

ATTENUATOR CVD DIAMOND CHIP 20 WATTS

DATA SHEET

PART SERIES: CA0505D XX

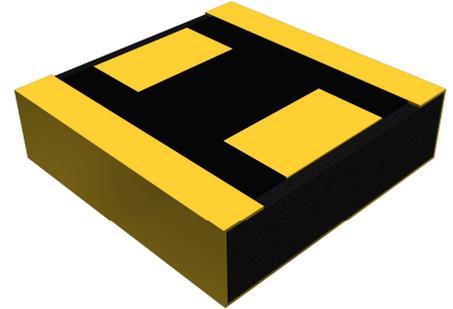
SHEET 1 OF 2
Dwg 1013085ECO-067605
Revision C

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 XX

└─ Attenuation Value

SPECIFICATIONS

1.0 ELECTRICAL

Nominal Impedance: 50 ohms
Frequency Range: DC – 26.5 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	18 – 26.5 GHz
0	+ 0.25	+ 0.30	+ 0.50	+ 0.70
1 – 6	± 0.25	± 0.30	± 0.50	± 0.75
7 - 10	± 0.25	± 0.30	± 0.50	± 1.00
15	± 0.30	± 0.30	± 0.50	± 1.00
20	± 0.50	± 0.50	± 0.75	± 1.00
30	± 0.50	± 0.50	± 1.00	± 1.50

Input Power CW: 20 Watts
Peak Power: 200 Watts (1 μ s pulse width/1% duty cycle)
VSWR:

VSWR (MAX)				
dB VALUE	DC – 8 GHz	8 -12.4 GHz	12.4 – 18 GHz	18 – 26.5 GHz
0-10, 15, 20	1.25:1	1.30:1	1.40:1	1.50:1
30	1.25:1	1.35:1	1.45:1	1.50:1

ATTENUATOR CVD DIAMOND CHIP 20 WATTS

DATA SHEET

PART SERIES: CA0505D XX

SHEET 2 OF 2
Dwg 1013085

ECO-067605
Revision C

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

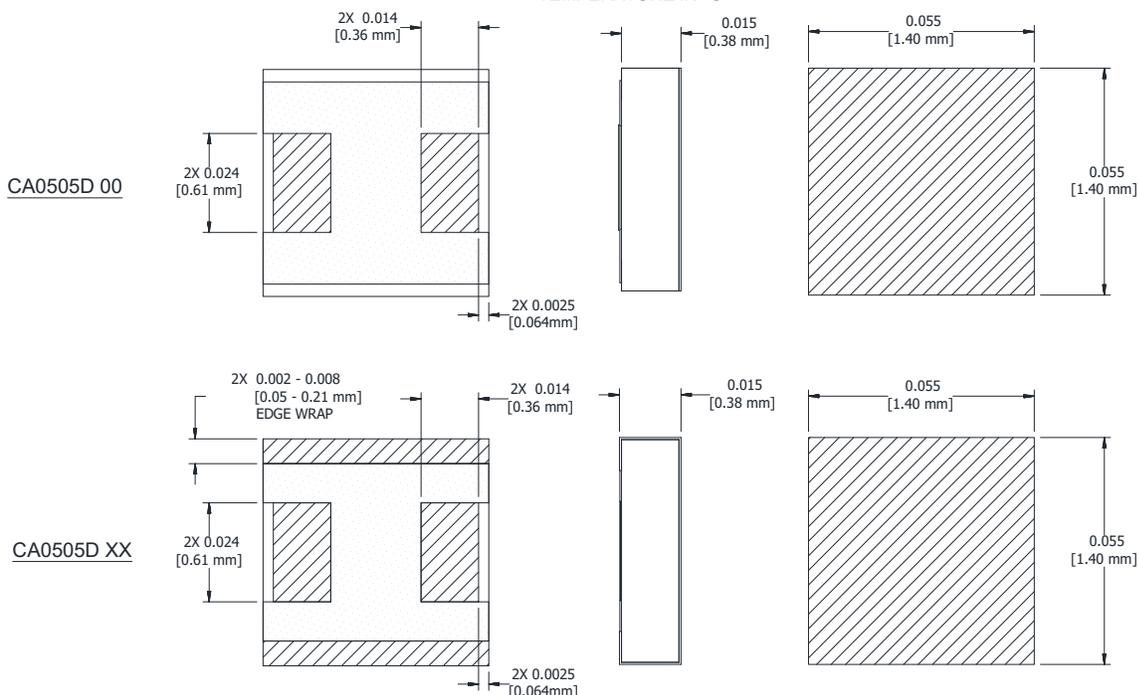
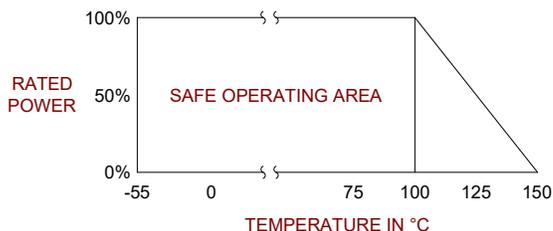
Sample Inspect Per MIL-STD-105, Level II, 1.0% AQL.
Visual and Mechanical Inspection for Conformance to Outline Drawing
Measure DC Attenuation Data Retention - Standard

5.0 PACKAGING

Standard: Waffle Packaging and Tape & Reel available.

6.0 MECHANICAL

Substrate Material: CVD Diamond
Resistive Film: Tantalum Nitride
Terminal Material: Gold over Nickel
Metric Dimensions: Provided for reference only



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

ATTENUATOR CVD DIAMOND CHIP 20 WATTS

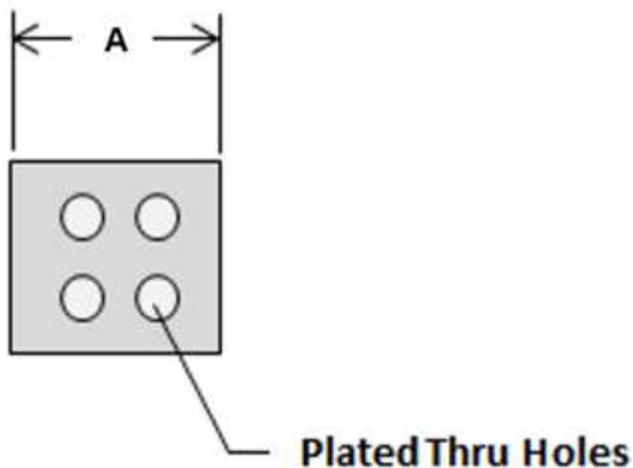
DATA SHEET

PART SERIES: CA0505D XX

SHEET 3 OF 2
Dwg 1013085

ECO-067605
Revision C

7.0 SUGGESTED MOUNTING



Part Number	Inches		mm	
	A	B	A	B
CA0505D XX	0.06	0.06	1.52	1.52