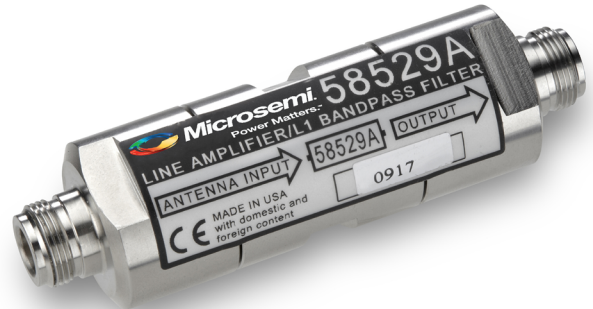


58529A

GPS Line Amplifier with L1 Bandpass Filter



Key Features

- Provides gain in installations where a GPS receiver and its antenna must be separated by large distances
- Accepts power between +4.5 Vdc to +13 Vdc

Key Benefits

- Minimizes interference from nearby transmitters
- Rugged, waterproof, corrosion resistant, and easy to install
- Contains built-in diode protection to minimize damage from lightning strikes

The Microsemi 58529A GPS Line Amplifier with L1 Bandpass Filter provides gain to overcome cable losses in installations where a GPS receiver and its antenna must be separated by large distances. With over 20 dB (typical) of gain, the 58529A increases the maximum cable length from 115 to 240 meters between the 58532A GPS Antenna and a timing receiver. Two amplifiers may be used in series to achieve distances up to 360 meters.

An active device, the 58529A accepts power between +4.5 Vdc to +13 Vdc. The unit is designed to pass DC power up to the GPS antenna.

Added Interference Protection

Antennas located in high-signal environments occasionally need interference protection above and beyond the filter provided in the antenna. The 58529A includes a narrow bandwidth filter with steep rolloff to minimize interference from nearby transmitters.

Improved Immunity to Lightning

Electromagnetic fields caused by nearby lightning strikes can induce surge voltages in the antenna cable, damaging components in the antenna system. The 58529A has improved immunity to these voltages through built-in diode protection.

Durable and Easy to Install

Microsemi's third generation GPS antenna line amplifier, the 58529A is even more durable and easier to install than its predecessors. New features include a more rugged package design and a streamlined installation scheme.

Shrink tubing is also provided with the 58529A to protect connector joints from moisture. Use of the shrink tubing provides additional moisture protection, but it is not necessary and can be omitted to further simplify installation.

58529A

Specifications

Electrical Specification

- Input/Output Impedance: 50 Ω
- Gain: >20 dB (25 dB typical) in the passband
- Filter Attenuation: >15 dB @ L1 \pm 75 MHz
>30 dB @ L1 \pm 140 MHz
- Reverse Isolation: >40 dB (typical)
- Noise Figure: <4.3 dB (3.8 dB typical)
- VSWR: Input 1.4:1 (typical)
- Output: 1.7:1 (typical)
- RF Input Level: -25 dBm maximum
- dc Power: +4.5 V to +13 V, <13 ma
dc power is passed to GPS antenna

Physical Specification

- Connectors: 2 Type-N Jacks
- Dimensions (including connectors): 32 mm D 110 mm L
- Weight: 440 g

Environmental Specification

- Operating Temperature: -40°C to +80°C
- Moisture Resistance: IP 66 (according to IEC 529)
- Corrosion: Saltspray test according to MIL-STD-202, Method 101, Condition B.

Safety:

- IEC 1010-1: 1990 + A1 / EN 61-610-1: 1993

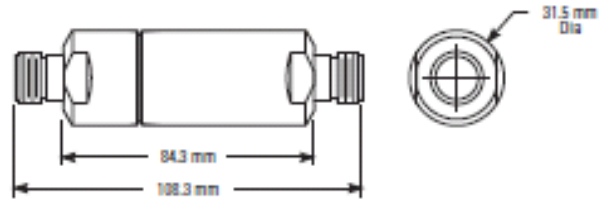


Figure 1. Line Amplifier/L1 Bandpass Filter Dimensions

EMC:

- CISPR 22 1993 / EN 55022: 1994 Class B
 - IEC 801-2 1991 / EN 50082-1: 1992 4 RV CD, 8 kV AD
 - IEC 801-3 1984 / EN 50082-1: 1992 3 V/m, 1 kHz 80% AM, 26 1000 MHz
 - IEC 801-4 1988 / EN 50082-1: 1992 0.5 kV Signal Lines and DC Power Port
 - IEC 1000-3-2 1995 / EN 61000 3-2: 1995 Harmonics
 - IEC 1000-3-3 1994 / EN 61000 3-3: 1995 Flicker
- This product model complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE marking accordingly.

Ordering Information

(Contact Microsemi for pricing and availability)
 p/n 58529A GPS Line Amplifier with L1 Bandpass Filter

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