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: TVAXX00XXXW1

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 - 6GHz
Attenuation Values Available:	1-10dB in 1dB increments
Attenuation Accuracy:	@ 25ºC: ± 0.5 dB @ 1GHz
VSWR:	1.30:1 MAX. @ 1GHz
Input Power	Negative Shifting: 2 watts cw. Positive Shifting: 0.25 watts cw. Full Rated Power to 125°C, Derated Linear to 0 watts @ 150°C.
Temperature Coefficient of Attenuation:	-0.003, -0.004, -0.005, -0.006, -0.007, and -0.009 dB/dB/ºC +0.003, +0.005, +0.006, and+0.007dB/dB/ºC
Temperature Coefficient Tolerance:	± 0.001 dB/dB/ºC

2.0 ENVIRONMENTAL

Operating Temperature:	-55˚C to +150˚C
Non-operating Temperature:	-65˚C to +150˚C

3.0 MARKING

Unit Marking:	None

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

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DATA SHEET   **PART SERIES: TVAXX00XXXW1**

SHEET 2 OF 2
Dwg 1003995

EN 16-0736
Revision N

-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 & Reel

6.0 MECHANICAL

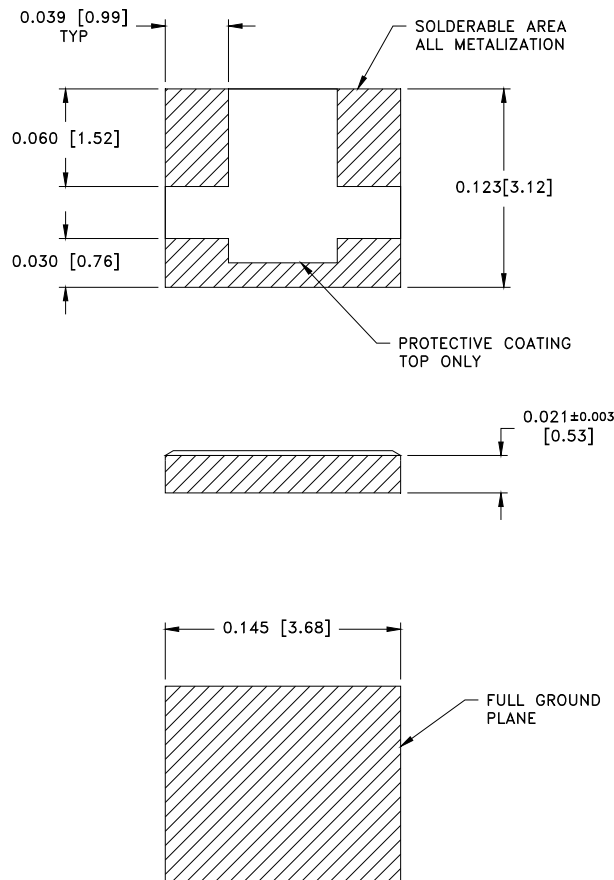|	
Substrate Material:	Alumina, MIL-I-10
Terminal Material:	Thick Film, Nickel Barrier, Solder Plated
Workmanship	Per MIL-PRF-55342
Ground Plane:	Thick Film, Nickel Barrier, Solder Plated
Resistive Element:	Thick Film
Metric Dimensions:	Provided for reference only


```
0.039 [0.99]
TYP                              SOLDERABLE AREA
                                 ALL METALIZATION

0.060 [1.52]
                                 0.123[3.12]

0.030 [0.76]
                                 PROTECTIVE COATING
                                 TOP ONLY
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                                 0.021±0.003
                                 [0.53]
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```
0.145 [3.68]
                                 FULL GROUND
                                 PLANE
```

Unless Otherwise Specified: TOLERANCE   X.XXX = ± 0.005