

KEYSIGHT TECHNOLOGIES (AGILENT HP)

1141A

The Keysight (Agilent) 1141A is a 200 MHz active FET differential probe designed to provide high common-mode rejection and low input capacitance, minimizing circuit loading in demanding measurement applications. It must be paired with the 1142A Probe Control and Power Module for power and control of input coupling and offset.

SPECIFICATIONS

General

Interfaces	Proprietary connection to 1142A Probe Control and Power Module
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Physical

Power Supply	Powered by 1142A Probe Control and Power Module
Operating Temperature	0 °C to +55 °C °C
Weight	0.145 kg kg
Cable Length	1.5 m

Signal Fidelity & Electrical Performance

Bandwidth	200 MHz
Rise Time (calculated)	1.75 ns
Attenuation Ratio	1:1 (base probe), 10:1 and 100:1 with attenuators
DC Thermal Drift	Low

Input Impedance & Loading

Differential Input Resistance	2 MΩ (between inputs)
Differential Input Capacitance	3.5 pF (between inputs)
Input Coupling Modes	AC, DC, DC reject (controlled via 1142A)

Common Mode Rejection & Noise

CMRR at 1 MHz	3000:1 (70 dB)
CMRR at 100 MHz	100:1 (40 dB)

Voltage Limits & Safety Ratings

Maximum Non-Destructive Differential Input Voltage	±25 V (DC + peak AC) without attenuators
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Output & Instrument Interface

Required Instrument Termination	50 , (internal or external)
Compatible Power Module	Agilent/Keysight 1142A Probe Control and Power Module
Remote Control Capabilities	Input coupling and offset remote control

Performance

Common-Mode Operating Range	$\pm 5.0\text{ V (1:1) / } \pm 50\text{ V (10:1) / } \pm 500\text{ V (100:1)}$
Differential Operating Range	$\pm 0.44\text{ V (1:1) / } \pm 4.4\text{ V (10:1) / } \pm 44\text{ V (100:1)}$
DC Gain Accuracy	$\pm 1\%$ (excluding external attenuators)

Environmental

Storage Temperature	$-40\text{ }^{\circ}\text{C to } +75\text{ }^{\circ}\text{C}$
Operating Humidity	Up to 95% RH at $40\text{ }^{\circ}\text{C}$
Operating Altitude	Up to 4,600 m

Electrical Characteristics

AC Coupling Low-Frequency Cutoff (1:1)	140 Hz
AC Coupling Low-Frequency Cutoff (10x Attenuator)	14 Hz
AC Coupling Low-Frequency Cutoff (100x Attenuator)	1.4 Hz
CMRR at DC to 100 kHz	10,000:1 (80 dB)
CMRR at 10 MHz	300:1 (50 dB)
DC Offset Range (1:1)	$\pm 1.0\text{ V}$
DC Offset Range (10x Attenuator)	$\pm 10\text{ V}$
DC Offset Range (100x Attenuator)	$\pm 100\text{ V}$
Propagation Delay	7 ns
Maximum Non-Destructive Input Voltage (Each Input to Ground, 1:1)	$\pm 25\text{ V (DC + peak AC)}$
Maximum Non-Destructive Input Voltage (Each Input to Ground, 10x/100x)	$\pm 200\text{ V (DC + peak AC)}$
Output Impedance	50 Ω

TECHNOLOGY

FET Active Differential Probe

APPLICATIONS

Differential Signal Measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.