

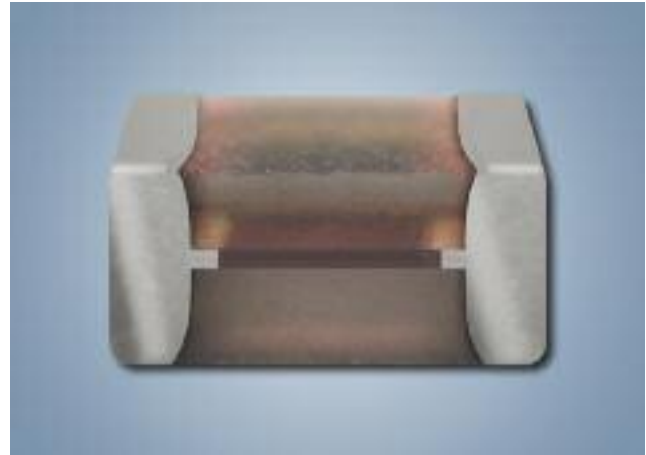
## ATC 504L Series UBR™ Ultra-Broadband Resistors

### Features:

- Frequency Range: DC to 20 GHz
- EIA 0402 Case Size
- Power Rating: 125 mW
- Operating Temperature: -40°C to +125°C
- 100% Laser Trimming for Tight Tolerances
- RoHS Compliant

ATC // AVX Thin Film Technologies is pleased to introduce the 504L Series next generation of surface mount Ultra-Broadband Resistors. This product was designed with our proprietary Glass Sandwich Flexiterm® Technology, (GSFT). The Flexiterm® is a surface mountable automotive qualified termination that adds an extra margin against damage due to flexure during installation.

The 504L Series has been designed with high quality selected materials that yield excellent performance. This product is ideal for use in Optical Transceiver Modules or any application requiring excellent ultra-broadband performance.



Patent Pending

### Applications:

- Optical Transceiver Modules
- Broadband Receiver
- TOSA / ROSA
- Wideband Test Equipment
- Low Noise Amplifier
- MMIC Amplifiers
- Mixers
- Directional Couplers
- Ultra-Broadband Splitters and Combiners

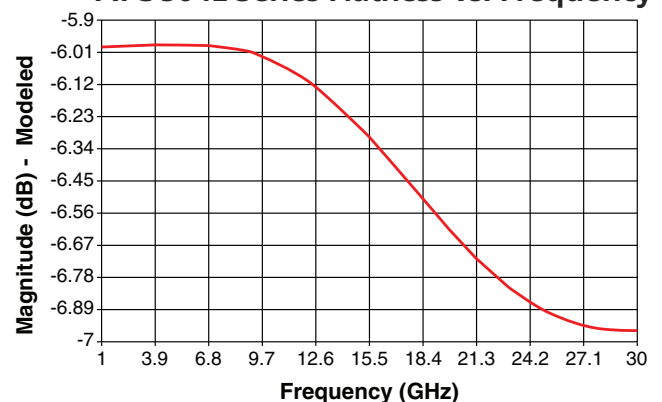
### Markets:

- Opto-electronics
- Automotive
- Telecom
- Broadband Jamming for EW
- Satellite Communication

### Specifications

Resistor	Detail
Outline	EIA 0402
Package	Glass wafer sandwich
Standard Resistance Values ( $\Omega$ )	25 $\Omega$ , 50 $\Omega$ , 100 $\Omega$ , 200 $\Omega$
Resistance Value Range	From 25 $\Omega$ to 400 $\Omega$
Termination	Flexiterm® (Ag/Epoxy), NiSn plated
Power Rating	125 mW
Operating Temperature Range	-40°C to +125°C
Tolerance	1%

### ATC 504L Series Flatness vs. Frequency



Modeled with HFSS using Rogers 3003 substrate, with a thickness of 10 mils and a line width of 24 mils, representing data for 100 Ohms.



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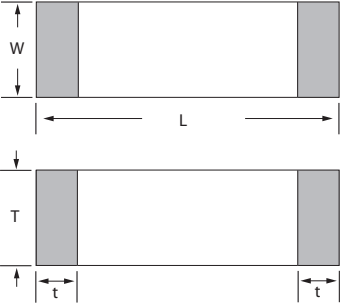
ATC # 001-1108  
Rev C, 8/13

# ATC ULTRA-BROADBAND RESISTIVE PRODUCTS

## Resistor Material Properties

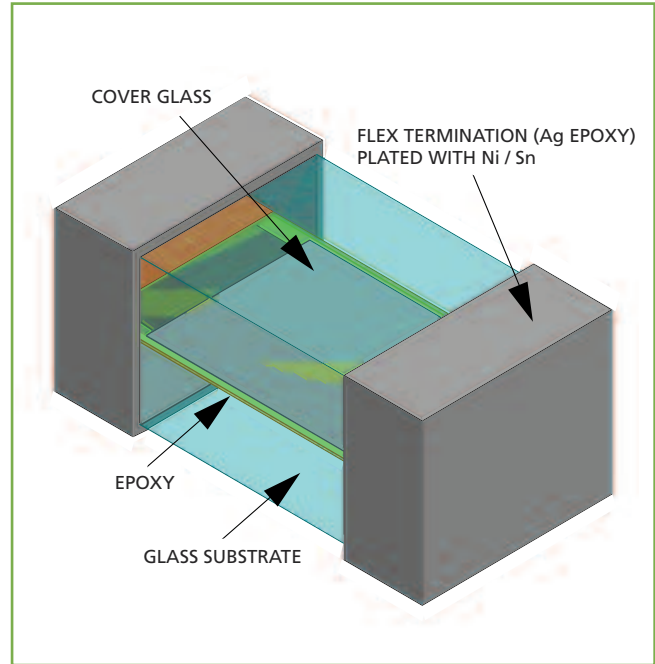
Resistor Material (TaN): Properties	
Sheet Resistance (Ohms per Square)	TCR ppm/°C
30 to 100	-50 to -150

## Mechanical Dimensions



Size (EIA)	Length (L)	Width (W)	Thickness (T)	Terminal (t)
0402	.039 ±.004 (1.00 ±0.10)	.020 ±.004 (0.50 ±0.10)	.020 ±.004 (0.50 ±0.10)	.010 ±.006 (0.25 ±0.15)

inches (mm)



## ATC Part Number Code

	<b>ATC 504</b>	<b>L</b>	<b>100</b>	<b>0</b>	<b>F</b>	<b>T</b>	<b>NC</b>	<b>F</b>	<b>T</b>	
Series										Packaging: T = Tape & Reel
Case Size										Temperature Coefficient of Resistance (-50 to -150 ppm/°C)
Resistance Value (Ω) 3 significant digits R= decimal point Multiplier										Compensation NC = Non-Compensated
Tolerance F= 1%										Termination T = NiSn Plated

The above part number refers to a 504 Series (case size L), 100 Ohms, F tolerance (1%), NiSn Plated Non-Compensated, with a TCR of -50 to -150 ppm/°C, with Tape and Reel Packaging.

ATC accepts orders for our parts using designations *with* or *without* the "ATC" prefix. Both methods of defining the part number are equivalent, i.e., part numbers referenced with the "ATC" prefix are interchangeable to parts referenced without the "ATC" prefix. Customers are free to use either in specifying or procuring parts from American Technical Ceramics.

For additional information and catalogs contact your ATC representative or call direct at +1-631-622-4700.

Consult factory for additional performance data.

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