

Small Instrumentation Modules

SIM914 — 350 MHz preamplifier (2-channel)

- **DC to 350 MHz bandwidth**
- **Two independent amplifier channels**
- **Voltage gain of 5 (14 dB) per channel**
- **6.4 nV/ $\sqrt{\text{Hz}}$ input noise**
- **3 ns overload recovery**
- **Excellent phase linearity**



SIM914 Dual-Channel 350 MHz Preamplifier

The SIM914 350 MHz Preamplifier contains two wide-bandwidth, DC-coupled amplifiers, each with a gain of 5 (14 dB). Its fast rise time, low noise, and excellent DC accuracy make it an ideal instrument for amplifying signals like those from photomultiplier tubes and photodiodes.

The gain stages of several SIM914 can be cascaded without creating oscillation problems. Input clamping gives a 3 ns recovery time from a 10 \times overload.

Wide bandwidth, along with 50 Ω input and output impedance, ensures a linear phase response across the entire frequency range, preserving pulse shapes.

Specifications

Amplifier channels	2
Inputs, outputs	50 Ω , DC coupled
Bandwidth	DC to 350 MHz
Rise/fall time	1 ns
Voltage gain	5 per channel (14 dB)
Input noise	6.4 nV/ $\sqrt{\text{Hz}}$ (typ.)
Operating range	± 200 mV (inputs), ± 1 V (outputs)
Propagation delay	2.7 ns (typ.)
Recovery time	3 ns for 10 \times overload
Input protection	± 50 V for < 1 μ s
Output clamp	± 1.6 V
Output overload detect	± 1.3 V
Crosstalk	-60 dB
Operating temperature	0 $^{\circ}$ C to 40 $^{\circ}$ C, non-condensing
Connectors	BNC (4 front), DB15/M SIM interface
Power	± 5 VDC (100 mA max.)
Weight, dimensions	1.4 lbs., 1.5" \times 3.6" \times 7.0" (WHD)
Warranty	One year parts and labor on defects in materials and workmanship

Ordering Information

SIM914 350 MHz preamplifier