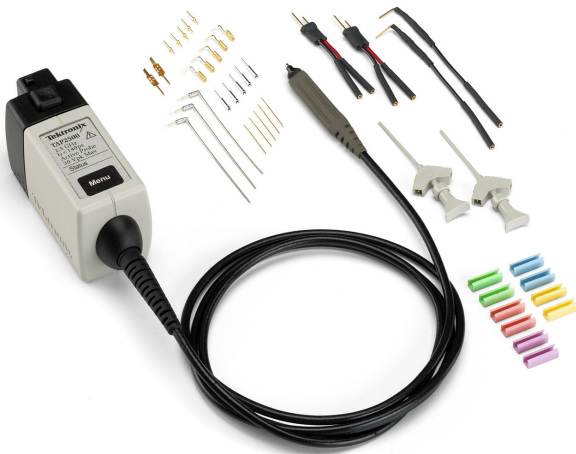


# Active Probes

## TAP2500 • TAP3500 Datasheet



### Features & Benefits

- Outstanding Electrical Performance
  - High Probe Bandwidth
  - Fast Probe Rise Time
  - Excellent Signal Fidelity
  - $\leq 0.8$  pF Input Capacitance
  - 40 k $\Omega$  Input Resistance
  - -4 V to +4 V Input Dynamic Range
  - -10 V to +10 VDC Input Offset Range
  - $\pm 30$  V (DC + peak AC) Max Input Voltage (Nondestruct)
- Versatile Mechanical Performance
  - Small Compact Probe Head for Probing Small Geometry Circuit Elements
  - DUT Attachment Accessories Enable Connection to SMDs as Small as 0.5 mm Pitch
  - Robust Design for Reliability

- Easy-to-Use
  - Connects Directly to Oscilloscopes with the TekVPI™ Probe Interface
  - Provides Automatic Units Scaling and Readout on the Oscilloscope Display
  - Easy Access to Oscilloscope Probe Menu Display for Probe Status/Diagnostic Information and to Control Probe DC Offset
  - Remote GPIB/USB Probe Control through the Oscilloscope

### Applications

- Verification, Debug, and Characterization of High-speed Designs
- Signal Integrity, Jitter, and Timing Analysis
- Manufacturing Engineering and Test
- Signals with Voltage Swings up to 8 V<sub>pk-pk</sub>

Selecting the right probe for your application is key to attaining the best signal fidelity in your measurements. Active probes provide truer signal reproduction and fidelity for high-frequency measurements. With our ultra-low input capacitance and unique interface, the TAP2500 and TAP3500 Single-ended Active FET probes provide excellent high-speed electrical and mechanical performance required for today's digital system designs.

Specifically designed for use and direct connection to oscilloscopes with the TekVPI™ probe interface, the TAP2500 and TAP3500 Active FET probes achieve high-speed signal acquisition and measurement fidelity by solving three traditional problems:

- Lower DUT loading effects with  $\leq 0.8$  pF input capacitance and 40 k $\Omega$  input resistance
- Versatile DUT connectivity for attaching to small SMDs
- Preserves instrument bandwidth at the probe tip for up to 3.5 GHz oscilloscopes

## Characteristics

**Bandwidth (Probe only)** –

≥2.5 GHz (TAP2500).

≥3.5 GHz (TAP3500).

**Attenuation (Probe only)** – 10:1.

**Rise Time (Probe only)** –

<140 ps (TAP2500).

<130 ps (TAP3500).

**Input Capacitance** – ≤0.8 pF.

**Input Resistance** – 40 kΩ.

**Input Dynamic Range** – –4 V to +4 V.

**Input Offset Range** – –10 V to +10 V.

**Max Input Voltage (Nondestruct)** – ±30 V (DC + peak AC).

**Propagation Delay** – 5.3 ns.

## Physical Characteristics

<b>Dimensions</b>	<b>mm</b>	<b>in.</b>
Width	7.6	0.30
Height	7.6	0.30
Depth	57.2	2.25
Cable Length	1300	51
<b>Weight</b>	<b>kg</b>	<b>lb.</b>
Net	0.091	0.2 (probe only, using ME lab scale)

## Power Requirements

TAP2500 and TAP3500 are powered directly by oscilloscopes with the TekVPI™ probe interface.

## Recommended Oscilloscopes

Oscilloscopes with the TekVPI™ probe interface.

**Note:** For best probe support, download and install the latest version of the oscilloscope software from [www.tektronix.com](http://www.tektronix.com)

## Environmental

**Temperature** –

Operating: 0 °C to +50 °C.

Nonoperating: –40 °C to +71 °C.

**Humidity** –

Operating: 5% to 95% Relative Humidity (RH) at up to +30 °C; 5% to 85% RH above +30 °C up to +50 °C; noncondensing.

Nonoperating: 5% to 95% Relative Humidity (RH) at up to +30 °C; 5% to 85% RH above +30 °C up to +75 °C; noncondensing.

**Altitude** –

Operating: Up to 4,400 m (15,000 ft.).

Nonoperating: Up to 12,192 m (40,000 ft.).

## Regulatory

**Emissions Compliance** – EN 55011, Class A.

**Compliance Labeling** –

C-Tick (Australia / New Zealand)

CE (European Union)

WEEE (European Union)

## Ordering Information

### TAP2500

2.5 GHz Active Probe.

### TAP3500

3.5 GHz Active Probe.

Description	Qty with TAP2500 and TAP3500	Reorder Part Number (Qty)
Y-lead Adapter (2 each) and 3 in. ground lead (3 each)	1 set	196-3456-xx (1 set)
Micro CKT Test Tip	2 each	206-0569-xx (1 ea)
Customizable Ground Lead (set of 5)	1 set	196-3482-xx (1 set)
Color Band Kit (5 colored pairs)	1 set	016-1315-xx (1 set)
Pogo Pin Ground (set of 10)	1 set	016-1772-10 (1 set)
Square Pin Socket (set of 10)	1 set	016-1773-10 (1 set)
Push-in Probe Tip (set of 10)	1 set	131-5638-11 (1 set)
Right-angle Adapter (set of 10)	1 set	016-1774-xx (1 set)
SureToe™ Adapter (set of 4)	1 set	131-6254-xx (1 set)
Antistatic Wrist Strap	1 each	006-3415-xx (1 ea)
Nylon Carrying Case	1 each	016-1952-xx (1 ea)
Plastic Accessory Case	1 each	006-7164-xx (1 ea)
Instruction Manual	1 each	071-xxxx-xx (1 ea)

## Optional Accessories

Description	Package Quantity	Ordering Part Number
IC Micro Grabber	2	013-0309-xx
SMA-to-Probe Tip Adapter	1	015-0678-xx
TekVPI Calibration Fixture (for PV)	1	067-1701-xx

## Manual Language Options

Opt. L5 – Japanese instruction manual.

Opt. L7 – Simplified Chinese instruction manual.

## Service Options

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 Opt. C3).

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

Opt. R3 – Repair Service 3 Years.

Opt. R5 – Repair Service 5 Years.

Opt. SILV900 – Standard Warranty Extended to 5 Years.



Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

**Contact Tektronix:**

- ASEAN / Australasia** (65) 6356 3900
- Austria** 00800 2255 4835\*
- Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777
- Belgium** 00800 2255 4835\*
- Brazil** +55 (11) 3759 7627
- Canada** 1 800 833 9200
- Central East Europe and the Baltics** +41 52 675 3777
- Central Europe & Greece** +41 52 675 3777
- Denmark** +45 80 88 1401
- Finland** +41 52 675 3777
- France** 00800 2255 4835\*
- Germany** 00800 2255 4835\*
- Hong Kong** 400 820 5835
- India** 000 800 650 1835
- Italy** 00800 2255 4835\*
- Japan** 81 (3) 6714 3010
- Luxembourg** +41 52 675 3777
- Mexico, Central/South America & Caribbean** 52 (55) 56 04 50 90
- Middle East, Asia, and North Africa** +41 52 675 3777
- The Netherlands** 00800 2255 4835\*
- Norway** 800 16098
- People's Republic of China** 400 820 5835
- Poland** +41 52 675 3777
- Portugal** 80 08 12370
- Republic of Korea** 001 800 8255 2835
- Russia & CIS** +7 (495) 7484900
- South Africa** +41 52 675 3777
- Spain** 00800 2255 4835\*
- Sweden** 00800 2255 4835\*
- Switzerland** 00800 2255 4835\*
- Taiwan** 886 (2) 2722 9622
- United Kingdom & Ireland** 00800 2255 4835\*
- USA** 1 800 833 9200

\* European toll-free number. If not accessible, call: +41 52 675 3777

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**For Further Information.** Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit [www.tektronix.com](http://www.tektronix.com)



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