SURFACE MOUNT
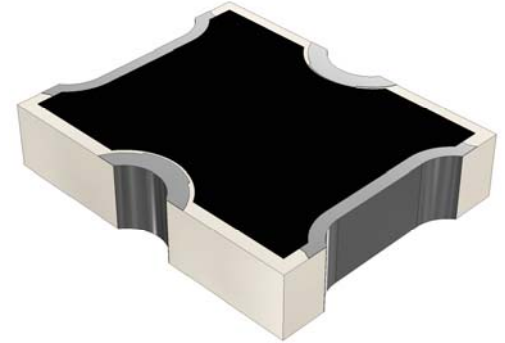# TEMPERATURE VARIABLE ATTENUATOR

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:

WTVAXX00NXXSMTF

Attenuation (dB)

Negative TCA

Temperature Coefficient of Attenuation (10^{-3} dB/dB/°C)
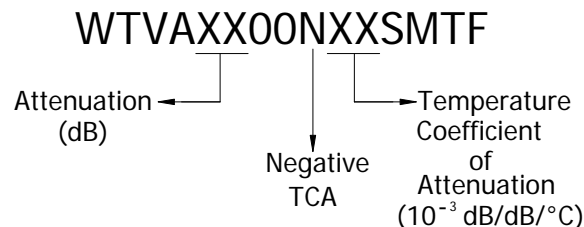
SPECIFICATIONS

1.0 ELECTRICAL

Nominal Impedance:	50 ohms
Frequency Range:	DC – 20 GHz
Power Rating:	200 MilliWatts CW
Attenuation Values Available:	2 – 10 dB
Attenuation Accuracy @ 25°C:	± 0.5 dB @ DC – 15 GHz
	± 1.0 dB @ 15 – 20 GHz
VSWR @ 25°C:	1.40:1 Typical @ DC – 20 GHz
	1.70:1 Max @ DC – 20 GHz
Peak Power:	2 W (10 µs pulse width, 1 % duty cycle)

2.0 ENVIRONMENTAL

Operating Temperature:	-55°C to +150°C
Non-operating Temperature:	-65°C to +150°C
Temperature Coefficient:	± 0.001 dB/dB/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.
1. Visual and Mechanical Examination for Conformance to Outline Drawing Requirements Sample Inspection (Destructive Testing).
2. Select three (3) units from lot and measure DCA every 20°C over the temperature range of

SURFACE MOUNT
TEMPERATURE VARIABLE ATTENUATOR

RoHS

EMC Technology

DATA SHEET   **PART SERIES: WTVAXX00NXXSMTF**   SHEET 2 OF 2   EN 16-1146
Dwg 1013065   Revision B

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

3. Calculate TCA using the following formula:

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

4. Inspection in accordance with 824W170 and 824F036, for commercial grade product.
5. 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

Terminal Material: Thick Film, Lead Free Plating

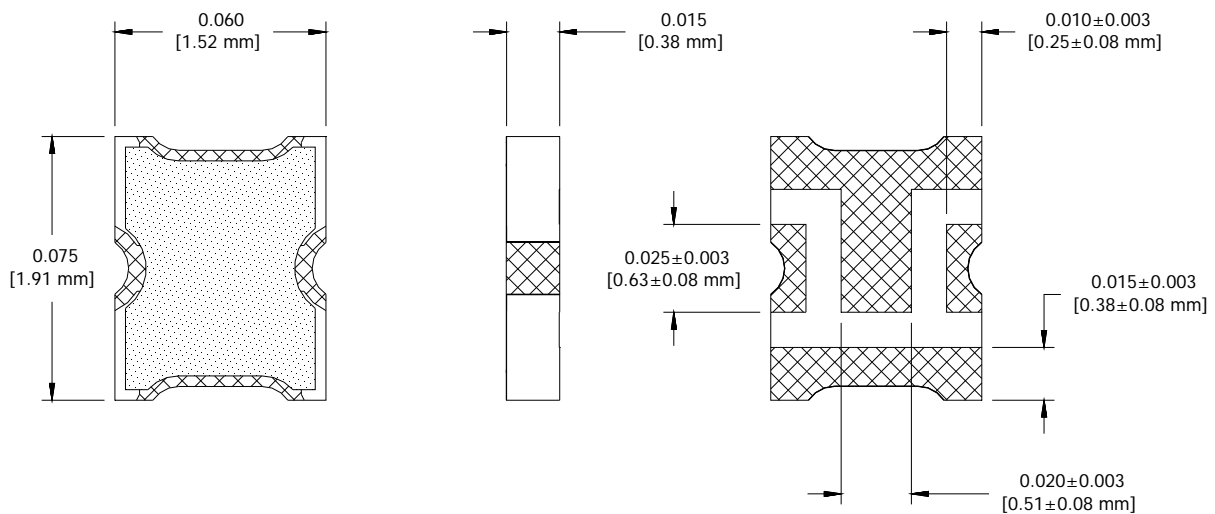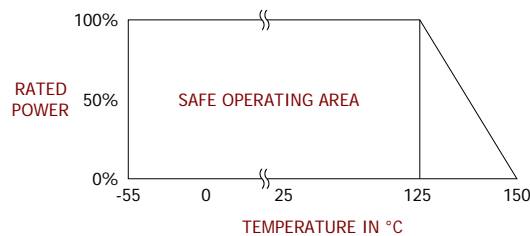Ground Plane: Thick Film

Resistive Element: Thick Film

Metric Dimensions: Provided for reference only

Unless Otherwise Specified: TOLERANCE: X.XX = ± 0.01   X.XXX = ± 0.005