ATC 506WLC2R0KG250B
Ultra-Broadband Inductor

Features:

- Inductance: 2.0 µH, typ.
- Operating Frequency:
  2.3 MHz (-3 dB roll-off) through 40 GHz, typ.
- Insertion Loss (shunt mounted): 0.5 dB, typ.
- Return Loss (shunt mounted): 17 dB, typ.
- Rated Current: 250 mA dc, max.*
- DC Resistance: 1.45 Ω, typ. @ 10 mA
- Operating Temperature Range: -40°C to +85°C
- Gold plated leads: 15 – 25 µ in.

ATC, the industry leader, is introducing the new 506WLC Series High Frequency Ultra-Broadband Inductor (UBL). This unique component** provides low insertion loss and an excellent match over multiple octaves of frequency spectrum.

The 506WLC is ideal for ultra-broadband DC decoupling networks and bias tee applications in optical communications systems and equipment using high-speed digital logic.

* Current for 100 °C Temperature rise
**patent pending

Advantages:

- Ultra-Broadband Performance
- Ultra-Low Insertion Loss
- Flat Frequency Response
- Excellent Return Loss Through 40 GHz
- Unit-to-Unit Performance Repeatability
- Rugged Powdered Iron Core

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ATC 506WLC2R0 Insertion Loss (S21)

ATC 506WLC2R0 Return Loss (S11)

ATC 506WLC2R0KG250B Data Sheet Test Condition Description

All testing performed on 10-mil-thick Rogers RO4350 microstrip board, with the UBL leads connected between the microstrip trace and the underside ground plane (nominal 50-ohm characteristic impedance).
**Electrical Specifications:**
- Inductance: 2.0 µH, typ.
- Rated DC Current: 250 ma, max.
- DC Resistance: 1.45 Ω, typ. at +20°C, 10 mA current.

**Mechanical Dimensions**

![Diagram of inductor dimensions]

- 46 Turns #44 AWG Cu
- Insulated .010 (.254) max.
- .375 (9.525) ref.
- .102 ±.002 (2.591 ±.051)
- .065 ±.002 (1.65 ±.051)

**ATC PART NUMBER CODE**

- Series 506WLC
- Inductance Code 2R0
- Inductance Code
  - First 2 significant digits for inductance
  - R = Decimal Point
- Inductance Tolerance, typ.
- Packaging
  - B = One piece in plastic box
- Current (mA)
  - G = 15 - 25 µ in., Gold Plated Leads

The above part number refers to a 506WLC Series 2.0 µH inductor, K tolerance (±10%, typ.), with Gold Plated Leads (G), 250 mA, one piece in plastic box.

ATC accepts orders for our parts using designations with or without the “ATC” prefix.

Consult factory for additional performance data.

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