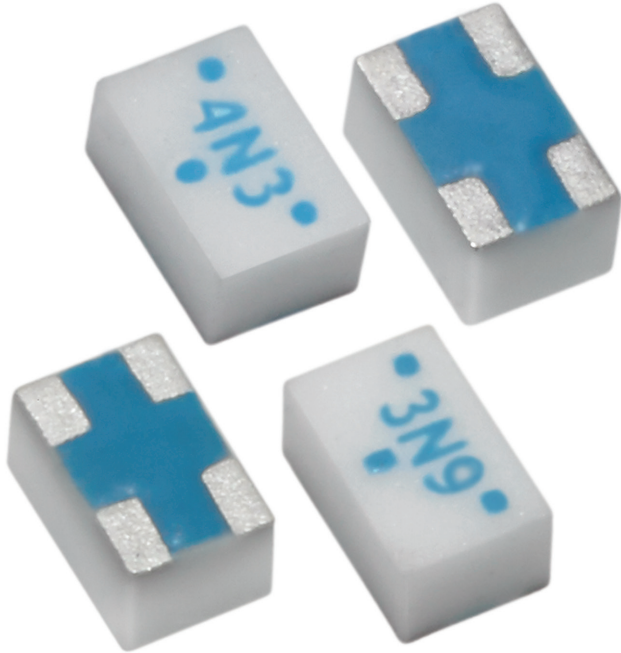


AN7 Thermopad® Series

ATTENUATOR TEMPERATURE VARIABLE CHIP 200 MILLIWATTS



Smiths Interconnect is the world leader in temperature variable chip attenuators offering the widest selection of products from DC through Ka band. Thermopad® products have been a highly reliable passive solution for gain compensation over temperature for more than 20 years. Backed by proven performance and significant heritage, Smiths Interconnect is the leader in high reliability components.

The AN7 platform offers proven performance in a cost effective commercial grade product for high volume applications. Offered in tape and reel for easy pick and place mounting. Rated for DC-6 GHz with excellent response, the AN7 series of products supports a wide range of applications. It is constructed on an Alumina substrate with rugged thick film terminations and thick film thermistor technology. The product also includes a protective coating for added protection from various environmental conditions. Multiple attenuation values, temperature shift options all in a surface mount applications. This product comes in a RoHS compliant finish.

AN7 Thermopad® Series offer a passive solution for gain compensation over temperature with proven high reliability.

Features and Benefits

- Small Footprint
- Multiple Mounting Configurations
- DC-6 GHz Frequency Range
- Low VSWR
- Wide Range of Attenuation Values
- Multiple Temperature Shift Options
- Tape and Reel Package
- RoHS Compliant

Applications

- Amplifier Circuits
- Transmit/Receive Modules
- Up/Down Converters
- Instrumentation
- Satellite Communications
- Radar
- Broadcast

Technical Characteristics

Mounting Configuration Options	Planar
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Electrical

Nominal Impedance	50 ohms
Frequency Range	DC-6 GHz
Attenuation Values Available	0-9 in 1 dB Increments
Attenuation Accuracy	± 0.5 dB @ 1 GHz @ 25°C
Temperature Coefficient of Attenuation (TCA)	-0.003 through -0.009 dB/dB/°C in 0.001dB/dB/°C increments and -0.009
Temperature Coefficient Tolerance	± 0.001 dB/dB/°C
Input Power CW	200 Milliwatts Max up to 125°C (See derating curve)
VSWR	1.30:1 Max @ 1 GHz

Environmental

Operating Temperature	-55°C to +150°C
Storage Temperature	-65°C to +150°C
Moisture Sensitivity Level	MSL 1 - Unlimited

Mechanical

Substrate Material	Alumina (Al ₂ O ₃) 96%
Resistive Film	Thick Film, Thermistor
Terminal Material	Thick Film
Protective Coating	Polymer
Finish Options	-F Silver Plated (RoHS Compliant)

Marking

Unit Marking	dB Value (X), Direction of shift (N), & TCA value (X)
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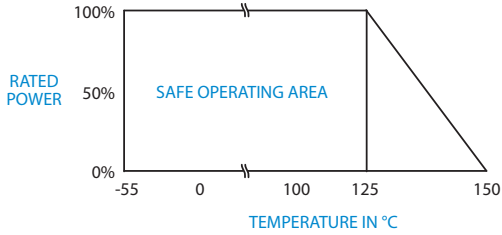
Quality Assurance

	<p>Sample visual and mechanical Inspection - 1.0 AQL per mechanical drawing requirements.</p> <p>TCA Calculation Method - Measure Attenuation @ DC every 20°C over the temperature range of -55°C to +125°C. Calculate the slope of the curve using linear regression.</p> <p>Calculate TCA using the following formula: $TCA = \frac{Slope}{Attenuation @ 25^{\circ}C}$</p>
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Packaging

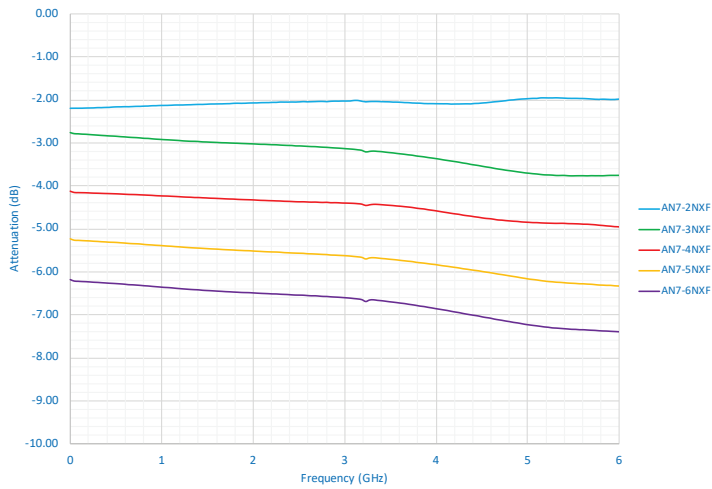
Standard Packaging	Tape and Reel
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Power Derating Curve

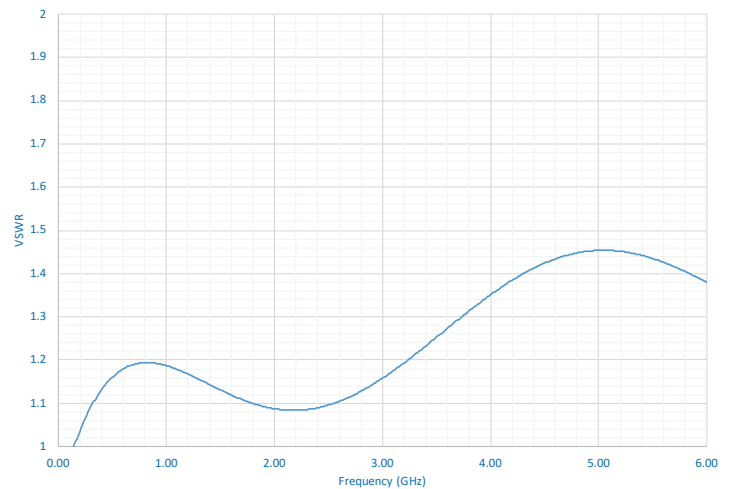


Typical Data

AN7-XNXF Series Attenuation

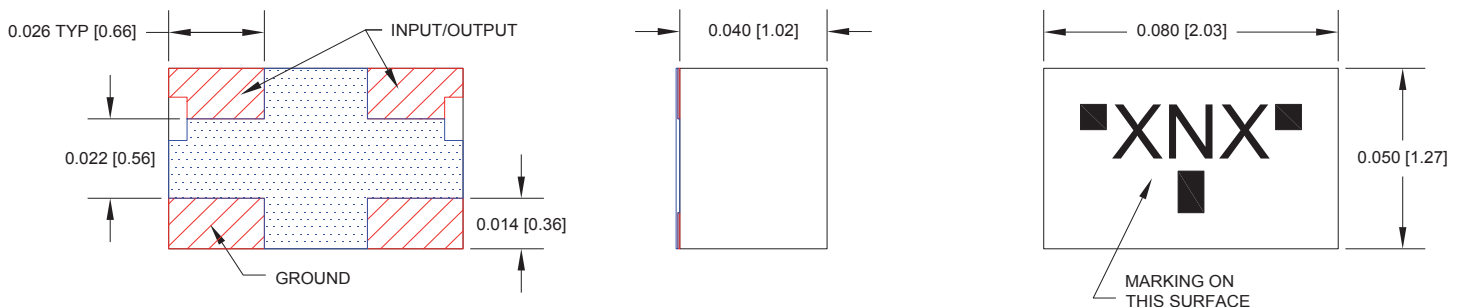


AN7-XNXF Series VSWR



Mechanical

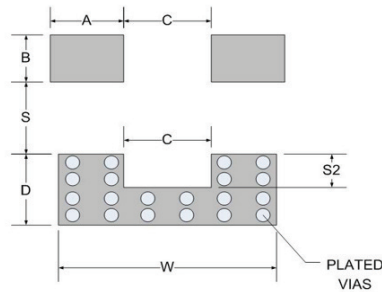
AN7 - Planar Option



Unless otherwise specified, tolerance: X.XXX = ±0.005"

Suggested Mounting Footprint

Part Number	Inches							MM						
	A	B	C	D	S	S2	W	A	B	C	D	S	S2	W
AN7-XNXF (Planar)	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



How To Order

Specify Model Number: **AN7-XNXF**

	A N 7		N		F
	1	2	3	4	5
1 Series Name	A N 7 Series				
2 Attenuation Value	1 1 dB through 9 9 dB				
3 TCA Slope	N Negative				
4 TCA Shift Option (dB/dB/°C)	3 3=0.003 4 4=0.004 5 5=0.005 6 06=0.006 7 07=0.007 9 9=0.009				
5 Terminal Finish	F 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

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