

GX1222



WIDEBAND AMPLIFIER PXI CARD

- DC to 20 MHz bandwidth
- 40 V_{p-p} maximum output voltage (± 20 V) into open circuit
- 20 V_{p-p} maximum output voltage into 50 Ohm load
- Isolated input & output



DESCRIPTION

The GX1222 is a 3U single-slot, PXI-based wideband power amplifier used for signal amplification purposes. Offering excellent fidelity, the GX1222 amplifies signals from DC to over 20 MHz with a fixed gain of x10. Custom gains are also available without compromising signal purity and amplifier performance.

FEATURES

On-board DC-DC converters and custom components allow the GX1222 to amplify signals to levels far above standard PXI voltage rails. The GX1222 can amplify input signals to an output of 40 V_{pp} into a high impedance load, or 20 V_{pp} into a 50 ohm load.

The GX1222 can be configured with floating input and output connections allowing the amplifier to float up to 250 VDC above ground. The only limiting factor is that both the input and output grounds must connect to the same potential. This capability is very beneficial in applications where the amplifying device should reside at the same ground potential as its source. The floating capability can be added or removed using a simple, user-accessible jumper connection.

The GX1222 requires only power from the PXIbus. No software driver is required to control the module.

CONFIGURATIONS

The GX1222 is available in numerous configurations according to the application's requirements. The following factory-set options are available (numbers in parentheses represent the standard configuration):

- Gain: 1 through 10 (10)
- Input Impedance: 50 or 1 M (50)
- Output Impedance: 50, 75, or 600 (50)
- Output Polarity: Normal or Inverted (Inverted)
- Signal Ground: Tied to Ground or Floating (Tied to Ground)

The Signal Ground option is user-selectable via jumpers; all other options must be specified at the time the GX1222 is ordered.

APPLICATIONS

- Automotive testing
- Avionics testing
- Automatic Test Equipment (ATE)

GX1222



SPECIFICATIONS

INPUT CHARACTERISTICS	
Connector	BNC
Impedance	50 Ω , DC coupled
Amplitude	0 to 2 V _{PP} (max), (± 2 V)
Frequency Range	DC to 20 MHz
OUTPUT CHARACTERISTICS	
Connector	BNC
Impedance	50 Ω , DC coupled
Protection	Short-circuit, 10 seconds
Gain	x10, fixed (custom gains available, contact factory)
Amplitude	0 to 20 V _{PP} into 50 ohm; 0 to 40 V _{PP} (± 20 V) into high impedance
Square Wave Characteristics	
Transition Time	<20 ns
Aberrations	<7 %
Sine Wave Characteristics	
3 db Bandwidth	50 MHz, at 2 V _{PP} (small signal) 20 MHz at 20 V _{PP} (large signal)
Gain Accuracy	$\pm(2\%$ of full-scale amplitude range + 25 mV), 1 kHz
Flatness (10 V _{PP})	5% of amplitude to 1 MHz; 10% of amplitude to 20 MHz
THD	0.1%, 10 Hz to 100 kHz
Harmonics (10 V _{PP})	<-60 dBc, 10 Hz to 100 kHz, <-50 dBc, 100 kHz to 5 MHz, <-40 dBc, 5 MHz to 20 MHz
GENERAL	
Physical Size	Single-slot, 3U high PXI module
Power Requirements	7.2 W (max)
Current Consumption	+5 V, 3.5 A (max)
Signal Ground	Floated to the same level as the source, 250 VDC + Peak AC (max)
EMC Certification	CE marked
Reliability	MTBF per MIL-HDBK-217E, 25 °C, Ground Benign
Safety	Designed to meet IEC 1010-1, UL 3111-1, CSA 22.2 #1010

ENVIRONMENTAL	
Operating Temperature	0 °C to +55 °C
Humidity (Non-Condensing)	RH 80%

Note: Specifications are subject to change without notice

ORDERING INFORMATION

GX1222	Wideband Amplifier
ACCESSORY	
GT-BNC50-2	Cable, BNC to BNC, 50 Ohm, 2 ft
GT-BNC50-5	Cable, BNC to BNC, 50 Ohm, 5 ft
CALIBRATION	
GX1222-CAL	GX1222 Calibration/Verification Service. Includes pre-verification data (post calibration data provided if applicable)

Note: The GX1222 is supplied by a 3rd party and resold by Marvin Test Solutions.