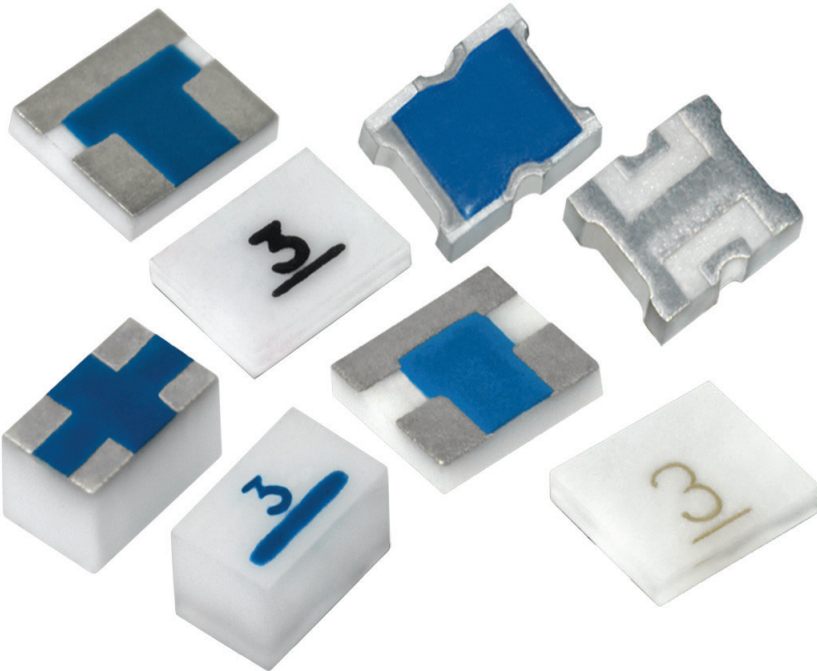


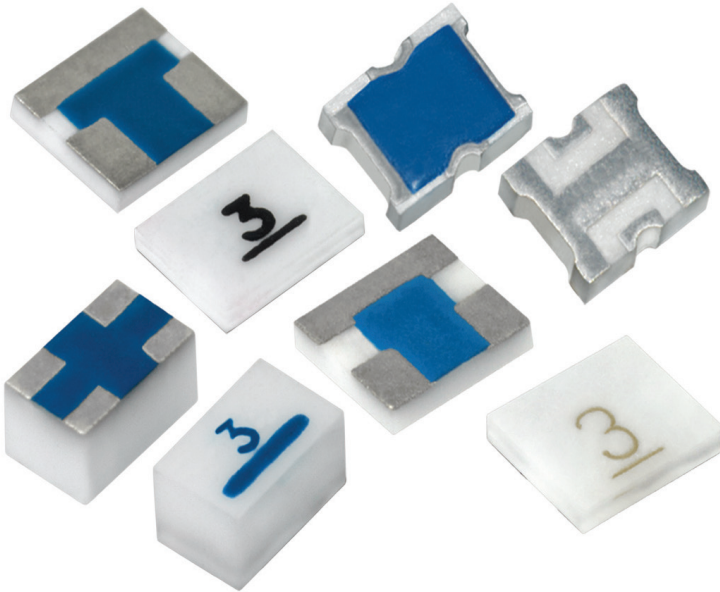
# AT Series

High Volume Chip Attenuators



# ATXXXF Series

HIGH VOLUME CHIP ATTENUATORS



The AT Series of chip attenuators offers a proven robust thick film construction in a cost effective, high volume, easy to implement surface mount solution, suitable for a wide array of applications.

The new AT Series is available in various styles from DC-6GHz for lower frequency requirements up to DC-20GHz for the broadband requirements of higher frequency commercial applications.

The product is designed as a single package and comes already fine-tuned to meet performance specifications, eliminating any need for fine-tuning or reworking by the customer. The single component device replaces an array of resistors, saving the customer valuable board space in today's smaller package requirements.

The use of robust, proven all thick film process technology on an alumina substrate provides a product suitable for harsh environments available in tape and reel for easy installation. All products of the AT Series are RoHS compliant.

The AT Series of Chip Attenuators offers excellent electrical performance and ease of installation in a SWAP-C optimised single-chip design.

## Features and Benefits

- Multiple footprints available
- Various power ratings
- Surface mount
- Low cost of ownership
- Easy installation
- Wide attenuation offering
- RoHS compliant

## Applications

- Mobile Networks
- Broadcast
- High Power Amplifiers
- Isolators/Circulators
- 5G All Frequency Applications
- Instrumentation

# Technical Characteristics

AT Series Options	AT3XXF	AT5XXF	AT7XXF	AT9XXF
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## Electrical

Nominal Impedance	50 ohms			
Frequency Range	DC - 6.4 GHz	DC - 12.4 GHz	DC - 6 GHz	DC - 20 GHz
Attenuation Values	0-6 & 10 dB in 1 dB increments			
Attenuation Accuracy	±0.75			
Input Power CW	2 Watts	1 Watt	0.1 Watt	0.5 Watt
Peak Power	10X CW power based on 1 µs pulse width @ 1% Duty Cycle			
VSWR (Max)	1.40:1	1.35:1	1.35:1	1.40:1

## Environmental

Operating Temperature	-55°C to +150°C
Storage Temperature	-65°C to +150°C
Temperature Coefficient	+/-200 PPM / °C Max
Moisture Sensitivity Level	MSL 1 - Unlimited

## Mechanical

Substrate Material	Alumina (Al <sub>2</sub> O <sub>3</sub> ) 96%
Resistive Film	Thick Film
Terminal Material	Thick Film
Protective Coating	Silicon Nitride
Finish	RoHS Compliant

## Marking

Unit Marking	dB Value	dB Value	dB Value	N/A
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## Quality Assurance

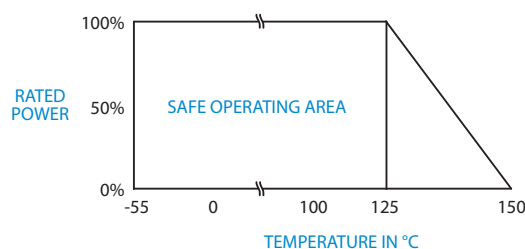
Sample Inspection	Sample visual and mechanical inspection - 1.0 AQL per mechanical drawing requirements. Periodic electrical inspection performed for commercial grade products.
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## Packaging

Standard Packaging	Tape and Reel
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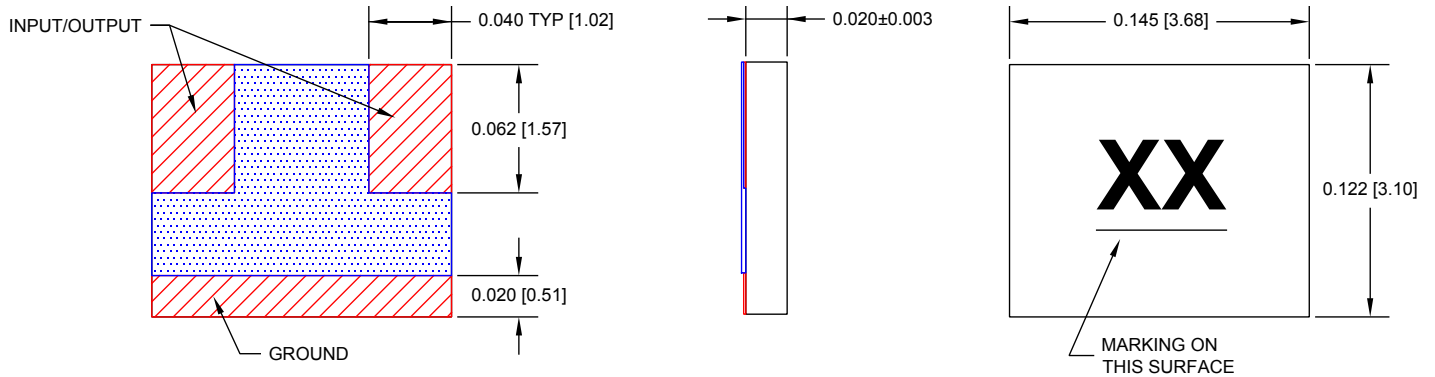
# Power Derating Curve

AT3XXF - AT5XXF - AT7XXF - AT9XXF

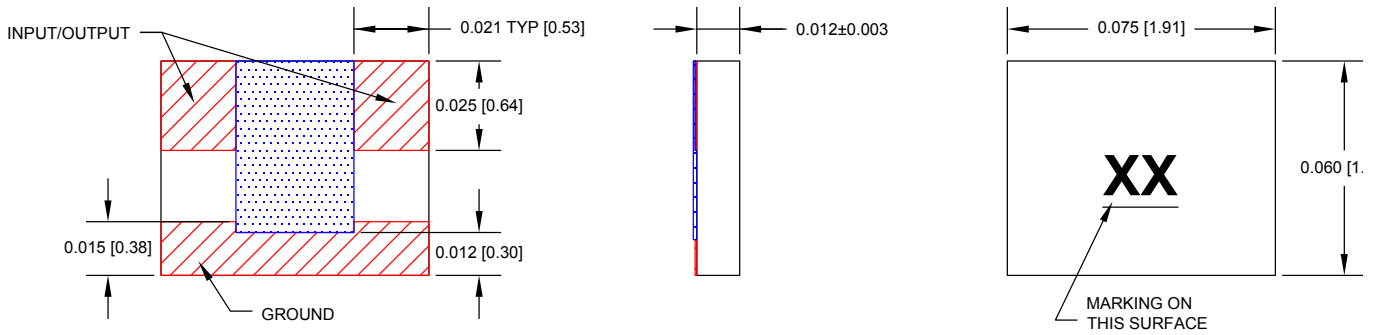


# Mechanical

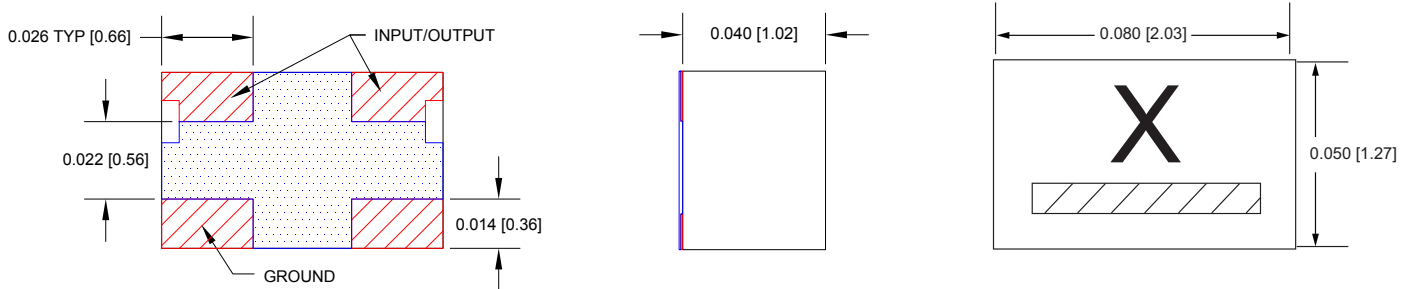
## AT3XXF



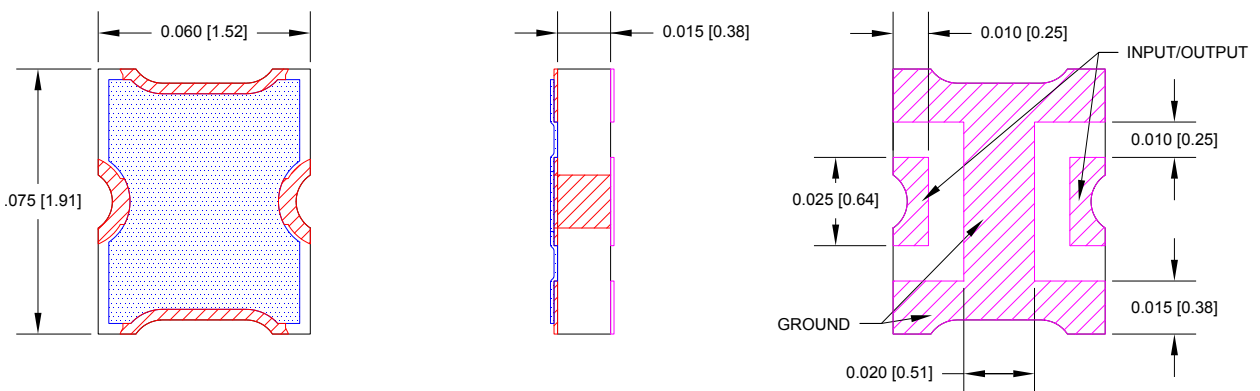
## AT5XXF



## AT7XXF



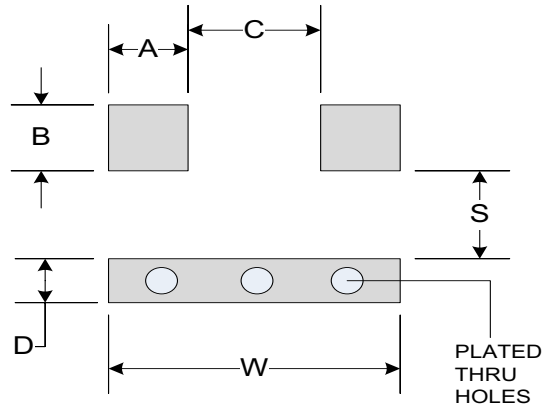
## AT9XXF



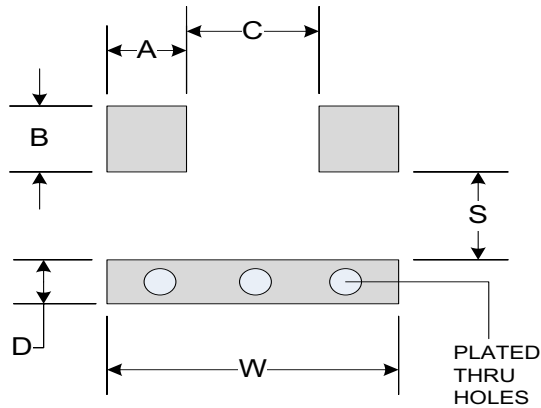
Unless otherwise specified, tolerance: X.XXX = ±0.005"  
 Dimensions in [mm] are given for reference only

# Suggested Mounting Footprint

AT3XXF		Inches					MM					
Part Number	A	B	C	D	S	W	A	B	C	D	S	W
AT3XXF	0.043	0.065	0.065	0.025	0.040	0.150	1.09	1.65	1.65	0.64	1.02	3.81

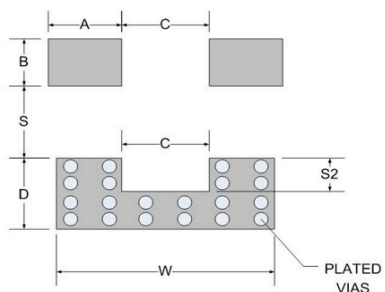


AT5XXF		Inches					MM					
Part Number	A	B	C	D	S	W	A	B	C	D	S	W
AT5XXF	0.025	0.027	0.03	0.015	0.019	0.08	0.64	0.69	0.76	0.38	0.48	2.032

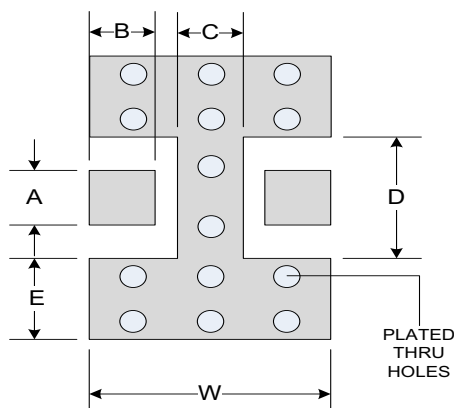


# Suggested Mounting Footprint

AT7XXF		Inches						MM						
Part Number	A	B	C	D	S	S2	W	A	B	C	D	S	S2	W
AT7XXF	0.028	0.018	0.028	0.028	0.024	0.013	0.083	0.71	0.46	0.71	0.71	0.61	0.33	2.11



AT9XXF		Inches					Millimeters					
Part Number	A	B	C	D	S	W	A	B	C	D	S	W
AT9XXF	0.025	0.015	0.016	0.049	0.018	0.070	0.64	0.38	0.41	1.24	0.46	1.78



# How To Order

Specify Model Number: **ATXXXF**

<div style="border: 1px solid gray; padding: 2px; display: inline-block;">A T</div> <b>1</b>	<div style="border: 1px solid gray; width: 15px; height: 15px; display: inline-block; background-color: #ccc;"></div> <b>2</b>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">  </div> <b>3</b>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">F</div> <b>4</b>
<b>1 Series Name</b>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">A T</div> Series		
<b>2 Series Type</b>	<div style="border: 1px solid gray; width: 15px; height: 15px; display: inline-block; background-color: #ccc;"></div> 3, 5, 7 or 9		
<b>3 Attenuation Value</b>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">  </div> (00-06, and 10) 0 dB-6 dB, and 10 dB		
<b>4 Terminal Finish</b>	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">F</div> RoHS		

# Worldwide Support

## Connectors

### Americas

#### Sales

connectors.uscsr@smithsinterconnect.com

#### Technical Support

connectors.ustechsupport@smithsinterconnect.com

### Europe

#### Sales

connectors.emeacsr@smithsinterconnect.com

#### Technical Support

connectors.emeatechsupport@smithsinterconnect.com

### Asia

#### Sales

asiacsr@smithsinterconnect.com

#### Technical Support

asiatechsupport@smithsinterconnect.com

## Fibre Optics & RF Components

### Americas

#### Sales

focom.uscsr@smithsinterconnect.com

#### Technical Support

focom.techsupport@smithsinterconnect.com

### Europe

#### Sales

focom.emeacsr@smithsinterconnect.com

#### Technical Support

focom.techsupport@smithsinterconnect.com

### Asia

#### Sales

focom.asiacsr@smithsinterconnect.com

#### Technical Support

focom.techsupport@smithsinterconnect.com

## Semiconductor Test

### Americas

#### Sales

semi.uscsr@smithsinterconnect.com

#### Technical Support

semi.techsupport@smithsinterconnect.com

### Europe

#### Sales

semi.emeacsr@smithsinterconnect.com

#### Technical Support

semi.techsupport@smithsinterconnect.com

### Asia

#### Sales

semi.asiacsr@smithsinterconnect.com

#### Technical Support

semi.techsupport@smithsinterconnect.com

## RF/MW Subsystems

### Americas, Europe & Asia

#### Sales

subsystems.csr@smithsinterconnect.com

#### Technical Support

subsystems.techsupport@smithsinterconnect.com

## Connecting Global Markets

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