High Performance 2-50 GHz System Power Amplifier

Description

The TA2U50HA Power System Amplifier is a high performance broadband amplifier with excellent power and gain from 2 to 50 GHz. The amplifier is designed to be easily used in lab and test applications; it features integrated cooling and temperature-referenced power detector outputs, and is completely self-contained with a standard AC power supply.

Features

- 1W (30dBm) $P_{sat}$ to 10 GHz
- Excellent performance at 20 GHz:
  - High gain (27dB, +2dB flatness)
  - 26dBm $P_{1\text{dB}}$, 29dBm $P_{sat}$
- Easy to integrate into your lab:
  - Built-in cooling fan
  - AC power supply
- Power detector outputs
- Size: 5.5 x 4.5 x 2.75 inch

Application

The TA2U50HA is a test amplifier designed for broadband power and gain applications. It is ideally suited for saturated RF amplifier testing, driving TWT amplifiers, or as an antenna system amplifier. High gain and typically 22dBm output power at 50GHz will overcome long cable losses from the signal source, and will provide additional power required in many development and test applications.

Specifications @ 25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>2 - 10 GHz</th>
<th>10-30 GHz</th>
<th>30 - 40 GHz</th>
<th>40 - 50 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_{sat}$ (dBm)</td>
<td>Saturated Output Power</td>
<td>Min 26</td>
<td>Typ 30</td>
<td>Max 25</td>
<td>Min 29</td>
</tr>
<tr>
<td>$P_{-1}$ (dBm)</td>
<td>1 dB Compressed Power</td>
<td>Min 24</td>
<td>Typ 28</td>
<td>Max 23</td>
<td>Min 27</td>
</tr>
<tr>
<td>$S_{21}$ (dB)</td>
<td>Small Signal Gain</td>
<td>Min 25</td>
<td>Typ 29</td>
<td>Max 24</td>
<td>Min 28</td>
</tr>
<tr>
<td>$S_{11}$ (dB)</td>
<td>Input Match</td>
<td>-</td>
<td>-15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>$S_{22}$ (dB)</td>
<td>Output Match</td>
<td>-</td>
<td>-15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>$S_{12}$ (dB)</td>
<td>Reverse Isolation</td>
<td>-</td>
<td>-60</td>
<td>-</td>
<td>-</td>
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<tr>
<td>NF (dBm)</td>
<td>Noise Figure</td>
<td>-</td>
<td>9</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>$H_{2}$ (dBC)</td>
<td>2nd Harmonic @P-1</td>
<td>-</td>
<td>-40</td>
<td>-</td>
<td>-40</td>
</tr>
<tr>
<td>$H_{3}$ (dBc)</td>
<td>3rd Harmonic @P-1</td>
<td>-</td>
<td>-20</td>
<td>-</td>
<td>-20</td>
</tr>
</tbody>
</table>
Supplemental Data

- **Operating Temperature**: 0°C - 55°C
- **Pin Max**: 26dBm
- **DC Power Dissipation**: 9V; 1.5A
- **Input Connector**: 2.4mm
- **Output Connector**: 2.4mm

Options

- **OPT101**: European Power Cord
- **OPT102**: UK Power Cord
- **OPT103**: Domestic Power Cord
- **OPT300**: 1 Year Warranty Extended to 3 Years
- **OPT301**: 1 Year Warranty Extended to 5 Years