

**CDAT-1G18G-63-7** is an digital controlled attenuator that operates over the 1.0 to 18.0 GHz frequency range. This model utilizes 7 bits control, the corresponding attenuation is 0-63.5 dB.

Features:

- Wide Bandwidth
- Fast Response
- Low VSWR
- Miniature Size

**Specifications:**

|                              |                  |
|------------------------------|------------------|
| Frequency Range:             | 1.0-18.0 GHz     |
| Attenuation Range:           | 63.5 dB Max      |
| Insertion Loss:              | 10.5 dB Max      |
| Attenuation Flatness:        | +/-1.5 dB Max    |
| VSWR Input:                  | 2.0:1 Max        |
| VSWR Output :                | 2.0:1 Max        |
| Control Bits:                | 7 bits           |
| Least Significant Bit (LSB): | 0.5 dB           |
| Control Logic:               | TTL              |
| Power Handling:              | +23 dBm CW Max   |
| Power Supply:                | +5 V @ 40 mA Typ |
| Switching Time:              | 500 ns Max       |

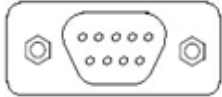
**Environmental Ratings:**


|                    |  |
|--------------------|--|
| Temperature:       | -45°C to +85 °C Operating<br>-55 °C to +125 °C Non-Operating |
| Vibration:         | MIL-STD-202F, Method 204D Cond. B                            |
| Altitude:          | MIL-STD-202F, Method 105C Cond. B                            |
| Temperature Cycle: | MIL-STD-202F, Method 107D Cond. A                            |

**Mechanical Specifications:**

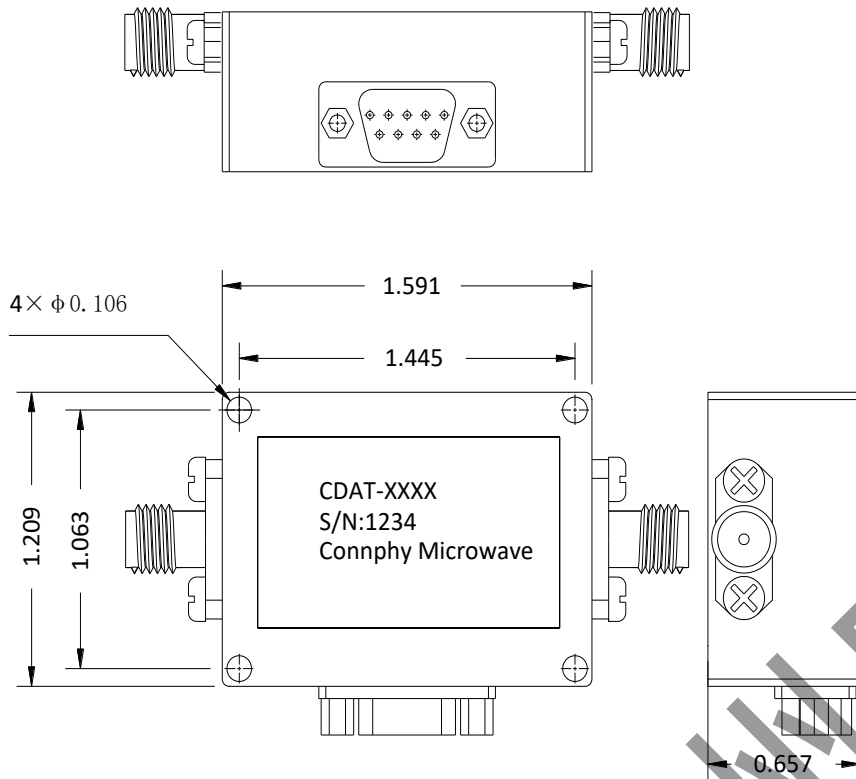
| Parameter            | Specification         |
|----------------------|-----------------------|
| Dimensions WxHxD     | 1.45X1.20X0.65 inches |
| RF Connectors In/Out | SMA-Female            |
| DC Connector         | MICRO-D9 (Female)     |
| Material             | Aluminum              |

**DC Connector PIN Assignment:**

| Pin | Function  | Pin Definition  |
|-----|-----------|---|
| 1   | +5V       |  |
| 2   | GND       |   |
| 3-9 | Bit1-Bit7 |   |
|     |           |   |
|     |           |   |

| Digital Control PIN Attenuators<br>CDAT-1G18G-63-7 |                   |                      |  |
|--|-------------------|----------------------|--|
| DRAWN:   | DWG NO.:          | REV CODE:<br>Rev.1.0 | <br>www.connphy.com<br>sales@qiidao.com |
| CHECKRD:   | DATE:<br>08/07/15 | SHEET :<br>1 OF 2    |  |
| ISSUED:  | SIZE:<br>A        | SCALE :<br>N / A     | Notes: SPEC ARE SUBJECT TO CHANGE WITHOUT NOTICE.  |

## Mechanical Outline (Inches) :



## Truth Table :


| Control TTL Input for 6 bits resolution |       |       |       |       |       |       | Attenuation |
|---|-------|-------|-------|-------|-------|-------|-------------|
| Bit 7                                   | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 |             |
| 0                                       | 0     | 0     | 0     | 0     | 0     | 0     | Reference   |
| 0                                       | 0     | 0     | 0     | 0     | 0     | 1     | 0.5 dB      |
| 0                                       | 0     | 0     | 0     | 0     | 1     | 0     | 1.0 dB      |
| 0                                       | 0     | 0     | 0     | 1     | 0     | 0     | 2.0 dB      |
| 0                                       | 0     | 0     | 1     | 0     | 0     | 0     | 4.0 dB      |
| 0                                       | 0     | 1     | 0     | 0     | 0     | 0     | 8.0 dB      |
| 0                                       | 1     | 0     | 0     | 0     | 0     | 0     | 16.0 dB     |
| 1                                       | 0     | 0     | 0     | 0     | 0     | 0     | 32.0 dB     |
| 1                                       | 1     | 1     | 1     | 1     | 1     | 1     | 63.5 dB     |

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| Altitude:          | MIL-STD-202F, Method 105C Cond. B                            |
| Temperature Cycle: | MIL-STD-202F, Method 107D Cond. A                            |

## Digital Control PIN Attenuators

### CDAT-1G18G-63-7

|          |                   |                      |  |
|----------|-------------------|----------------------|--|
| DRAWN:   | DWG NO.:          | REV CODE:<br>Rev.1.0 | <br><b>CONNPHY</b><br><b>Microwave Inc.</b><br><a href="http://www.connphy.com">www.connphy.com</a><br><a href="mailto:sales@qidao.com">sales@qidao.com</a> |
| CHECKRD: | DATE:<br>08/07/15 | SHEET :<br>2 OF 2    |  |
| ISSUED:  | SIZE:<br>A        | SCALE :<br>N / A     | Notes: SPEC ARE SUBJECT TO<br>CHANGE WITHOUT NOTICE.   |