Surface Mount Attenuator
10 Watts, 10dB

Features:

- **DC – 6.0GHz**
- **Power 10 W (AVG)**
- **Low VSWR**
- **RoHS Compliant**
- **100% Tested**
- **Non-Nichrome Resistive Element**
- **AIN Ceramic**
- **Low Cost**

Description:

The XRA10AA10SES is a high performance Aluminum Nitride (AlN) chip attenuator intended as a cost competitive alternative to variety of available attenuator technologies in the market today. It is designed for a wide variety of end markets including but not limited to: Telecom, LTE and 5G, COTS Mil-Aero and many ISM band applications. The high power handling makes the part ideal for inter-stage matching, directional couplers, and for use in isolators. The attenuator is also RoHS compliant!

General Specifications:

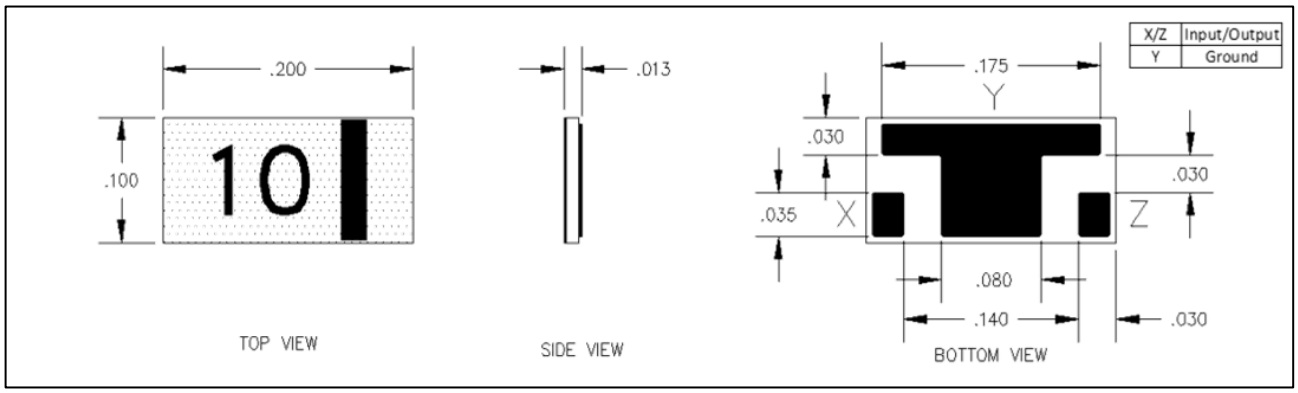
Resistive Element	Thick film
Substrate	AlN Ceramic
Terminal Finish	Matte Tin over Nickel Barrier
Operating Temperature	-55 to +150°C (see de-rating chart)

Electrical Specifications:

Attenuation Value:	10dB ± 0.5 dB
Power:	10 Watts (Avg Watts @ 100°C)
Frequency Range:	DC – 6.0GHz
Input Return Loss:	20dB

Specification based on unit properly installed using suggested mounting instructions and a 50 ohm nominal impedance. Specifications subject to change.

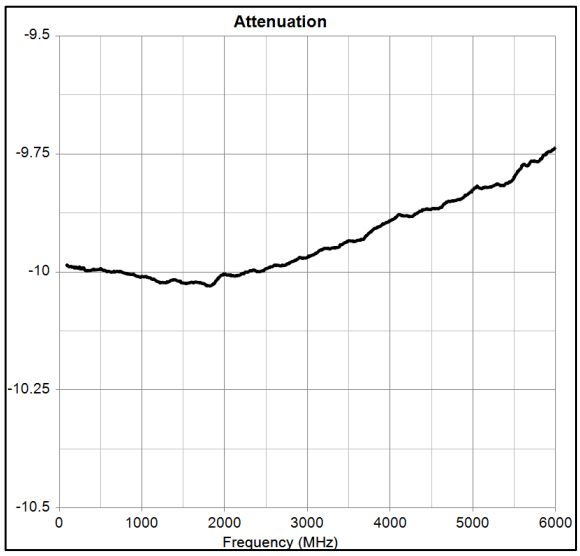
Mechanical Outline:



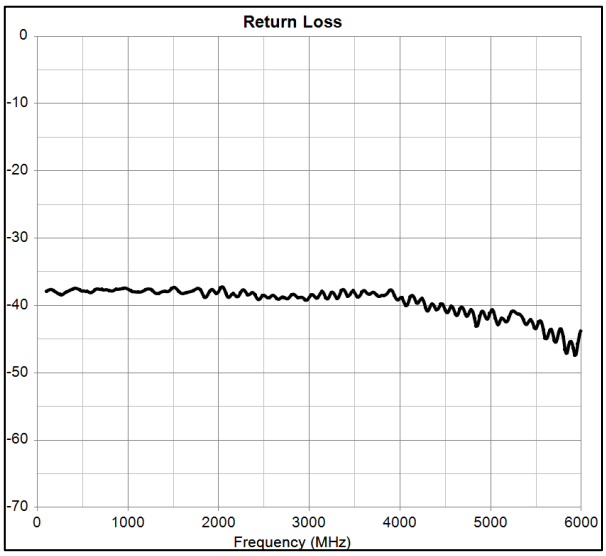
Tolerance is ±0.005”, unless otherwise specified. **All dimensions in inches.**

Typical Performance:

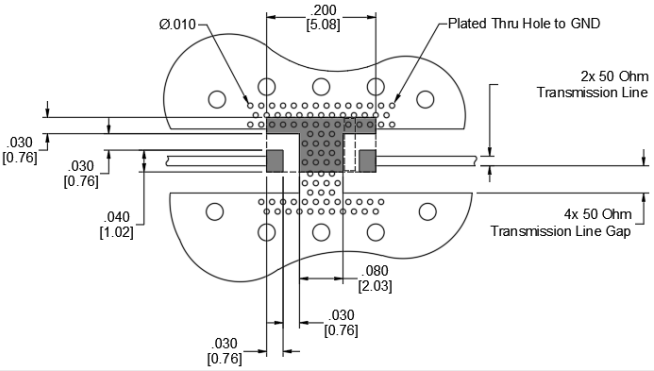
Attenuation:



Return Loss:

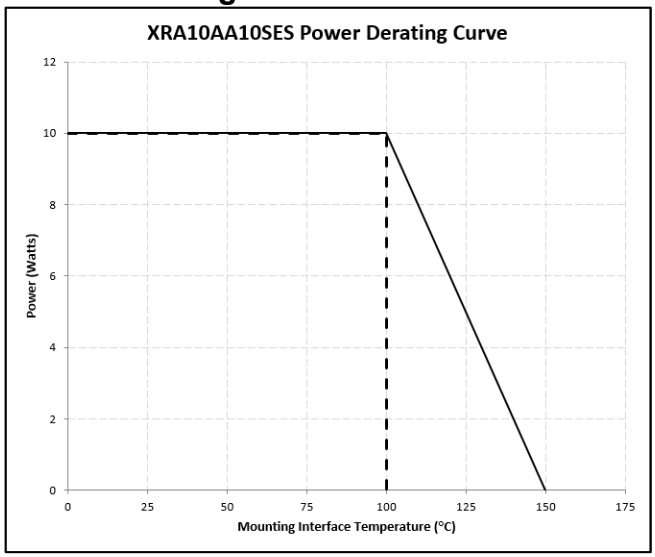


Mounting Footprint:



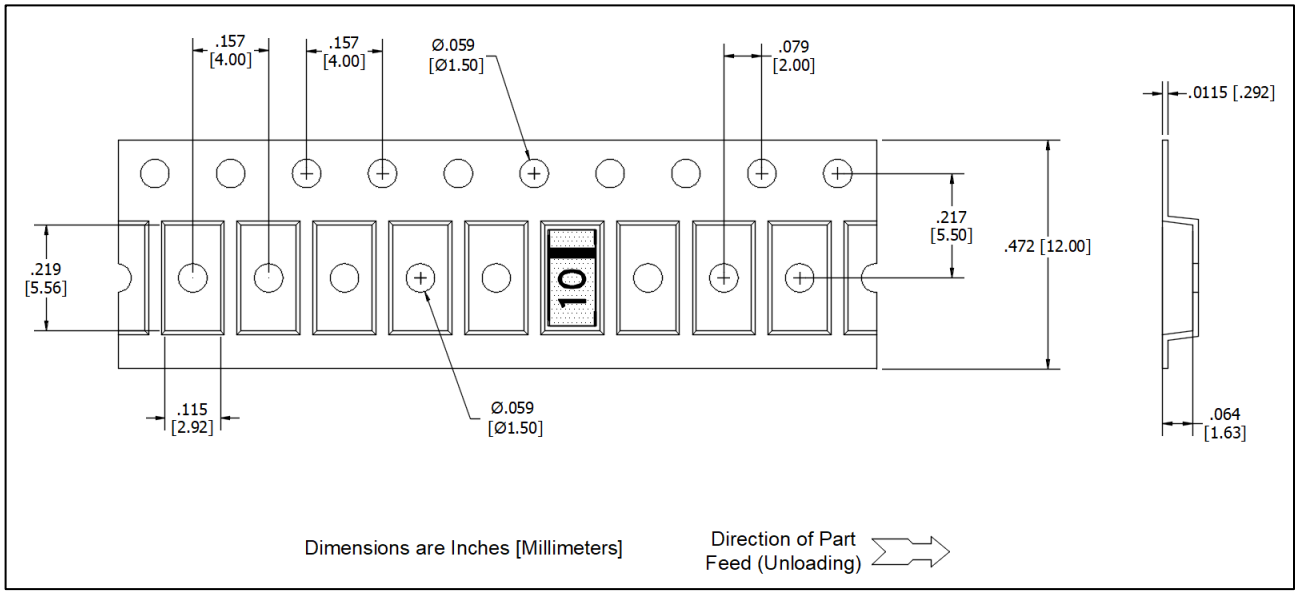
1. The component has been designed and qualified with this mounting footprint with a 0.020" test board with Dk value of approximately 3.5 comprised of commonly used board substrate materials such as RO4350 and Isola I-tera MT40. Deviations from the recommended mounting footprint may reduce RF and power handling performance. It is the customer's responsibility to qualify the component in the end application.
2. 2x 50 ohm transmission line is for reference only and can be oriented in any direction. Customer to determine transmission line and gap dimensions to achieve 50 ohm impedance for end application.
3. To ensure proper electrical and thermal performance there must be a ground plane with 100% solder connection underneath the part orientated as shown with part marking facing up.
3. PTH connecting pads to ground are representative.
4. Ground vias under part should be filled to prevent solder wicking.
5. Solder mask and solder stencil dimensions may vary due to different manufacturer capabilities and process variations. Layers may be modified to account for manufacturer capabilities.
6. Dimensions are in inches [millimeters].

Power Derating:



Packaging and Ordering Information:

Parts are available in reel and are packaged per EIA 481. Parts are oriented in tape and reel as shown below.



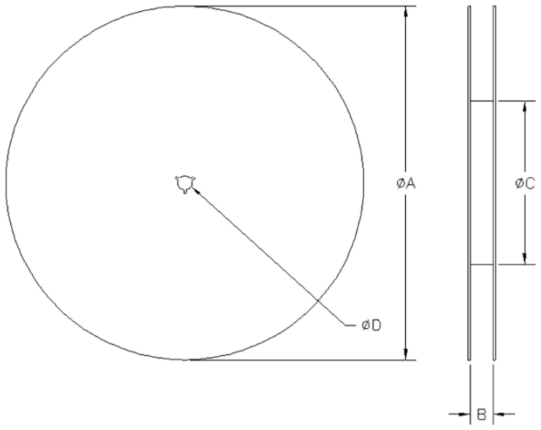


TABLE 1
REEL DIMENSIONS (inches [mm])

∅A	7.0 [177.80]
B	0.472 [12.0]
∅C	2.00 [50.80]
∅D	0.512 [13.0]