ATC 506WLSM3R80KT182T Ultra-Broadband SMT Inductor

Features:
- Inductance: 3.80 µH
- Operating Frequency: 1.1 MHz (-3 dB roll-off) through 40+ GHz, typ.
- Insertion Loss (shunt mounted): <0.4 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: 3.80 µH ±10%*
- Rated DC Current (I_{DC max.}): 182 mA**
- DC Resistance (R_{DC typ.}): 3.70 Ω, typ. at +20°C, 10 mA current.

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

*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.
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ATC PART NUMBER CODE

### 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>47</td>
<td>60</td>
</tr>
</tbody>
</table>

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

The above part number refers to a 506WLS Series, Case Size M, 3.80 μH inductor, K tolerance (±10%, typ.), with Tin Termination (T), 182 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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