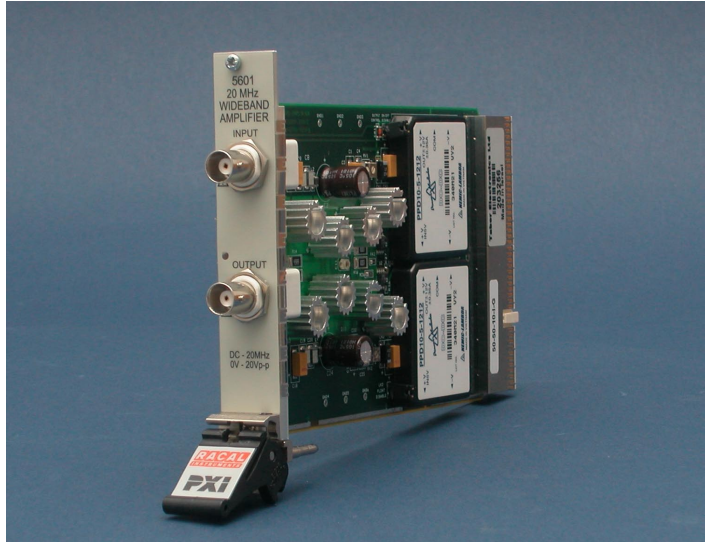


Racal Instruments

<http://www.racalstruments.com>

PRODUCT INFORMATION

PXI Wideband Amplifier Model 5601



- ◆ **Wideband Range: DC to 20 MHz**
- ◆ **High Output Amplitude:
40 V pk-pk into High Impedance
20 V pk-pk into 50 Ohms**
- ◆ **Low Distortion: 0.1%, 10 Hz to 100 kHz**

GENERAL

Model 5601 is a cost-effective, versatile, power amplifier. This 3U, single-slot unit opens the door to numerous PXI-based applications.

With low signal distortion, Model 5601 amplifies signals from DC to 20 MHz with a fixed gain (standard gains of 1 through 10 available).

HIGH OUTPUT LEVEL

Unlike other PXI amplifiers with limited output range, Model 5601's proprietary design provides up to 40 V pk-pk into a high impedance load, or 20 V pk-pk into 50 ohms. This is ideal for applications ranging from the automotive industry, with signals from 12 V to 28 V, to aerospace, requiring even higher levels in order to route signals throughout the aircraft body.

Model 5601 draws current from the +5 V rail only, freeing up the other PXI supplies to provide their full rated current to other devices.

GROUND ISOLATION

A user-accessible jumper cable configures the signal ground as either floating or connected to chassis ground. With a floating ground, the input and output may move from ground level up to 250 VDC (input and output returns must connect to the same point). This feature is valuable in situations that require a reference other than chassis ground.

MODEL 5601 SPECIFICATIONS

INPUT CHARACTERISTICS

Connector

BNC

Impedance

50 Ω or 1 M Ω , DC coupled

Damage Level

50 Ω : ± 2 V

1 M Ω : ± 5 V

Frequency Range

DC to 20 MHz

GENERAL OUTPUT CHARACTERISTICS

(Standard configurations)

Connector

BNC

Impedance

Fixed at 50 Ω , 75 Ω , or 600 Ω

DC coupled

Protection

Short circuit, 10 seconds

Gain

Setting: Fixed

Gain of 1 to 10 available

(other gains by special order)

Polarity

Fixed as Normal or Inverted

Amplitude

0 to 40 V pk-pk into high impedance

0 to 20 V pk-pk into matched impedance (50 Ω , 75 Ω , or 600 Ω)

SQUARE WAVE CHARACTERISTICS

Transition Time

<20 ns

Aberrations

<7%

SINE WAVE CHARACTERISTICS

Bandwidth (-3dB)

Small Signal: 50 MHz, at 2 V pk-pk

Large Signal: 20 MHz, at 20 V pk-pk

Gain Accuracy

$\pm 2\%$ of full-scale amplitude + 25 mV, 1 KHz

Flatness, 10V pk-pk

5% of amplitude to 1 MHz

10% of amplitude to 20 MHz

Distortion

THD: 0.1%, 10 Hz to 100 KHz

Harmonics

< -50 dBc, 100 KHz to 5 MHz

< -40 dBc, 5 MHz to 20 MHz

(10 V pk-pk)

GENERAL

Physical Size

Single-slot, 3U PXI module

Power Requirements

7.2 W maximum

Current Consumption

+5 V, 3.5 A maximum

Signal Ground

Floated to the same level as the source, 250 VDC + Peak AC maximum

EMC Certification

CE

Safety

Designed to meet EN61010-1, UL 3111-1

Workmanship Standard

Conforms to IPC-A-610D

ENVIRONMENTAL

Operating Temperature

0° C to 50° C, 80% RH

(non-condensing)

Storage Temperature

-30° C to 80° C

STANDARD CONFIGURATIONS⁽¹⁾

Signal Ground

G = Tied to Chassis Ground

F = Floating Ground

Output Polarity

N = Normal (non-inverted)

I = Inverted

Gain

1 through **10**, fixed⁽²⁾

Output Impedance

50 = 50 Ω

75 = 75 Ω

6H = 600 Ω

Input Impedance

50 = 50 Ω

1M = 1 M Ω ⁽³⁾

(1) Standard configurations maintain specified performance. Custom configurations require a special order, and may affect specifications, pricing, minimum quantities, and delivery. Please contact factory for quotation before placing special order.

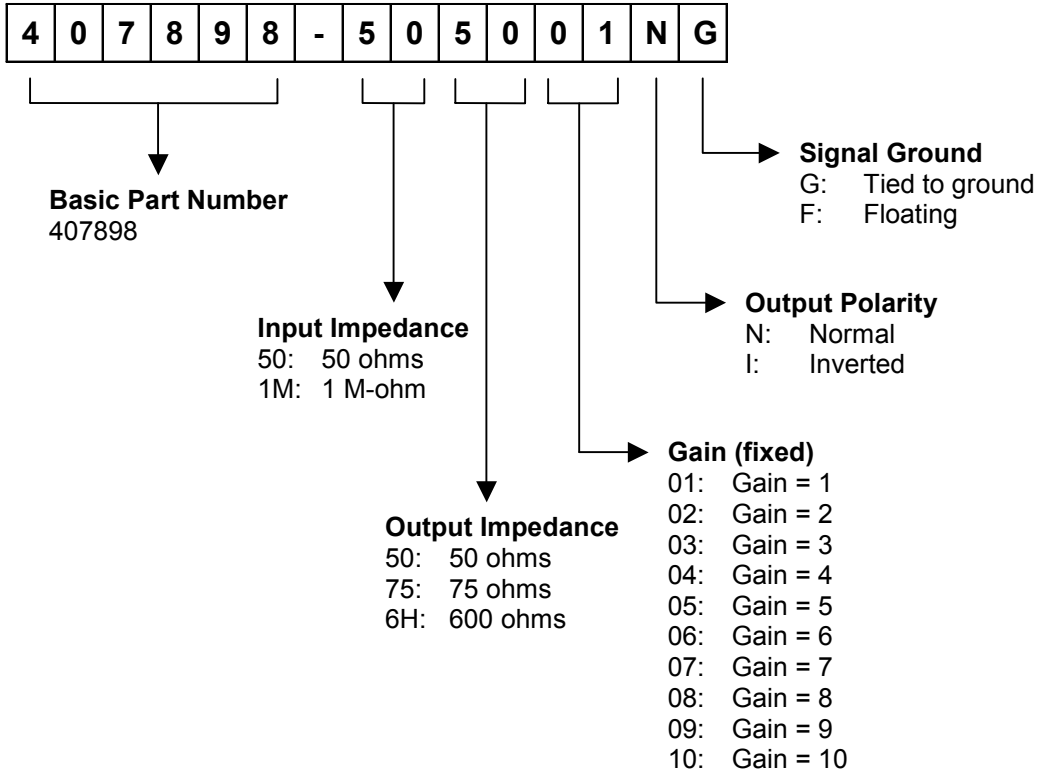
(2) Custom gain above 10 available as special order.

(3) 1 M Ω option available with non-inverting (N) output polarity only.

Model: 5601

Description: PXI Wideband Amplifier

Determine part number as follows:



CE The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions, Immunity to Electromagnetic Disturbances and complies with European electrical safety standards.

The Racal Instruments policy is one of continuous development; consequently, the equipment may vary in detail from the description and specification in this publication.

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