ATC 506WLS SERIES UBL SMT INDUCTORS

ATC 506WLSM0R47KT815T
Ultra-Broadband SMT Inductor

Features:
- Inductance: 0.47 µH
- Operating Frequency: 9.5 MHz (-3 dB roll-off) through 40+ GHz, typ.
- Insertion Loss (shunt mounted): <0.5 dB, typ.
- Return Loss (shunt mounted): >20 dB, typ.
- Operating Temperature Range: -55°C to +125°C
- Lead-Free, RoHS Compliant Terminations

ATC, the industry leader, is introducing the new 506WLS 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 506WLS is ideal for ultra-broadband DC decoupling networks and bias tee applications in optical communications systems and equipment using high-speed digital logic.

Electrical Specifications:
- Inductance: 0.47 µH ±10%*
- Rated DC Current (I_{DC max.}): 815 mA**
- DC Resistance (R_{DC typ.}): 0.19 Ω, typ. at +20°C, 10 mA current.

*Inductance: measured at 1 MHz, 0.1 Vrms, 0 mA dc with HP4291A impedance analyzer

**Current Rating: based on a 100 °C temperature rise from a 25°C ambient.

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

New Design

ATC # 001-1114
Rev. G; 8/17
Outline Dimensions

Recommended Foot Print

Note: Terminal is configured to facilitate attachment close to inductor tip.
Wire is copper plated with gold 20 μ in. ±5 μ in.

Mechanical Configurations

<table>
<thead>
<tr>
<th>Size</th>
<th>Length (L)</th>
<th>Width (W)</th>
<th>Height (H)</th>
<th>Cu Wire Size (AWG)</th>
<th>Number of Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>0.127 (3.226)</td>
<td>0.08 (2.032)</td>
<td>0.105 (2.667)</td>
<td>38</td>
<td>22</td>
</tr>
</tbody>
</table>

Unless noted otherwise, all dimensions are held to ±0.10 (.254)

ATC PART NUMBER CODE

<table>
<thead>
<tr>
<th>Series</th>
<th>ATC 506WLS</th>
<th>Case Size</th>
<th>M</th>
<th>0R47</th>
<th>K</th>
<th>T</th>
<th>815</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductance Code (µH)</td>
<td>3 significant digits for inductance</td>
<td>R = Decimal point</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Packaging</td>
<td>T = Tape and Reel</td>
<td></td>
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<tr>
<td>Current (mA)</td>
<td>T = Tin Termination</td>
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</tr>
<tr>
<td>Inductance Tolerance, (±10%)</td>
<td></td>
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</tbody>
</table>

The above part number refers to a 506WLS Series, Case Size M, 0.47 µH inductor, K tolerance (±10%, typ.), with Tin Termination (T), 815 mA, tape and reel packaging.

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

Consult factory for additional performance data.

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