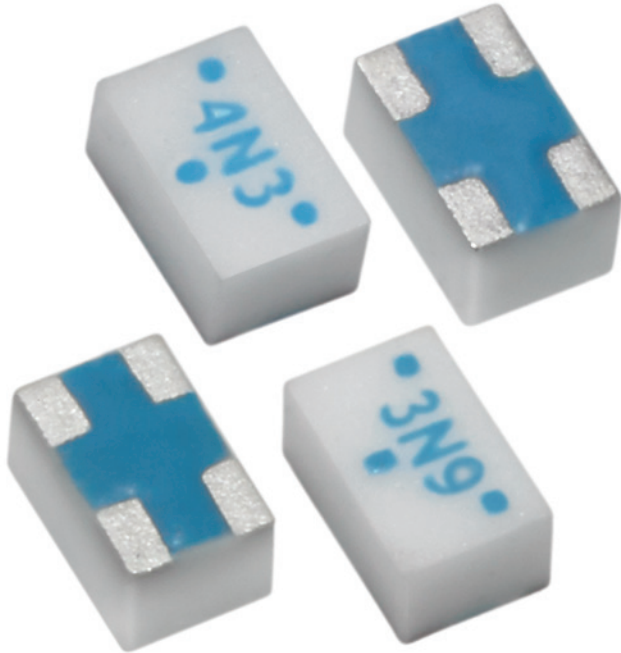


AN7 Thermopad® Series

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

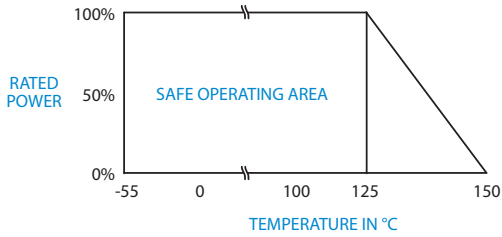
Applications

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

Technical Characteristics

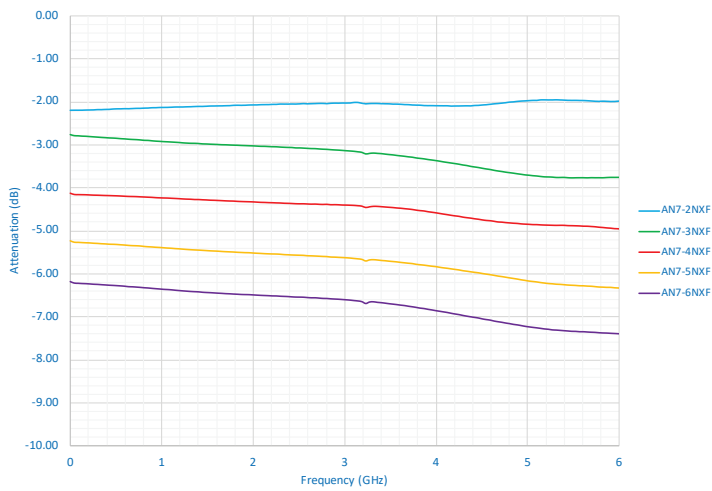
Mounting Configuration Options	Planar
Electrical	
Nominal Impedance	50 ohms
Frequency Range	DC-6 GHz
Attenuation Values Available	0-9 in 1 dB Increments
Attenuation Accuracy	± 0.5 dB @ 1 GHz @ 25°C
Temperature Coefficient of Attenuation (TCA)	-0.003 through -0.009 dB/dB/°C in 0.001dB/dB/°C increments and -0.009
Temperature Coefficient Tolerance	± 0.001 dB/dB/°C
Input Power CW	200 Milliwatts Max up to 125°C (See derating curve)
Peak Power	2 Watts based on 10 μs pulse width @ 1% Duty Cycle
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)
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>
Packaging	
Standard Packaging	Tape and Reel

Power Derating Curve

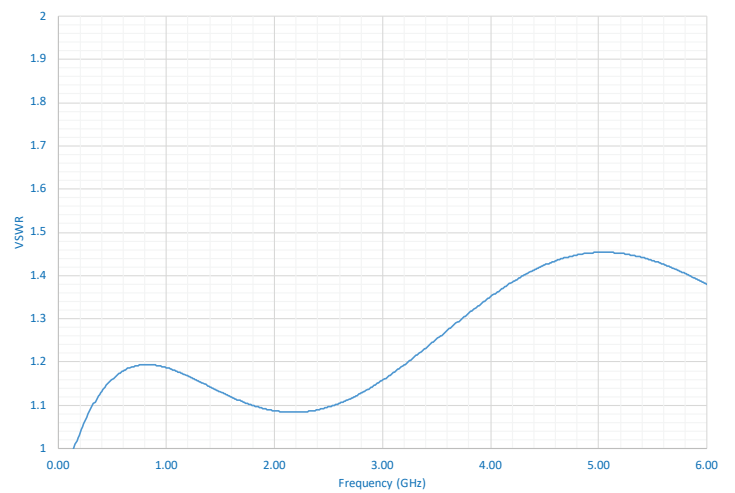


Typical Data

AN7-XNXF Series Attenuation

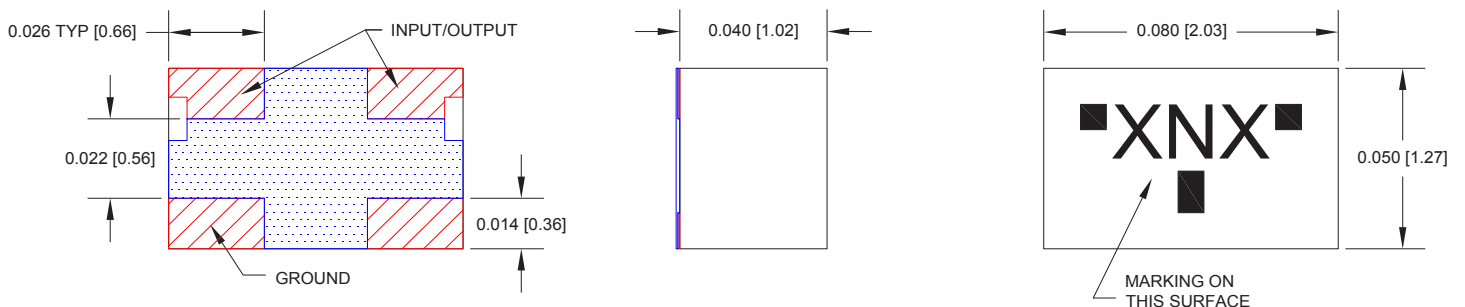


AN7-XNXF Series VSWR



Mechanical

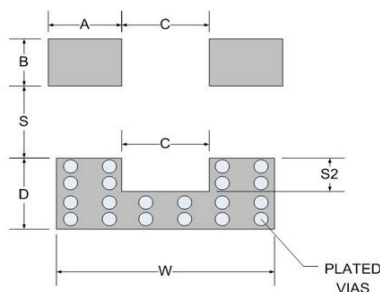
AN7 - Planar Option



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	6	7
1 Series Name	AN7 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						

Global Support

Americas

- Costa Mesa, CA
+1 714 371 1100
info.us@smithsinterconnect.com
- Milpitas, CA
+1 408 957 9607 x-1125
info.us@smithsinterconnect.com
- Stuart, FL
+1 772 286 9300
info.us@smithsinterconnect.com
- Kirkland, QC, Canada
+1 514 842 5179
info.us@smithsinterconnect.com
- Hudson, MA
+1 978 568 0451
info.us@smithsinterconnect.com
- Northampton, MA
+1 413 582 9620
info.northampton@smithsinterconnectinc.com
- Tampa, FL
+ 1 813 901 7200
info.tampa@smithsinterconnectinc.com
- Kansas City, KS
+1 913 342 5544
info.us@smithsinterconnect.com
- Salisbury, MD
+1 800 780 2169
info.us@smithsinterconnect.com
- Thousand Oaks, CA
+1 805 267 0100
info.thousandoaks@smithsinterconnectinc.com

Europe

- Deggendorf, Germany
+49 991 250 120
info.de@smithsinterconnect.com
- Genova, Italy
+39 0 10 60361
info.it@smithsinterconnect.com
- Dundee, UK
+44 1382 427 200
info.dundee@smithsinterconnect.com
- Rouen, France
+33 2 32 96 91 76
info.fr@smithsinterconnect.com
- Elstree, UK
+44 20 8236 2400
info.uk@smithsinterconnect.com

Asia

- Bangalore, India
+91 080 4241 0529
info.in@smithsinterconnect.com
- Singapore
+65 6846 1655
info.asia@smithsinterconnect.com
- Mianyang, China
+86 816 231 5566
HSICSR@hf-smiths.com
- Suzhou, China
+86 512 6273 1188
info.asia@smithsinterconnect.com
- Shanghai, China
+86 21 2283 8008
info.asia@smithsinterconnect.com

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