

# RESISTOR

## CVD DIAMOND CHIP 125 WATTS



DATA SHEET

PART SERIES: CR1010D

SHEET 1 OF 2  
Dwg 1010785

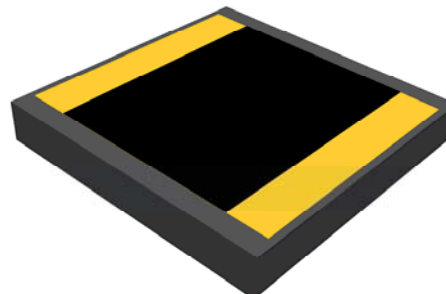
EN 13-3904  
Revision -

### FEATURES

- Small Size - Light Weight
- Highest Thermal Performance Possible
- Excellent Peak Power Capability
- Rugged Passivated TaN Film
- Moisture Resistant
- Pure Gold Input Pads
- Wire Bondable or Solderable
- High Power

### APPLICATIONS

- Broadcast
- Higher Power Filters
- High Power Amplifiers
- Instrumentation
- Isolators
- Military
- Satellite Communications
- Phased Array Radar



### GENERAL DESCRIPTION

CVD Diamond Chip Resistors offer extremely high power ratings and smallest size watt-per-watt of any resistor configuration on the planet. These resistors 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 resistors 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:

CR1010D X, 5  
└── Resistance

### SPECIFICATIONS

#### 1.0 ELECTRICAL

Resistance:	50 $\Omega$ & 100 $\Omega$ , $\pm$ 5%
Frequency Range:	DC – 12.4 GHz
Capacitance:	0.8 pF Typical
Input Power CW:	125 Watts
Peak Power:	1250 Watts (1 $\mu$ s pulse width/1% duty cycle)

#### 2.0 ENVIRONMENTAL

Operating Temperature:	-55 $^{\circ}$ C To +150 $^{\circ}$ C
Storage Temperature:	-55 $^{\circ}$ C To +150 $^{\circ}$ C
Temperature Coefficient:	$\pm$ 200 PPM/ $^{\circ}$ C Max

#### 3.0 MARKING

Unit Marking:	None
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#### 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 Resistance  
Data Retention - Standard

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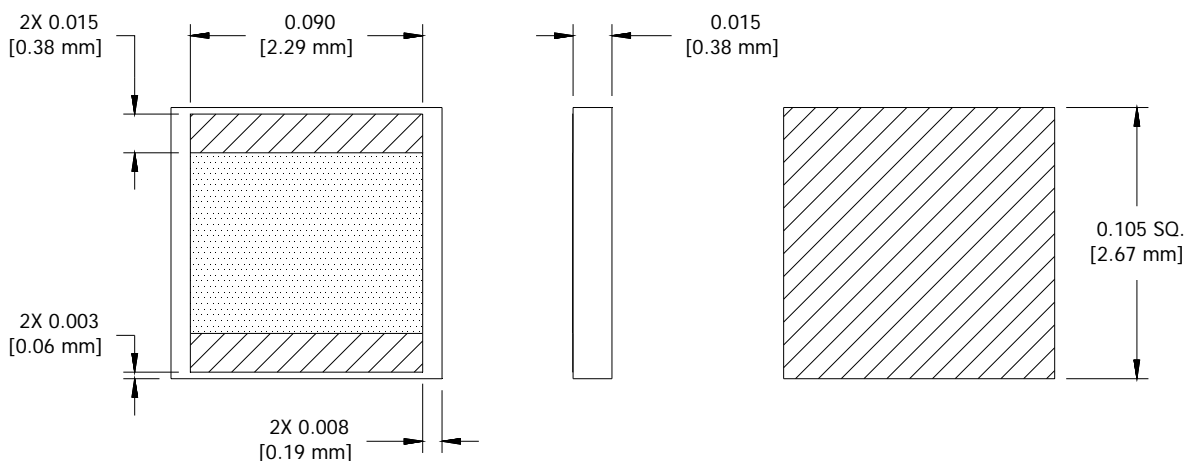
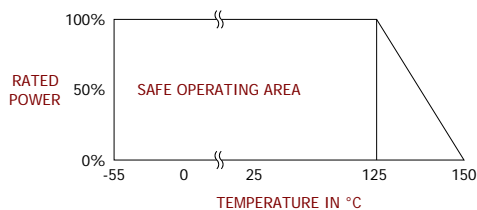
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### 5.0 PACKAGING

Standard: Waffle Packaging  
Optional: Tape and Reel

### 6.0 MECHANICAL

Substrate Material: CVD Diamond  
Resistive Element: Thin Film  
Terminal: Gold over Nickel  
Ground Plane Material: Gold over Platinum  
Metric Dimensions: Provided for reference only



Unless Otherwise Specified: TOLERANCE: X.01 = ± 0.01 X.XXX = ± 0.005