5 BIT DIGITAL ATTENUATOR TAD2104

Features
- 10 - 2000 MHz; 31 dB Attenuation Range
- Fast Switching Speed: 15 ns Typical (GaAs)
- Integral TTL Driver
- Operating Temp. -55 ºC to + 85 ºC
- Environmental Screening available

Available in:
DP-5, 24 Pin DIP Package and Connectorized Housings

Specifications

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>TYPICAL Ta = 25 ºC</th>
<th>MIN/MAX Ta = -55 ºC to +85 ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (MHz)</td>
<td>10 - 2000 MHz</td>
<td>10 - 2000 MHz</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>&lt;6.5</td>
<td>8.5 Max.</td>
</tr>
<tr>
<td>Attenuation Range (dB)</td>
<td>1 - 31</td>
<td>1 - 31 Min.</td>
</tr>
<tr>
<td>Steps (dB)</td>
<td>1,2,4,8,16</td>
<td>1,2,4,8,16</td>
</tr>
<tr>
<td>Accuracy</td>
<td>+/-0.5 dB</td>
<td>+/-0.5 dB Max.</td>
</tr>
<tr>
<td></td>
<td>+/-2%</td>
<td>+/-4% Max.</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.5:1</td>
<td>1.75:1 Max.</td>
</tr>
<tr>
<td>Switching Speed (nsec)</td>
<td>&lt;20</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Transients (mV)</td>
<td>&lt;25</td>
<td>35 Max.</td>
</tr>
<tr>
<td>DC Bias (Vdc mA)</td>
<td>-12 4.5</td>
<td>-12 8.0 Max.</td>
</tr>
<tr>
<td>DC Bias (Vdc mA)</td>
<td>+5 3.0</td>
<td>+5 5.0 Max.</td>
</tr>
</tbody>
</table>

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

Maximum Ratings
- Ambient Operating Temperature: -55ºC to + 100 ºC
- Storage Temperature: -65ºC to + 125 ºC
- Case Temperature: -55ºC to + 85 ºC
- DC Voltage: + 6.0, -16 Volts
- Continuous RF Input Power: +30 dBm

Pin Layout

Truth Table

<table>
<thead>
<tr>
<th>Control Input 5 Line TTL</th>
<th>Attenuator Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attenuate</td>
</tr>
<tr>
<td>0</td>
<td>Thru</td>
</tr>
</tbody>
</table>

Typical Performance Data

- Insertion Loss (dB)
- VSWR

+5V GND -12V GND 1 2 4 8 GND GND GND RF2

CONTROL INPUTS

TAD2104

Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532
www.SpectrumMicrowave.com Spectrum Microwave · 2707 Black Lake Place · Philadelphia, Pennsylvania 19154 · PH (215) 464-4000 · Fax (215) 464-4001
NOTES:

1. MATERIAL: HOUSING ALUMINUM, NICKEL PLATED

TOUCHING, REMOVING OR INSERTING USE ESD PRECAUTIONARY PROCEDURES WHEN

TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD).

MATERIAL: HOUSING ALUMINUM, NICKEL PLATED

NOTES:

1. THIS ASSEMBLY CONTAINS PARTS SENSITIVE

CAUTION

TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD).

USE ESD PRECAUTIONARY PROCEDURES WHEN

TOUCHING, REMOVING OR INSERTING

CAUTION

THIS ASSEMBLY CONTAINS PARTS SENSITIVE

TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD).

USE ESD PRECAUTIONARY PROCEDURES WHEN

TOUCHING, REMOVING OR INSERTING

PRELIMINARY

SEE SEPARATE PARTS

LIST IN ELECTRONIC STORAGE

DATE CODE

RF1

RF2

SMI

BXA2104

XXXX

[63.50]

2.50

[2.54]

.10

[58.42]

2.30

[2.54]

.10

[25.40]

1.00

[82.65]

3.25 REF.

[9.65]

.34

[1.20]

[6.60]

.26 TYP 7 PLCS

[9.65]

.38 TYP.

[8.64]

.34

[2.54] 2.56 UNC 2B .20

2X SMA FEMALE