

# ATC 506WLSM3R80KT182T

## Ultra-Broadband

### SMT Inductor

#### Features:

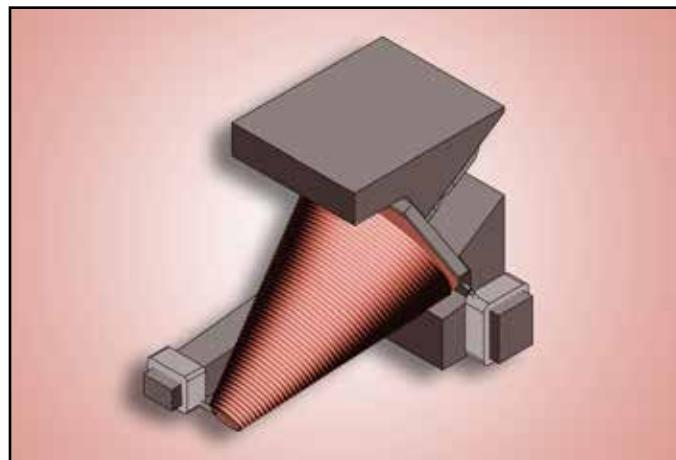
- Inductance: 3.80  $\mu$ H
- Operating Frequency: 1.1 MHz (-3 dB roll-off) through 40+ GHz, typ.
- Insertion Loss (shunt mounted): <0.4 dB, typ.
- Return Loss (shunt mounted): >25 dB, typ.
- Operating Temperature Range: -55°C to +125°C
- Lead-Free, RoHS Compliant Terminations

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  $\mu$ H  $\pm 10\%$ \*
- Rated DC Current ( $I_{DC}$  max.): 182 mA\*\*
- DC Resistance ( $R_{DC}$  typ.): 3.70  $\Omega$ , typ. at +20°C, 10 mA current.



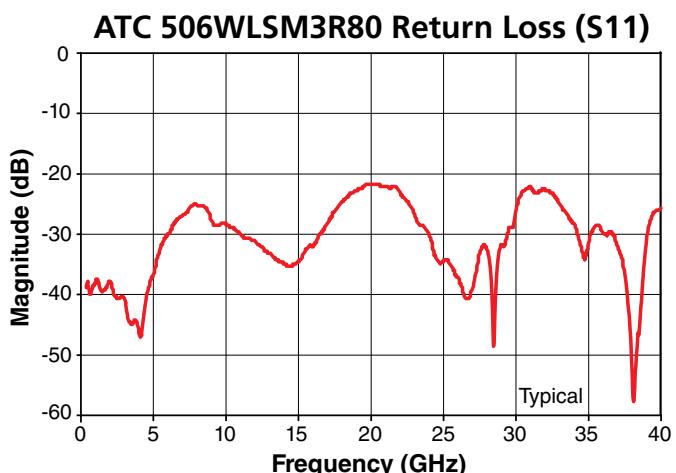
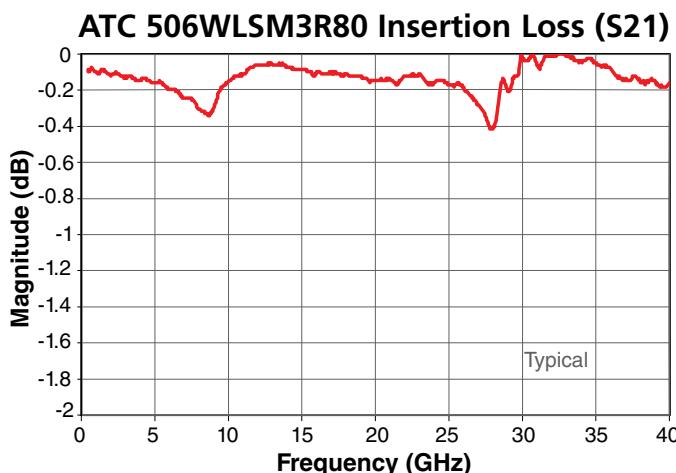
#### New Design

#### 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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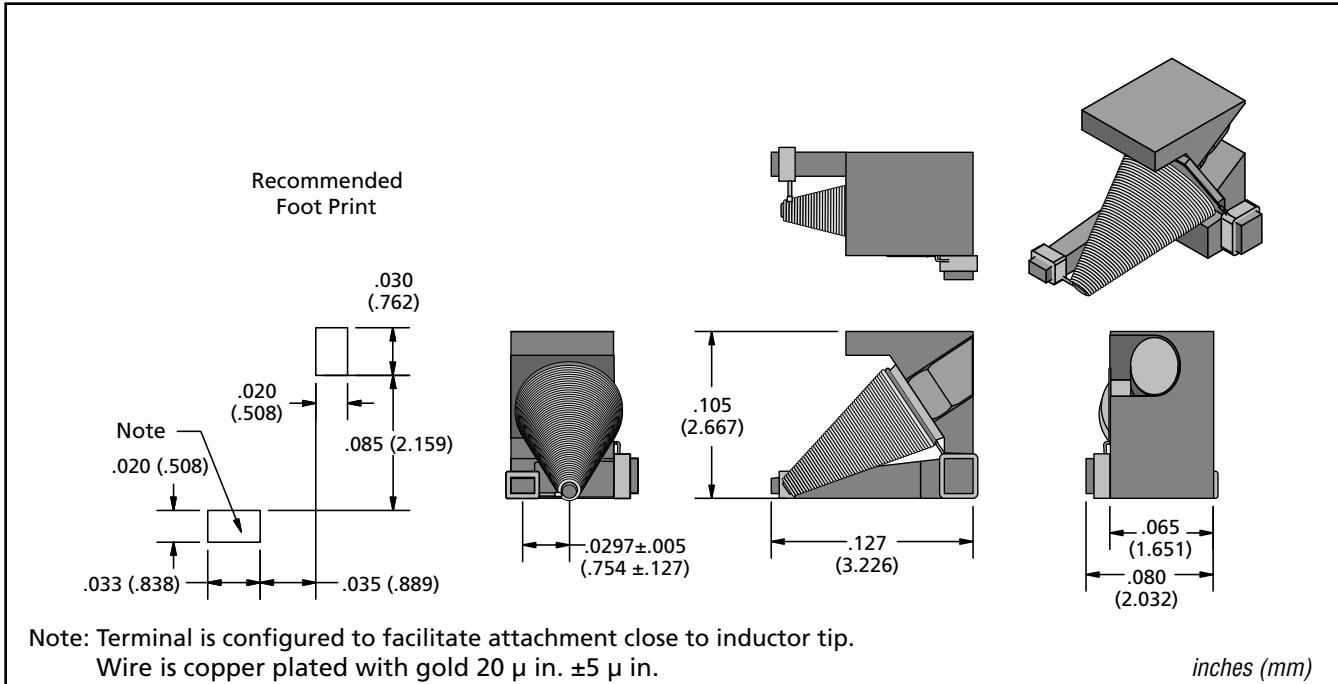
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Rev. G; 8/17

# ATC 506WLS SERIES UBL SMT INDUCTORS

## Outline Dimensions



## Mechanical Configurations

Size	Length (L)	Width (W)	Height (H)	Cu Wire Size (AWG)	Number of Turns
M	0.127 (3.226)	0.08 (2.032)	0.105 (2.667)	47	60

Unless noted otherwise, all dimensions are held to  $\pm 0.10$  (.254)

*inches (mm)*

## ATC PART NUMBER CODE

ATC 506WLS M 3R80 K T 182 T

Series \_\_\_\_\_ T \_\_\_\_\_ Packaging  
Case Size \_\_\_\_\_ T = Tape and Reel

Inductance Code ( $\mu$ H)  
3 significant digits for inductance \_\_\_\_\_ Current (mA)

R = Decimal point

T = Tin Termination

Inductance Tolerance, ( $\pm 10\%$ )

**RoHS**  
Compliant

The above part number refers to a 506WLS Series, Case Size M, 3.80  $\mu$ H inductor, K tolerance ( $\pm 10\%$ , 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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