ATTENUATOR
TEMPERATURE VARIABLE

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® temperature variable attenuators have been a highly reliable passive solution for over temperature gain compensation for more than 20 years. All Thermopad® products can be qualified for high-reliability and space applications.

ORDERING INFORMATION

Part Identifier: **TVAXX00XXXW3**

- XX-Temperature Coefficient of Attenuation 1 x 10^{-3} dB/dB/°C
- X-Attenuation Shift Negative or Positive
- XX-dB Value

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:	@ 25ºC: ± 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:	-0.002, -0.003, -0.004, -0.005, -0.006, -0.007, -0.008, and -0.009 dB/dB/ºC 0.002, 0.003, 0.005, 0.006, 0.007, 0.008, and 0.009 dB/dB/ºC
Temperature Coefficient Tolerance:	± 0.001 dB/dB/ºC

2.0 ENVIRONMENTAL

Operating Temperature:	-55˚C to +150˚C

3.0 MARKING

Unit Marking:	dB value (X), direction of shift (N or P) and TCA shift (X).

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 20ºC over the temperature range of -55°C to +125°C; Calculate using linear regression, the slope of the curve.

Calculate TCA using the following formula:

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

Inspection in accordance with 824W107

Test Data Requirements:

No Data Required for Customer

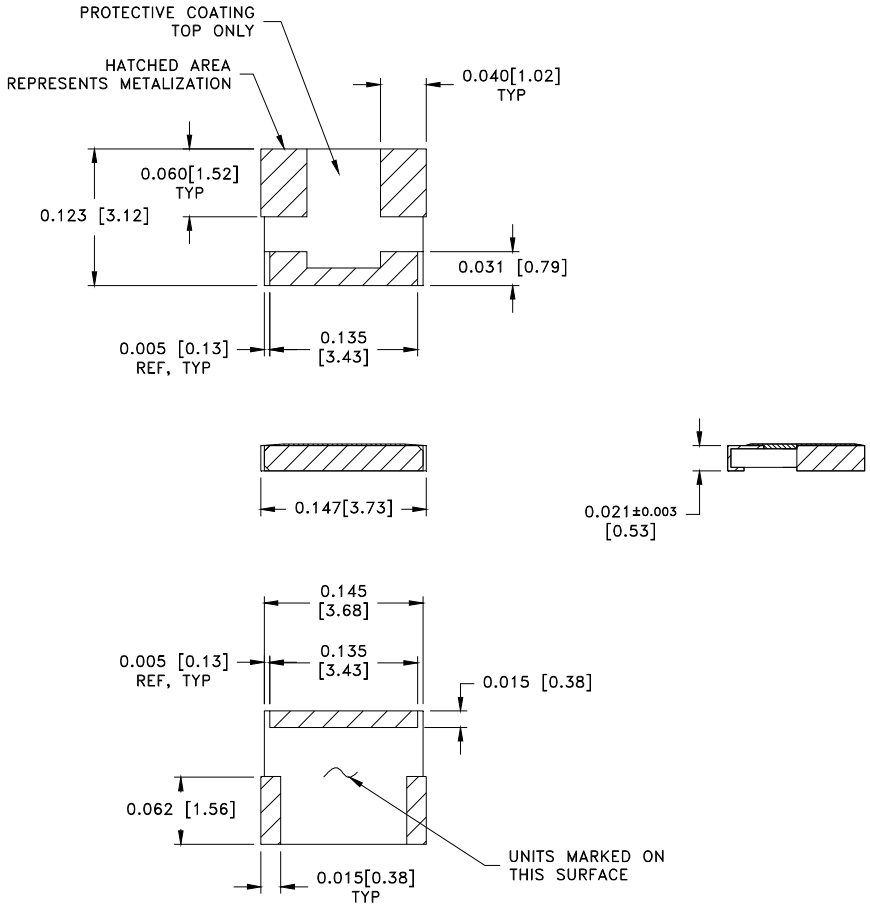
Data Retention – 24 Months

5.0 PACKAGING

Standard: Tape and Reel

6.0 MECHANICAL

Substrate Material:	Alumina, 96% MIL-I-10
Terminal Material:	Thick Film, Nickel Barrier, Solder Plated
Workmanship	Per MIL-PRF-55342
Resistive Element:	Thick Film
Metric Dimensions:	Provided for reference only



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

7.0 FOOTPRINT

	Inches						mm					
Part Number	A	B	C	D	S	W	A	B	C	D	S	W
TVAXX00XXXW3	0.043	0.064	0.067	0.023	0.041	0.150	1.09	1.63	1.70	0.58	1.04	3.81