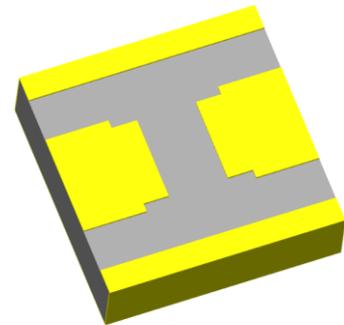


## General Description

CVD Diamond Chip Attenuators offer extremely high power ratings and smallest size watt-per-watt of any other attenuator configuration on the planet. These attenuators may be used in applications from DC to 26.5 GHz and are ideal for military and space applications because of their high power capability, broad frequency response and small, light-weight size. These attenuators are processed using all thin film construction and have pure thin film gold terminals that are only wire bondable. They are ideal for peak power applications.



## Features

- DC – 26.5 GHz
- CVD Diamond Substrate
- Small Size
- Highest Thermal Performance
- Excellent Peak Power Capability
- Self Passivated Tantalum Nitride Film
- Unaffected By Moisture
- Pure Gold Input/Output Pads
- Wire Bondable

## Applications

- Stabilize Amplifiers
- Improve VSWR Between Stages
- Balance Channels
- Protect Inputs From Overload
- Set Amplification Gain/Power
- Isolate Oscillators
- Isolate Couplers
- Sample Output Power
- Set PST Power Level
- Ideal For Space And Military

## Specifications

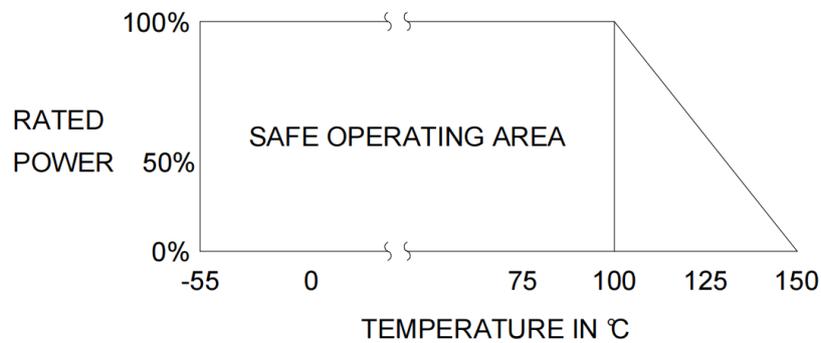
|                        |                              |
|------------------------|------------------------------|
| Nominal Impedance:     | 50 $\Omega$                  |
| Frequency Range:       | DC – 26.5 GHz                |
| Power Rating:          | 20 Watts                     |
| Operating Temperature: | -55 °C To +150 °C            |
| Attenuation Value:     | See Table Sheet 3            |
| Attenuation Accuracy:  | See Table Sheet 3            |
| VSWR:                  | See Table Sheet 3            |
| Part Identifier:       | AD0505 <sub>XX</sub> (XX=dB) |

**Yantel Corporation**

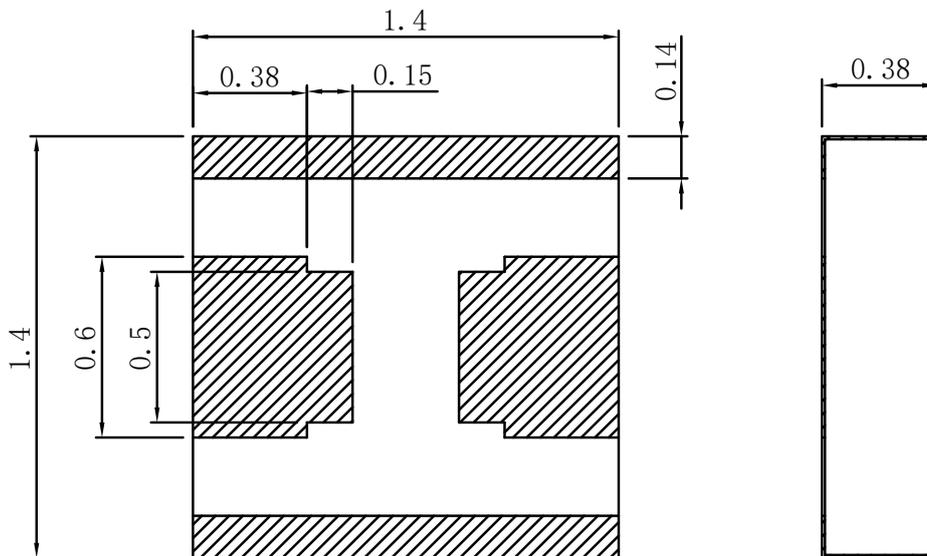
### Mechanical

|                    |                    |
|--------------------|--------------------|
| Substrate:         | CVD Diamond        |
| Resistive Element: | Tantalum Nitride   |
| Termination:       | Gold Plated Nickel |
| Construction:      | Thin Film          |

### Power Rating And Derating



### Mechanical Outline



Units = mm

| <b>Attenuation Accuracy (dB)</b> |                   |                    |                      |                      |
|----------------------------------|-------------------|--------------------|----------------------|----------------------|
| <b>dB VALUE</b>                  | <b>DC – 8 GHz</b> | <b>8 -12.4 GHz</b> | <b>12.4 – 18 GHz</b> | <b>18 – 26.5 GHz</b> |
| 5                                | ± 0.25            | ± 0.30             | ± 0.50               | ± 0.75               |

| <b>VSWR (MAX)</b> |                   |                    |                      |                      |
|-------------------|-------------------|--------------------|----------------------|----------------------|
| <b>dB VALUE</b>   | <b>DC – 8 GHz</b> | <b>8 -12.4 GHz</b> | <b>12.4 – 18 GHz</b> | <b>18 – 26.5 GHz</b> |
| 5                 | 1.25              | 1.3                | 1.4                  | 1.5                  |