

# TERMINATION CVD DIAMOND CHIP 50 WATTS



DATA SHEET

PART SERIES: CT0505D

SHEET 1 OF 2  
Dwg 1010525

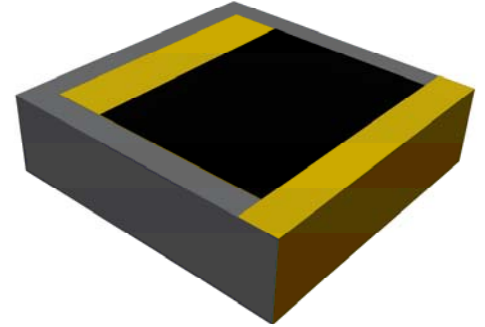
EN 13-3904  
Revision -

## 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 Terminations offer a unique combination of extreme high power ratings in very small packages. These terminations may be used in applications up to 30 GHz and are ideal for applications with requirements for high power capability, broad frequency response, small footprint and light weight. The terminations are manufactured using all thin film construction and have a gold finish that is both wire bondable and solderable. This total thin film construction also makes them ideal for peak power applications. High reliability tested versions based on MIL-PRF-55342 are also available. Select from tape and reel, bulk, or waffle packaging. These products are also lead free, RoHS compliant and S-level approved.

## ORDERING INFORMATION

**Part Identifier:** CT0505D

## SPECIFICATIONS

### 1.0 ELECTRICAL

|                    |   |
|--------------------|---|
| Nominal Impedance: | 50 $\Omega$ $\pm$ 5%                            |
| Frequency Range:   | DC – 20 GHz                                     |
| Input Power CW:    | 50 Watts  |
| Peak Power:        | 500 Watts (1 $\mu$ s pulse width/1% duty cycle) |
| VSWR:              | 1.6:1 Max                                       |

### 2.0 ENVIRONMENTAL

|                          |                      |
|--------------------------|----------------------|
| Operating Temperature:   | -55 °C To +150 °C    |
| Storage Temperature:     | -55 °C To +150 °C    |
| Temperature Coefficient: | $\pm$ 200 PPM/°C Max |

### 3.0 MARKING

|               |      |
|---------------|------|
| Unit Marking: | None |
|---------------|------|

### 4.0 QUALITY ASSURANCE

Sample Inspect Per ANSI/ASQC Z1.4 General Inspection, Level II, 1.0% AQL.  
Visual and Mechanical Inspection for Conformance to Outline Drawing  
Measure DC Resistance  
Data Retention - Standard

### 5.0 PACKAGING

|           |                  |
|-----------|------------------|
| Standard: | Waffle Packaging |
|-----------|------------------|

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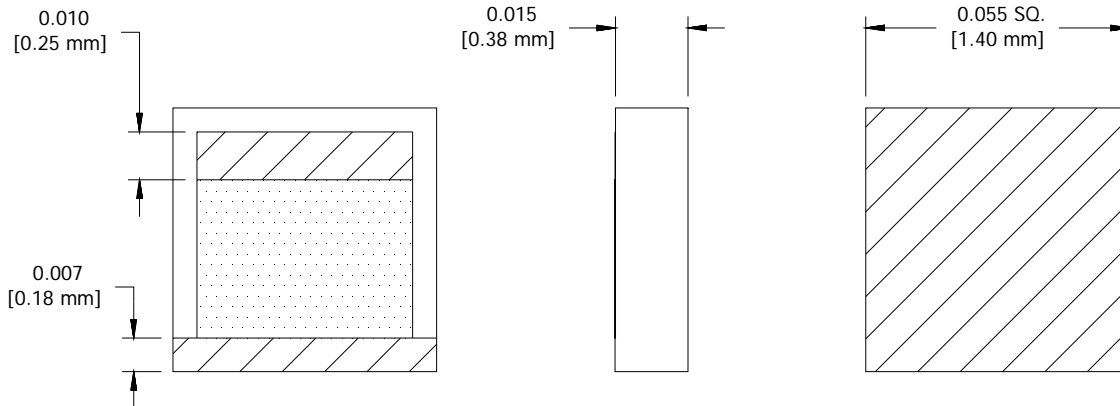
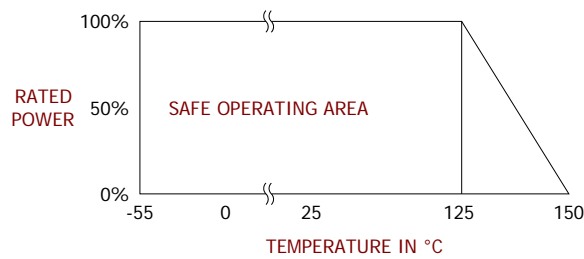
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## 6.0 MECHANICAL

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



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