

TEKTRONIX

P6248

The Tektronix P6248 is a 1.5 GHz active differential oscilloscope probe designed for high-bandwidth time and frequency domain measurements. Optimized for use with disk drive read channel electronics, RAMBUS digital IC designs, and high-speed communication interfaces like Gigabit Ethernet, FireWire, and Fibre Channel, it features a miniature probe head and versatile accessories for precise surface-mount device probing.

SPECIFICATIONS

General

Interfaces	TEKPROBE BNC Interface
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Physical

Power Supply	Powered directly via TEKPROBE BNC interface or 1103 TEKPROBE power supply
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Operating Temperature	0 to +50 °C °C
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Electrical Performance

Guaranteed Bandwidth	1.5 GHz
Typical Bandwidth (1X Mode)	1.7 GHz (probe only, ≤27 °C)
Typical Bandwidth (10X Mode)	1.85 GHz (probe only, ≤27 °C)
Rise Time	<265 ps
DC Attenuation Accuracy	±2%
Linearity	±2%
Output Noise (Referred to Input)	<50 nV/√Hz
Harmonic Distortion	≤1.5%
Passband Ripple	<±0.25 dB
Propagation Delay	6.1 ns (typical)

Impedance and Loading

Input Resistance (Differential Mode)	200 kΩ
Input Resistance (Common Mode)	100 kΩ
Input Capacitance (Differential Mode)	<1 pF
Input Capacitance (Common Mode)	<2 pF

Signal Range and Voltage Limits

Common Mode Input Voltage Range	±7.0 V
Differential Input Voltage Range (1X)	±850 mV
Differential Input Voltage Range (10X)	±8.5 V
Maximum Nondestructive Input Voltage	±25 V (DC + peak AC)
Electrostatic Immunity (ESD)	>15 kV

Common-Mode Rejection Ratio (CMRR)

CMRR at 1 MHz	>60 dB (1000:1)
CMRR at 100 MHz	>45 dB (180:1)
CMRR at 500 MHz	>38 dB (80:1)
CMRR at 1 GHz	>30 dB (30:1)

Physical Characteristics

Probe Input Connector	Two standard 0.025 inch / 0.63 mm (0.1 inch center) female square pin receptacles
Cable Length	1.2 m

Environmental and Compliance

Non-Operating Temperature Range	-55 °C to +75 °C
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Connectivity

Host Interface Compatibility	TekProbe BNC (connects directly to compatible Tektronix oscilloscopes, or requires 1103 power supply)
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Environmental

Operating Humidity	5% to 95% RH (at or below +30 °C), 5% to 75% RH (above +30 °C to +50 °C)
Non-Operating Humidity	5% to 95% RH (at or below +30 °C), 5% to 75% RH (above +30 °C to +75 °C)
Operating Altitude	4,500 m
Non-Operating Altitude	15,240 m

Electrical Characteristics

Input Coupling	DC
System Attenuation Settings	1X, 10X
Output Termination Requirement	50 Ω
Maximum Output Voltage Range	±850 mV

Compliance

Safety Certifications	UL3111-1, CAN/CSA C22.2 No. 1010.1, EN61010-1, IEC61010-1
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Power

Power Requirements	Powered directly by host instrument via TekProbe BNC interface or through 1103 power supply
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TECHNOLOGY

Active Differential Probe

APPLICATIONS

Disk drive read channel verification, RAMBUS design, Gigabit Ethernet, IEEE-1394 Firewire, and Fibre Channel testing

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