ATTENUATOR

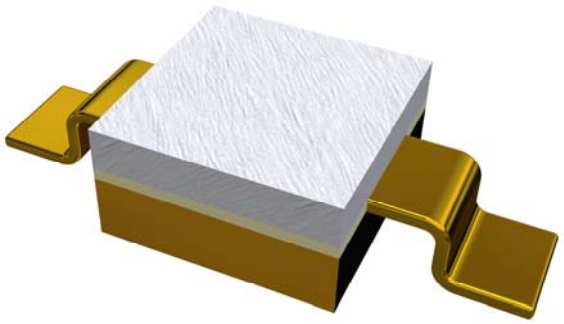
CVD DIAMOND CHIP 20 WATTS, BENT TAB

FEATURES

- CVD Diamond Substrate
- Small Size
- Highest Thermal Performance
- Excellent Peak Power Capability
- Self Passivated Thin Film Resistors
- Pure Gold Input/Output Pads
- Wire Bondable or Solderable
- Meets NASA Out-Gassing Requirements

APPLICATIONS

- Stabilize Amplifiers
- Improve VSWR Between Stages
- Protect Inputs from Overload
- Set Amplification Gain/Power
- Isolate Oscillators
- Isolate Couplers
- Sample Output Power
- Ideal for Space and Military



GENERAL DESCRIPTION

CVD Diamond Chip Attenuators offer extremely high power ratings and smallest size watt-per-watt of any attenuator configuration on the planet. These attenuators may be used in applications up to 30 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 both wire bondable and solderable. They are ideal for peak power applications. High reliability tested versions per MIL-PRF-55342 are also available. Select from tape and reel or waffle packaging. These products are S-level approved. They also meet NASA out-gassing requirements for space applications.

ORDERING INFORMATION

Part Identifier:

CA0505D XXTB

Attenuation Value

SPECIFICATIONS

1.0 ELECTRICAL

Nominal Impedance: 50 Ω

Frequency Range: DC - 18 GHz

Attenuation Values Available: 0-10, 15, 20, 30 dB

Attenuation Accuracy:

ATTENUATION ACCURACY (dB)			
dB VALUE	DC – 8 GHz	8 -12.4 GHz	12.4 – 18 GHz
0	+ 0.25	+ 0.30	+ 0.50
1 – 3	± 0.25	± 0.30	± 0.50
4 – 6	± 0.25	± 0.30	± 0.50
7 – 10	± 0.25	± 0.30	± 0.50
15, 20	± 0.50	± 0.50	± 0.75
30	± 0.50	± 0.50	± 1.00

Input Power CW: 20 Watts

Peak Power: 200 Watts (1 µs pulse width / 1% duty cycle)

VSWR:

VSWR (MAX)			
dB VALUE	DC – 8 GHz	8 -12.4 GHz	12.4 – 18 GHz
0-10, 15, 20, 30	1.25:1	1.30:1	1.50:1

2.0 ENVIRONMENTAL

Operating Temperature: -55˚C to +150˚C

Non-operating Temperature: -65˚C to +150˚C

3.0 MARKING

Unit Marking: None

4.0 QUALITY ASSURANCE

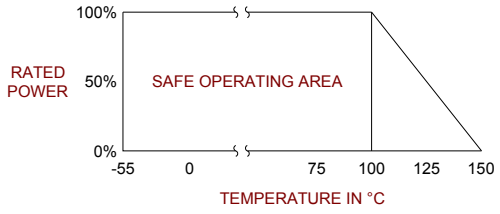
Sample Inspect Per MIL-STD-105, Level II, 1.0% AQL.
Visual and Mechanical Inspection for Conformance to Outline Drawing
Measure DC Attenuation
Data Retention - Standard

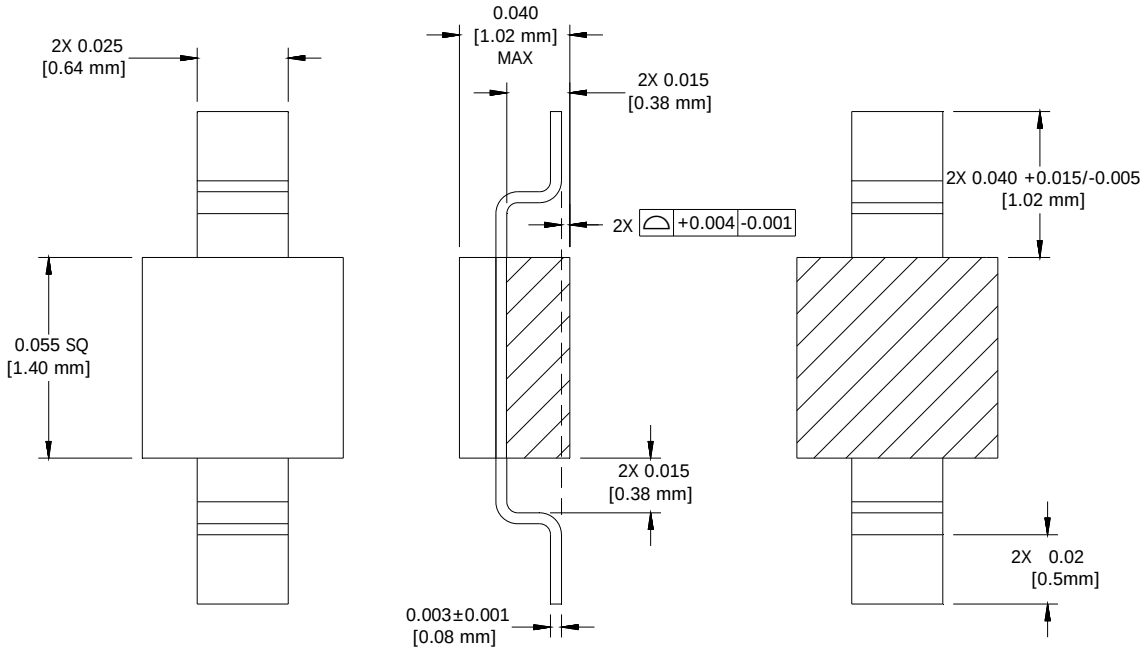
5.0 PACKAGING

Standard: Tape and Reel
Optional: Waffle Packaging

6.0 MECHANICAL

Substrate Material: CVD Diamond
Cover: Alumina, "Allow ± 0.010 on Top Plate for misalignment"
Resistive Film: Tantalum Nitride
Tabs: Beryllium Copper,
Nickel Underplate: 118 µ-inch Min / 236 µ-inch Max
Gold Plated: 2.0 µ-inch Min / 4.0 µ-inch Max
Construction Material: Thin Film
Metric Dimensions: Provided for reference only





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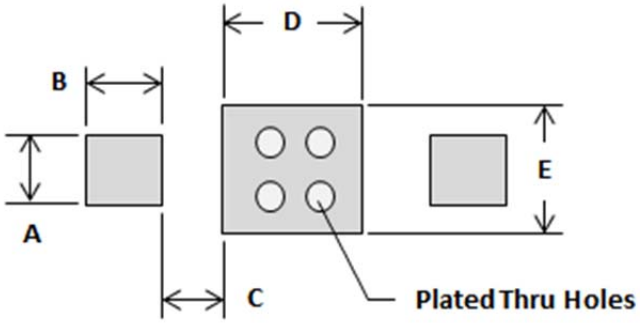

	Inches					mm				
Part Number	A	B	C	D	E	A	B	C	D	E
CA0505D XXTB	0.03	0.025	0.02	0.06	0.06	0.76	0.63	0.51	1.52	1.52
CR0505D XXX,5TB	0.03	0.025	0.02	0.06	0.06	0.76	0.63	0.51	1.52	1.52

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