

# 7 Bit Digital Attenuator

Attenuation Range: 12.7 dB

## Model TAD5009

50 to 250 MHz

### Features

- 50 - 250 MHz
- 12.7 dB Attenuation Range
- Integral TTL Driver
- Operating Temp. -55°C to +85°C
- Environmental Screening available

### Maximum Ratings

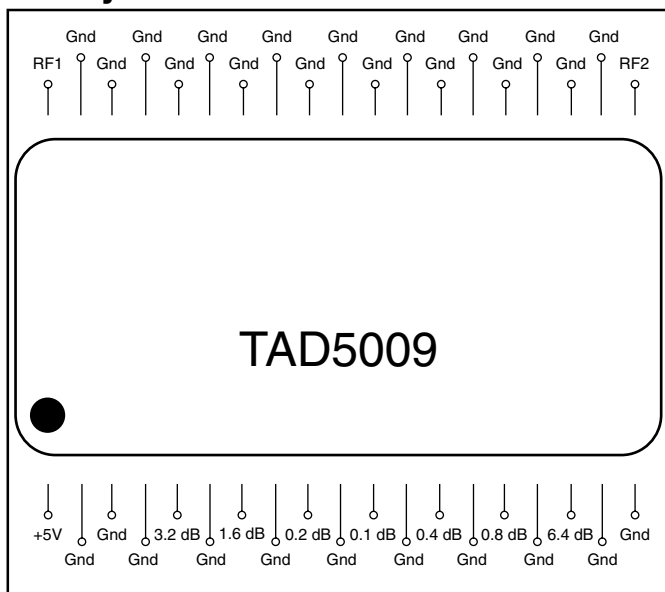
Ambient Operating Temperature ..... -55°C to +100°C  
 Storage Temperature ..... -65°C to +125°C  
 Case Temperature ..... +125°C  
 DC Voltage ..... +6 Volts  
 Continuous RF Input Power ..... +20 dBm

### Specifications

| CHARACTERISTIC           | TYPICAL<br>Ta = 25°C                             | MIN/MAX<br>Ta = -55°C to +85°C                                          |
|--------------------------|--------------------------------------------------|-------------------------------------------------------------------------|
| Frequency                | 50 - 250 MHz                                     | 50 - 250 MHz                                                            |
| Insertion Loss (dB)      | 3                                                | 4.2 Max.                                                                |
| Attenuation Range (dB)   | 0.1 - 12.7                                       | 0.1 - 12.7                                                              |
| Steps (dB)               | 0.1, 0.2, 0.4, 0.8,<br>1.6, 3.2, 6.4             | 0.1, 0.2, 0.4, 0.8,<br>1.6, 3.2, 6.4                                    |
| Accuracy                 | 0.1 to 0.8 dB<br>0.9 to 6.3 dB<br>6.4 to 12.7 dB | ± (0.05 dB + 2%) Max.<br>± (0.20 dB + 2%) Max.<br>± (0.30 dB + 3%) Max. |
| VSWR                     | 1.25:1                                           | 1.5:1 Max.                                                              |
| Switching Speed (μsec)   | 2.5                                              | 5 Max.                                                                  |
| Switching Transients (V) | 0.8                                              | 1.0 Max.                                                                |
| DC Bias                  | Vdc<br>mA                                        | +5<br>15 Max.                                                           |

Note: Care should always be taken to effectively ground the case of each unit

### Pin Layout



### Truth Table

| Control Input<br>7 Line TTL | Attenuator Setting |
|-----------------------------|--------------------|
| 1                           | Attenuate          |
| 0                           | Thru               |

### Packaging Options (see Appendix)

38 Pin DIP (DP-8)

### Typical Performance Data

