 1.4 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 700 | 10 |
| 1.5 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 700 | 10 |
| 1.6 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 560 | 10 |
| 1.7 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 560 | 10 |
| 1.8 | 0.1/0.2/0.3nH | 13 | 500 | 0.25 | 560 | 10 |
| 1.9 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 560 | 8 |
| 2 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 560 | 8 |
| 2.1 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.2 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.3 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.4 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.5 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.6 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.7 | 0.1/0.2/0.3nH | 13 | 500 | 0.35 | 440 | 8 |
| 2.8 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 2.9 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 3 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 3.1 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 3.2 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 3.3 | 0.1/0.2/0.3nH | 13 | 500 | 0.45 | 380 | 6 |
| 3.4 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 380 | 6 |
| 3.5 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 380 | 6 |
| 3.6 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 380 | 6 |
| 3.7 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 340 | 6 |
| 3.8 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 340 | 6 |
| 3.9 | 0.1/0.2/0.3nH | 13 | 500 | 0.55 | 340 | 6 |
| 4.7 | 0.1/0.2/0.3nH | 13 | 500 | 0.65 | 320 | 6 |
| 5.6 | 0.1/0.2/0.3nH | 13 | 500 | 0.85 | 280 | 6 |
| 5.9 | 0.1/0.2/0.3nH | 13 | 500 | 0.85 | 280 | 6 |
| 6.8 | 0.1/0.2/0.3nH | 13 | 500 | 1.05 | 260 | 6 |
| 7.2 | 0.1/0.2/0.3nH | 13 | 500 | 1.05 | 260 | 6 |
| 8 | 0.1/0.2/0.3nH | 13 | 500 | 1.25 | 220 | 5.5 |
| 8.2 | 0.1/0.2/0.3nH | 13 | 500 | 1.25 | 220 | 5.5 |
| 9.1 | 0.1/0.2/0.3nH | 13 | 500 | 1.25 | 220 | 5.5 |
| 10 | 1/2/3/5% | 13 | 500 | 1.35 | 200 | 4.5 |
| 12 | 1/2/3/5% | 13 | 500 | 1.55 | 180 | 3.7 |
| 13.8 | 1/2/3/5% | 13 | 500 | 1.75 | 180 | 3.7 |
| 15 | 1/2/3/5% | 13 | 500 | 1.75 | 130 | 3.3 |
| 17 | 1/2/3/5% | 13 | 500 | 1.95 | 100 | 3.1 |
| 18 | 1/2/3/5% | 13 | 500 | 2.15 | 100 | 3.1 |
| 20.8 | 1/2/3/5% | 13 | 500 | 2.55 | 90 | 2.8 |
| 22 | 1/2/3/5% | 13 | 500 | 2.65 | 90 | 2.8 |
| 27 | 1/2/3/5% | 13 | 500 | 3.25 | 75 | 2.5 |
| 33 | 5% | 13 | 500 | 4.5 | 75 | 2.5 |

Environmental Characteristics -

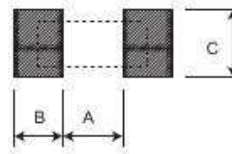
| Item | Specification | Test Method |
|-------------------------------|----------------------|-------------------------------------|
| Dielectric Withstand Voltage: | >100V | 100VAC(rms) for 1minute. |
| Insulation Resistance: | >1000MΩ | 100VDC for 1minute |
| Resistance to Soldering Heat: | $\Delta L \leq 10\%$ | 280±5°C, 10 second |
| High Temperature Exposure: | $\Delta L \leq 10\%$ | +85±2°C, 1000 +48/-0 hours |
| Moisture Resistance: | $\Delta L \leq 10\%$ | 40±2°C, 90-95%RH, 1000 +48/-0 hours |
| Low Temperature Storage: | $\Delta L \leq 10\%$ | -40±3°C, 1000 +48/-0 hours |
| Temperature Cycle: | $\Delta L \leq 10\%$ | -40°C/RT/85°C/RT, 10 cycles |
| Solderability: | 95%min coverage | 245±5°C for 3 seconds |
| Storage Temperature: | | 25 ±3°C; |
| Humidity: | | <80%RH |
| Reference Standards: | | MIL-STD-202F, JIS-C 5201-1 |

Dimensions



| Series | L | W | t | b |
|--------|----------|----------|-----------|-----------|
| 0201 | 0.8±0.05 | 0.3±0.05 | 0.23±0.05 | 0.15±0.05 |
| 0402 | 1.0±0.05 | 0.5±0.05 | 0.32±0.05 | 0.2±0.1 |

Recommend Land Pattern



| Type | A | B | C |
|------|------|------|-----------|
| 0201 | 0.30 | 0.25 | 0.30 ±0.2 |
| 0402 | 0.50 | 0.45 | 0.80 ±0.2 |

How to Order

| 3640 | 2A | 1N0 | G | TD |
|-------------|--|--|--|--|
| Common Part | Case Size | Inductance Value | Tolerance | Packaging |
| 3640 | 1H – 0201 Package 1E – 0402 Package | See relevant table for Inductance Code | F - ±1% G - ±2% H - ±3% J - ±5% B - ±0.1nH A - ±0.2nH S - ±0.3nH | TD - 5000 pcs/reel TDF - 1000pcs/reel |

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