

TEKTRONIX

P5210

The Tektronix P5210 is a high-voltage active differential probe capable of measuring floating voltages up to 5.6 kV (DC + pk AC) with a bandwidth of 50 MHz. It is designed for use with Tektronix oscilloscopes featuring the TekProbe interface, which provides power and automatic scale factor attenuation communication directly to the instrument.

SPECIFICATIONS

General

Interfaces	TekProbe BNC
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Physical

Power Supply	Powered directly via TekProbe interface from oscilloscope, or through optional 1103 external power supply
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Operating Temperature	0 °C to +50 °C °C
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Dimensions (W×H×D)	207 mm × 83 mm × 38 mm mm
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Weight	0.47 kg kg
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Electrical Performance

Bandwidth	50 MHz
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Rise Time	< 7 ns
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Attenuation Ratio Options	100x / 1000x
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DC Attenuation Accuracy	±3%
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Differential Mode Voltage Range (100x)	±560 V (DC + peak AC)
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Differential Mode Voltage Range (1000x)	±5.6 kV (DC + peak AC)
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Maximum Common Mode Voltage Range	2300 Vrms (CAT I), 1000 Vrms (CAT II)
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Maximum Non-Destructive Input Voltage (Each Input to Earth)	5.6 kV (DC + peak AC) CAT I, 2300 Vrms CAT I, 1000 Vrms CAT II, 600 Vrms CAT III
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Input Resistance (Between Inputs)	40 MΩ
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Input Resistance (Each Input to Earth)	20 MΩ
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Input Capacitance (Between Inputs)	2 pF
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Input Capacitance (Each Input to Earth)	4 pF
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Common Mode Rejection Ratio (CMRR) at 60 Hz	80 dB
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Common Mode Rejection Ratio (CMRR) at 100 kHz	50 dB
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Common Mode Rejection Ratio (CMRR) at 1 MHz	30 dB
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Connectivity & Interface

Output Connector Type	TekProbe BNC
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Environmental Specifications

Non-Operating Storage Temperature Range	-40 °C to +75 °C
Operating Humidity Range	Up to 90% RH (at or below +40 °C)
Storage Humidity Range	Up to 90% RH (at or below +40 °C)
Operating Altitude Limit	3,000 m (10,000 ft)
Non-Operating Altitude Limit	15,240 m (50,000 ft)

Compliance & Safety Standards

Pollution Degree Rating	2
Safety Standards Certifications	UL3111-1, EN61010-1, IEC61010-2-031

Physical Characteristics

Input Lead Length	30 cm
Output Cable Length	1.8 m

Performance

Output Noise (100x)	< 4 mV RMS (into 1 M Ω load)
Output Noise (1000x)	< 3 mV RMS (into 1 M Ω load)
Propagation Delay	18 ns (typical)
Input Coupling	DC
Bandwidth Limit Filter	Selectable 5 MHz / Full (50 MHz)
Output Impedance	50 Ω (designed to drive 1 M Ω inputs)
Common Mode Rejection Ratio (CMRR) at DC	>80 dB

Functional Features

Overrange Indicator	Audible alarm and red LED
Power Indicator	Green LED

Environmental

Operating Vibration	0.31 g RMS (5 Hz to 500 Hz)
Non-Operating Vibration	2.46 g RMS (5 Hz to 500 Hz)
Non-Operating Mechanical Shock	50 g (11 ms, half-sine)

TECHNOLOGY

Active Differential

APPLICATIONS

High-voltage floating measurements, power semiconductor characterization, motor drive design, power supply design, and power converter testing

