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: **CTVA0X00N0X**

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

SPECIFICATIONS

1.0 ELECTRICAL

Nominal Impedance:	75 ohms
Frequency Range:	DC – 2 GHz
Attenuation Values Available:	1-10 dB in 1 dB increments
Attenuation Accuracy:	@ 25ºC: ± 0.5 dB @ 1GHz
VSWR:	1.10:1 @ DC – 500 MHz, 1.15:1 @ 500 - 1000 MHz, 1.25:1 @ 1000 – 2000 MHz
Input Power	2 Watts Full Rated Power To 125°C Linearly To 0 Watts @ 150°C
Temperature Coefficient of Attenuation:	-0.003, -0.004, -0.005, -0.006, -0.007, -0.009, and -0.011 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), [Adding “R” Denotes Decimal Point, if applicable, e.g. 1R5=1.5 dB], Direction Of Shift (N) 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

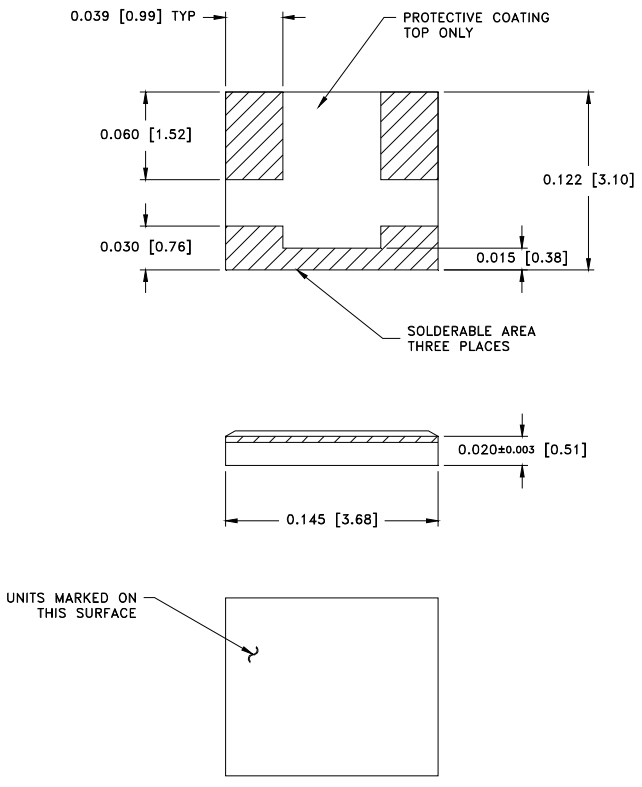
Data Retention – 24 Months

5.0 PACKAGING

Standard:	Tape and Reel

6.0 MECHANICAL

Substrate Material:	Alumina 96%, MIL-I-10
Terminal Material:	Thick Film, Nickel Barrier, Solder Plate
Workmanship	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
CTVA0X00N0X	0.043	0.065	0.065	0.025	0.040	0.150	1.09	1.65	1.65	0.64	1.02	3.81