TEKTRONIX

TDP0500

The Tektronix TDP0500 is a 500 MHz active differential probe designed for use with oscilloscopes featuring the TekVPI™ interface. It provides high-speed differential signal acquisition with low device loading, excellent common-mode rejection, and versatile connectivity for modern digital system design and debugging.

SPECIFICATIONS

General

Interfaces	TekVPI

Physical

Power Supply	Powered directly by host oscilloscope via TekVPI interface
Operating Temperature	0 °C to +40 °C °C
Dimensions (W×H×D)	106.7 mm x 41.1 mm x 31.8 mm (compensation box) mm
Weight	0.146 kg

Electrical Performance Specifications

Bandwidth	500 MHz
Rise Time (10% to 90%)	< 700 ps
Attenuation Ratios	5x, 50x
DC Attenuation Accuracy	±2%
Input Resistance (Differential Mode)	1 MΩ
Input Resistance (Common Mode)	500 kΩ
Input Capacitance (Differential Mode)	< 1 pF
Input Capacitance (Common Mode)	< 2 pF
System Noise (Referred to Input, 5x)	< 2 mV RMS
System Noise (Referred to Input, 50x)	< 15 mV RMS
Propagation Delay	5.4 ns (typical)

Voltage Range and Signal Limits

Differential Dynamic Range (5x)	±4.25 V
Differential Dynamic Range (50x)	±42 V
Common Mode Operating Range	±42 V
Maximum Non-Destructive Input Voltage (DC + Peak AC)	±42 V

Common Mode Rejection Ratio (CMRR)

CMRR at 60 Hz	≥ 80 dB
CMRR at 1 MHz	≥ 50 dB
CMRR at 100 MHz	≥ 30 dB
CMRR at 500 MHz	≥ 26 dB

Connectivity and Interfaces

Output Connection Interface Type	TekVPI
Auto-Scaling / Auto-ID Support	Yes
Cable Length	1.2 m

Environmental and Safety Compliance

Non-Operating Temperature Range	-40 °C to +71 °C
Operating Humidity Range	5% to 95% RH (at or below +30 °C); 5% to 85% RH (+30 °C to +40 °C)
Operating Altitude	Up to 3,000 m
Non-Operating Altitude	Up to 15,240 m

Physical Characteristics

Probe Head Dimensions (W x H x D)	10.9 mm x 7.6 mm x 57.2 mm

Compliance

Safety Compliance	UL61010-1, CAN/CSA-C22.2 No. 61010-1, EN61010-1, IEC61010-1

Performance

Selectable Bandwidth Limits	Full (500 MHz), 1 MHz, 10 kHz, 100 Hz
DC Reject	0.4 Hz, 4 Hz
Offset Range	±42 V

Controls & Indicators

Compensation Box Controls	Menu, Range, Bandwidth, and AutoZero buttons

TECHNOLOGY

Active Differential

APPLICATIONS

High-speed digital system design, differential signaling analysis, power supply design, and spectral measurements

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