ATC 506WLSM2R00KT277T
Ultra-Broadband SMT Inductor

Features:
- Inductance: 2.00 µH
- Operating Frequency: 2.1 MHz (-3 dB roll-off) through 40+ GHz, typ.
- Insertion Loss (shunt mounted): <0.4 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: 2.00 µH ±10%*
- Rated DC Current (I_{DC max.}): 277 mA**
- DC Resistance (R_{DC typ.}): 1.60 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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<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
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<tr>
<td>10</td>
<td></td>
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<tr>
<td>15</td>
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<tr>
<td>20</td>
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<tr>
<td>25</td>
<td></td>
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<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
</tr>
<tr>
<td>40</td>
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</tr>
</tbody>
</table>

**ATC 506WLSM2R00 Insertion Loss (S21)**

**ATC 506WLSM2R00 Return Loss (S11)**
**Outline Dimensions**

<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>44</td>
<td>45</td>
</tr>
</tbody>
</table>

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

**ATC PART NUMBER CODE**

```
ATC 506WLS  M 2R00  K  T  277  T
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- **Series**: ATC 506WLS
- **Case Size**: M
- **Inductance Code (µH)**: 2R00 (2.00 µH inductor, K tolerance (±10%, typ.), with Tin Termination (T), 277 mA, tape and reel packaging.

**Mechanical Configurations**

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

Consult factory for additional performance data.

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