

1 GHz and 500 MHz High-voltage Differential Probes

► TDP1000 • TDP0500



The TDP1000 and TDP0500 High-voltage Differential Probes provide excellent high-speed electrical and mechanical performance required for today's Switch Mode Power Supply (SMPS), CAN/LIN Bus and high-speed digital system designs.

Specifically designed for use with, and direct connection to, the TekVPI™ probe interface used on Tektronix' DPO7000, DPO4000, and MSO4000 Series oscilloscopes, the TDP1000 and TDP0500 High Voltage Differential Probes achieve high-speed signal acquisition and measurement fidelity by solving three traditional measurement challenges:

- Outstanding electrical performance
- Versatile Device Under Test (DUT) connectivity
- Ease of use

► Characteristics

Bandwidth (probe only) –

1 GHz (TDP1000), 500 MHz (TDP0500).

Attenuation – 5X, 50X.

Rise Time (Probe Only) –

≤350 ps (TDP1000), <700 ps (TDP0500).

Differential Input Capacitance – <1 pF.

Differential Input Resistance – 1 MΩ.

CMRR –

>55 dB at 30 kHz;

>50 dB at 1 MHz;

>18 dB at 250 MHz (warranted at 50X attenuation).

Sensitivity/Noise Level –

2 mV_{RMS} (5X attenuation); 1 mV_{RMS} (50X attenuation) referred to the probe output.

10 mV_{RMS} (5X attenuation); 50 mV_{RMS} (50X attenuation) referred to the probe input.

Differential Mode Input Voltage –

±42 V (DC + pk AC); 30 V_{RMS}.

Common Mode Input Voltage –

±35 V (DC + pk AC); 25 V_{RMS}.

Input Offset Range – ±42 V (5X or 50X attenuation).

Max Input Voltage (non-destruct) –

±100 V (DC + pk AC).

Selectable Bandwidth Filter Limits –

100 Hz, 10 kHz, 1 MHz, Full.

Gain Accuracy at DC – ±2%.

Propagation Delay – 6.5 ns.

Scope Interface – TekVPI.

Physical Characteristics

Weight –

2.556 lbs.

1.159 kg.

Compensation Box Dimensions –

Height 4.1 cm (1.6 inches); width 3.05 cm

(1.2 inches); length 10.7 cm (4.2 inches).

Cable Length – 1.2 meter (47.2 inches).

Power Requirements –

TDP0500 is powered directly by the DPO7000, DPO4000, and MSO4000 Series oscilloscopes using TekVPI interface.

Standard Warranty

One year parts and labor.

Recommended Oscilloscopes

DPO7000, DPO4000, and MSO4000 Series oscilloscopes with TekVPI probe interface.

Required Oscilloscope Firmware

DPO7000 Series requires firmware version 2.0.0 or later. DPO4000 Series requires firmware version 2.01 or later.

► Features & Benefits

Outstanding Electrical Performance

- 1 GHz and 500 MHz Probe Bandwidth
- <1 pF Differential Input Capacitance
- 1 MΩ Differential Input Resistance
- ±42 V (DC + pk AC) Differential Input Voltage
- >18 dB CMRR (at 250 MHz 50X Attenuation)
- 100 Hz, 10 kHz, 1 MHz and Full Bandwidth Selectable Bandwidth Limiting Filters

Versatile DUT Connectivity

- Small Compact Probe Head for Probing Small Geometry Circuit Elements
- Straight Pin, Square Pin, Solder Down, Variable Pitch Standard Accessories
- Robust Design for Reliability

Ease of Use

- Connects Directly to the DPO7000 Series Oscilloscopes Using TekVPI Probe Interface
- Provides Automatic Units Scaling and Readout on the Oscilloscope Display
- Easy Access to Scope Displayed Probe Menu for Probe Setup Control and Operating Status Information

► Applications

High-speed Switch Mode Power Supply Design

CAN/LIN Bus Design

High-speed Digital Design

Digital Design and Characterization

Manufacturing Engineering Test

Research and Development

1 GHz and 500 MHz High-voltage Differential Probes

► TDP1000 • TDP0500

► Ordering Information

TDP1000

1 GHz High Voltage Differential Probe with TekVPI Interface.

TDP0500

500 MHz High Voltage Differential Probe with TekVPI Interface.

Manual Options

Opt. L5– Japanese

Opt. L7– Simplified Chinese

Service

Opt. CA1– A single calibration event or coverage for the designated calibration interval, whichever comes first

Opt. C3– Calibration Service 3 Years

Opt. C5– Calibration Service 5 Years

Opt. D1– Calibration Data Report

Opt. D3– Calibration Data Report 3 Years (with Option C3)

Opt. D5– Calibration Data Report 5 Years (with Option C5)

Opt. R3– Repair Service 3 Years

Opt. R5– Repair Service 5 Years

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► Standard Accessories

Description	Qty with TDP0500	Reorder Part Number (Qty)
Y-Lead Set	2 each	196-3434-xx (1)
Solder Down Lead Set, 1 inch	1 each	196-3504-xx (1)
Solder Down Lead Set, 3 inch	1 each	196-3505-xx (1)
KlipChip™ Adapters	3 each	206-0364-xx (1)
Tip Savers	2 each	016-1781-xx (2)
Longhorn Adapters	2 each	016-1780-xx (5)
Straight Pin Probe Tips	8 each	016-1891-xx (8)
3-inch Ground Leads	2 each	196-3437-10 (2)
Color Coding Bands	2 each of 5 colors	016-1315-xx (2 each of 5 colors)
Quick Start Users Guide	English	071-1974-xx (1)
	Japanese (with Opt. L5)	071-1975-xx (1)
	Simplified Chinese (with Opt. L7)	071-1976-xx (1)
CD with Technical Reference Manual	1 each	063-3941-xx (1)
Nylon Carrying Case	1 each	016-1952-xx (1)

► Recommended Accessories

Description	Part Number	Quantity
Performance Verification Test Adapter	067-1734-xx	1 each
BNC-to-Probe Tip Adapter	679-4094-xx	1 pkg of 1
Spring-loaded Grounds	016-1782-xx	1 pkg of 6
Twin Foot Adapter	016-1785-xx	1 pkg of 4
Twin Tip Adapter	016-1786-xx	1 pkg of 4
IC Micro Grabber	SMK4	1 pkg of 4

Our most up-to-date product information is available at:

www.tektronix.com



Product(s) are manufactured in ISO registered facilities.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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