

# 1.5 GHz Active Probe

## TAP1500 Data Sheet



### Features & Benefits

- Outstanding Electrical Performance
  - $\geq 1.5$  GHz Probe Bandwidth
  - $< 267$  ps Rise Time
  - $\leq 1$  pF Input Capacitance
  - $1\text{ M}\Omega$  Input Resistance
  - $-8\text{ V}$  to  $+8\text{ V}$  Input Dynamic Range
  - $-10\text{ V}$  to  $+10\text{ VDC}$  Input Offset Range
- Versatile Mechanical Performance
  - Small Compact Probe Head for Probing Small Geometry Circuit Elements
  - DUT Attachment Accessories Enable Connection to SMDs as Small as  $0.5\text{ mm}$  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

- High-speed Digital Systems Design
- Component Design and Characterization
- Manufacturing Engineering and Test
- Educational Research
- Signals with Voltage Swings up to  $16\text{ V}_{p-p}$

TAP1500 Single-ended Active FET Probe provides 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 TAP1500 Active FET probe achieves high-speed signal acquisition and measurement fidelity by solving three traditional problems:

- Lower DUT loading effects with  $\leq 1$  pF input capacitance and  $1\text{ M}\Omega$  input resistance
- Versatile DUT connectivity for attaching to small SMDs
- Preserves instrument bandwidth at the probe tip for  $\leq 1$  GHz oscilloscopes

## Characteristics

| Characteristic                  | Description                 |
|---------------------------------|-----------------------------|
| Bandwidth (probe only)          | ≥1.5 GHz                    |
| Attenuation (probe only)        | 10x ±2%                     |
| Rise Time (probe only)          | <267 ps                     |
| Input Capacitance               | <1 pF                       |
| Input Resistance                | 1 MΩ                        |
| Linear Dynamic Range            | ±8 V (16 V <sub>p-p</sub> ) |
| Input Offset Range              | ±10 V                       |
| Max Input Voltage (nondestruct) | ±15 V (DC + peak AC)        |
| Propagation Delay               | 5.3 ns                      |

### Physical Characteristics

| Probe Head Size  | mm    | in.  |
|------------------|-------|------|
| Height           | 11.25 | 0.44 |
| Width            | 5.1   | 0.20 |
| Length           | 60.4  | 2.38 |
| Other Dimensions |       |      |
| Cable Length     | 1300  | 51   |
| Weight           | kg    | lb.  |
| Net              | 0.45  | 1    |

## Power Requirements

TAP1500 is 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

| Characteristic      | Description   |
|---------------------|---|
| 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 3,000 m (10,000 ft.)  |
| Nonoperating        | Up to 15,240 m (50,000 ft.)   |
| Regulatory          |   |
| Compliance Labeling | WEEE (European Union)   |

## Standard Warranty

One year parts and labor.

## Ordering Information

### TAP1500

1.5 GHz Active Probe

### TAP1500X2

1.5 GHz Active Probe. Discounted two TAP1500 probe package.

### Standard Accessories Included

| Description                        | Qty with TAP1500 or TAP1500X2 | Reorder Part Number   | Reorder Qty        |
|------------------------------------|-------------------------------|---|--------------------|
| Low-inductance 1 in. Z-Ground Lead | 2 each                        | 196-3439-xx   | 1 each (Pkg of 10) |
| 3 in. Ground Lead                  | 2 each                        | 196-3437-xx   | 1 each (Pkg of 2)  |
| 6 in. Ground Lead                  | 2 each                        | 196-3436-xx   | 1 each (Pkg of 2)  |
| Y-Lead Adapter                     | 2 each                        | 196-3463-xx   | 1 each (Pkg of 2)  |
| Color-coding Clips                 | 2 each of 5 colors            | 016-1315-xx   | 2 each of 5 colors |
| Solderable Probe Tips              | 10 each                       | 131-5638-xx   | 1 each (Pkg of 10) |
| Micro CKT Test Tip                 | 4 each                        | 206-0569-xx   | 1 each             |
| Right Angle Square Pin Adapter     | 2 each                        | 214-4227-xx   | 1 each             |
| 100 mm Square Pin Ground Adapter   | 2 each                        | 131-5777-xx   | 1 each             |
| User Manual*1                      | 1 each                        | 071-1809-xx English or<br>071-1810-xx Japanese or<br>071-1811-xx Simplified Chinese | 1 each             |
| Nylon Carrying Case*2              | 1 each                        | 016-1952-xx   | 1 each             |

\*1 Manual language must be specified when ordering.

\*2 The TAP1500X2 does not include individual probe cases. Users who desire the individual probe case should order the TAP1500 probe.

### Options

| Option                 | Description                                    |
|------------------------|--|
| <b>Manual Options</b>  |  |
| Opt. L5                | Japanese instruction manual                    |
| Opt. L7                | Simplified Chinese instruction manual          |
| <b>Service Options</b> |  |
| 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                         |

### Recommended Accessories

| Description                         | Package Qty | Reorder Part Number |
|-------------------------------------|-------------|---------------------|
| IC Micro-grabber                    | 2           | 013-0309-xx         |
| Antistatic Wrist Strap              | 1           | 006-3415-xx         |
| TekVPI Calibration Fixture (for PV) | 1           | 067-1701-xx         |



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

Updated 10 February 2011

**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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04 Apr 2012

51W-19043-4

