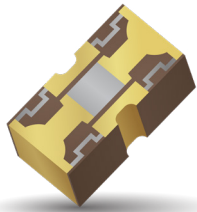


AT Series 0603

Attenuator



GENERAL DESCRIPTION

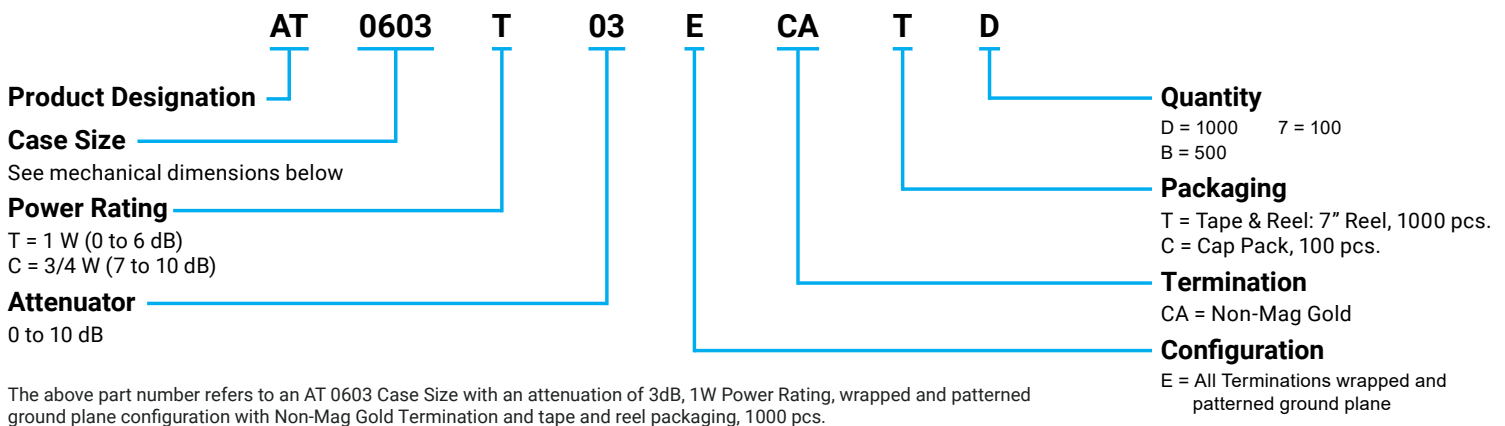
AVX's new PMC SMT Attenuator Series (AT) is manufactured with the highest quality materials for reliable and repeatable performance. These devices are constructed with Aluminum Nitride (AlN) and are available in a standard EIA 0603 case size. The AT Series exhibits excellent performance characteristics for the most demanding PMC applications.

The AT series provides virtually flat loss over a broad frequency spectrum. Thin film metalization provides for very stable characteristics over temperature and time. Its balanced Pi design provides even current distribution and accurate attenuation characteristics from DC to 20 GHz. It is designed to meet a wide range of RF and microwave large and small signal level applications. The AT is ideal for impedance matching, input padding, signal level tuning, and many other critical PMC applications. The AT is rated highest power in class and is suitable for microstrip and CPW applications.

The non-magnetic termination is available providing a range of attachment options such as eutectic diebonding, conductive epoxies, and soldering. The AT is fully compatible with high speed automated pick-and-place processing.

Note: Consult Factory for other attenuation values, termination style and case sizes.

HOW TO ORDER



FEATURES

- Thin Film Design
- Power Rating Up to 1 Watt
- Frequency Response +/-0.5dB
- Characterized to 20 GHz
- CPW and Microstrip Applications
- EIA 0603 SMT
- Highest Power in Class
- AlN construction
- Balanced Pi design
- Non-Magnetic
- RoHs compliant

APPLICATIONS

- Telecommunications
- Satellite Communications
- Cellular Base Stations
- Microwave Radio
- ISM
- RF/Microwave Power
- Military/Aerospace
- Test and Measurement
- Impedance Matching
- Input Padding
- Signal Level Tuning
- Signal Conditioning

ELECTRICAL AND MECHANICAL SPECIFICATIONS

INPUT POWER CW:	1W: 0 to 6 dB 0.75W: 7 to 10 dB	FREQUENCY RESPONSE (dB):	D.C. to 10 GHz: ±0.50 dB >10GHz: ±dB
FREQUENCY RANGE:	DC to 20 GHz	RESISTORS:	Tantalum Nitride
VALUES AVAILABLE:	0 to 10 dB (1 dB increments)	TERMINAL:	Thin Film metalstack, Au
VSMR:	1.25:1 typical	SUBSTRATE MATERIALS:	AlN (1 to 10 dB) Al ₂ O ₃ (0 dB)
NOMINAL IMPEDANCE:	50 Ohms		

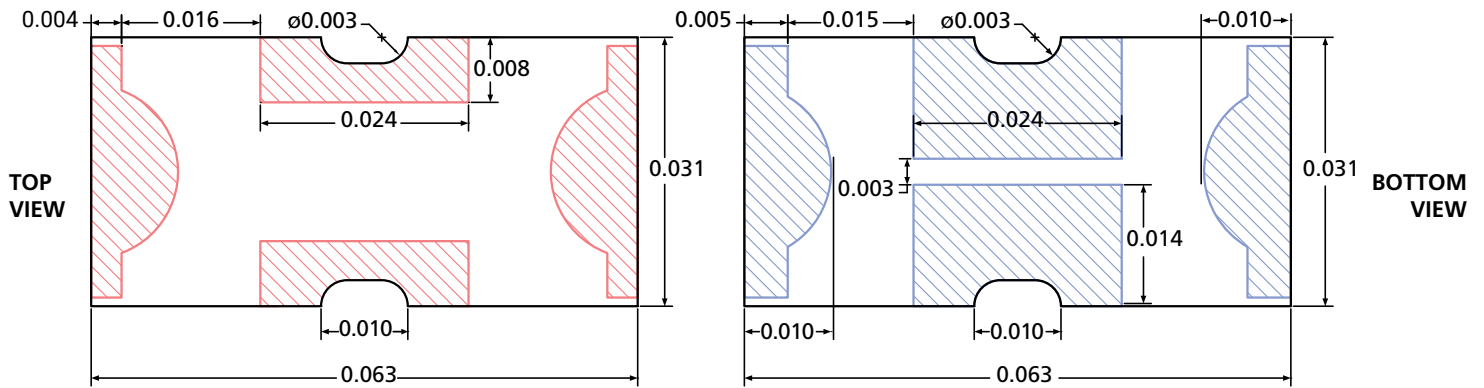
ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE:	-55°C to + 150°C 100% inspection Per MIL-STD-883
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AT Series 0603

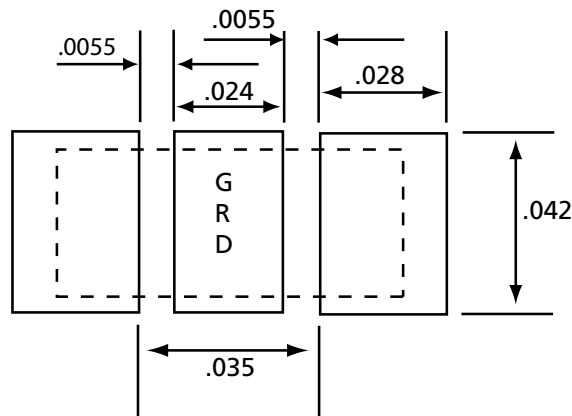
Attenuator

MECHANICAL CONFIGURATION



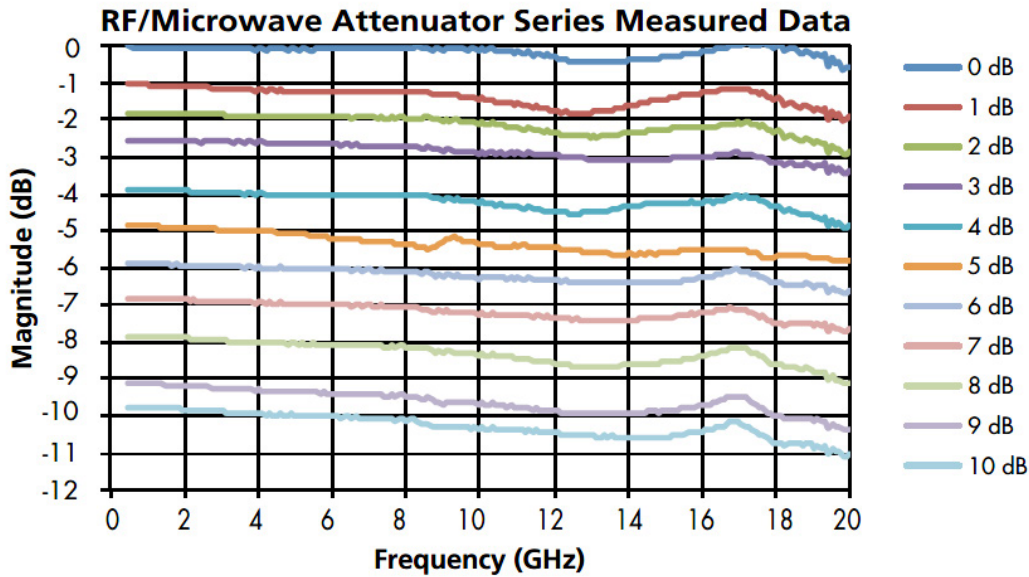
Dimensions are in inches

Part Thickness .020 ± .001 (all values)



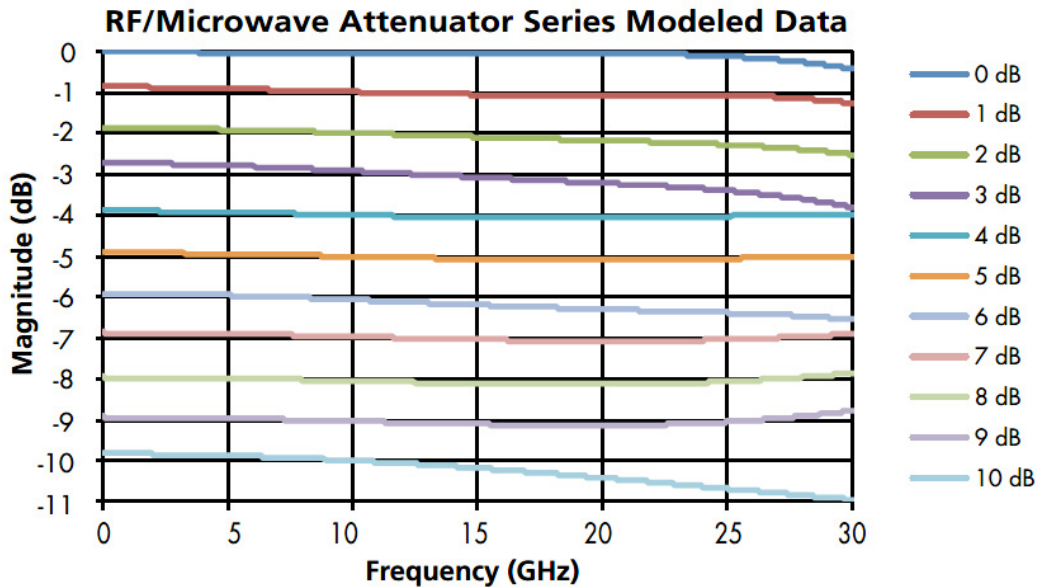
Dimensions are in inches

Note: The Ground pad is also used to remove heat from the component provisions must be made to connect to heat sink



RF/MICROWAVE ATTENUATOR TEST CONDUCTION DESCRIPTION

All testing performed on 13.3-mil-thick Rogers RO4350 microstrip board, with the UUT subtending a 44 mil gap in 30 mil-wide center trace (nominal 50-ohm characteristic impedance). Measurements were made using a four-receiver architecture. Measurements have been de-embedded to the edges of the UUT using a standard TRL calibration procedure.



RF/MICROWAVE ATTENUATOR MODELED DATA DESCRIPTION

Models were simulated using Ansoft HFSS version 14 in a perfect 50 ohm environment with ideal ports placed at the edge of the pads to ground. The boundary condition was set to be a radiating boundary in air.