

# ATTENUATOR TEMPERATURE VARIABLE



DATA SHEET

PART SERIES: TVAXX00XXXF

SHEET 1 OF 3  
Dwg 1010505

EN 16-0736  
Revision C

## FEATURES

- Temperature Variable
- Compact Package
- Wideband Performance
- Passive Gain Compensation
- Rugged Construction
- MIL-PRF-3933

## APPLICATIONS

- Power Amplifiers
- Instrumentation
- Mobile Networks
- Point-to-Point Radios
- Satellite Communications
- Military Radios
- Up/Down Converters

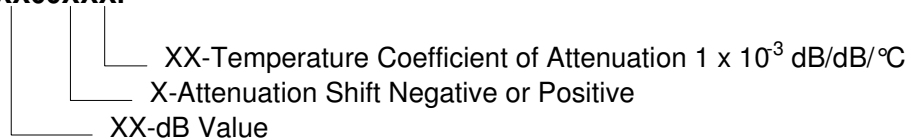


## GENERAL DESCRIPTION

EMC Technology is the leading authority in temperature variable attenuators. Thermopad<sup>®</sup> temperature variable attenuators have been a highly reliable passive solution for over temperature gain compensation for more than 20 years. All Thermopad<sup>®</sup> products can be qualified for high-reliability and space applications.

## ORDERING INFORMATION

Part Identifier: TVAXX00XXXF



## SPECIFICATIONS

### 1.0 ELECTRICAL

Nominal Impedance:	50 ohms
Frequency Range:	DC-6 GHz
Attenuation Values Available:	1-10 dB in 1 dB increments
Attenuation Accuracy:	@ 25°C: $\pm 0.5$ dB @ 1 GHz
VSWR:	1.30:1 Max @ 1 GHz
Input Power	Negative Shifting: 2 watts cw. Positive Shifting: 0.25 watts cw. Full Rated Power to 125°C, Derated Linearly to 0 watts @ 150°C.
Temperature Coefficient of Attenuation:	-0.003, -0.004, -0.005, -0.006, -0.007, and -0.009 dB/dB/°C 0.003, 0.005, 0.006, 0.007, and 0.008 dB/dB/°C
Temperature Coefficient Tolerance:	$\pm 0.001$ dB/dB/°C

### 2.0 ENVIRONMENTAL

Operating Temperature:	-55°C to +150°C
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### 3.0 MARKING

Unit Marking:	dB value (XX), direction of shift (N or P) and TCA shift (X).
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### 4.0 QUALITY ASSURANCE

Sample Inspect Per ANSI/ASQC Z1.4 General Inspection, Level II, AQL=1.0.  
Visual and Mechanical Examination for Conformance to Outline Drawing Requirements  
Sample Inspection (Destructive Testing).

Select three (3) units from lot and measure DCA every 20°C over the temperature range of

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-55°C to +125°C; Calculate using linear regression, the slope of the curve.  
Calculate TCA using the following formula:

$$TCA = \frac{\text{Slope}}{\text{Attenuation @ 25°C}}$$

Inspection in accordance with 824W107

Test Data Requirements:

No Data Required for Customer

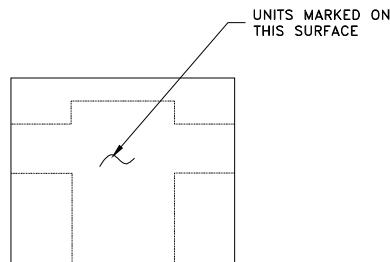
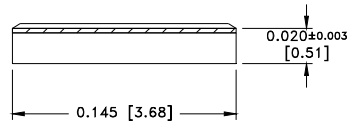
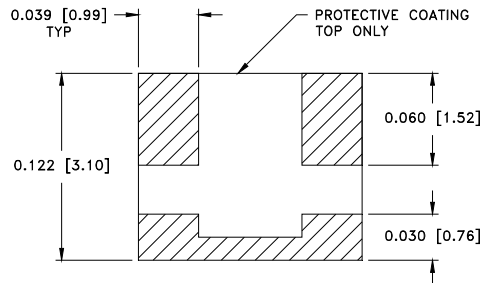
Data Retention – 24 Months

## 5.0 PACKAGING

Standard: Tape and Reel

## 6.0 MECHANICAL

Substrate Material: Alumina, MIL-I-10  
Terminal Material: Thick Film, Lead Free Plating  
Workmanship: Per MIL-PRF-55342  
Resistive Element: Thick Film  
Metric Dimensions: Provided for reference only



Unless Otherwise Specified: TOLERANCE: X.XXX = ± 0.005

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## 7.0 FOOTPRINT

Part Number	Inches						mm					
	A	B	C	D	S	W	A	B	C	D	S	W
TVAXX00XXXF	0.043	0.065	0.065	0.025	0.040	0.150	1.09	1.65	1.65	0.064	1.02	3.81

