

# 1.5 GHz Active Probe

## TAP1500 Datasheet



### Features & Benefits

- Outstanding Electrical Performance
  - $\geq 1.5$  GHz Probe Bandwidth
  - $< 267$  ps Rise Time
  - $\leq 1$  pF Input Capacitance
  - $1$  M $\Omega$  Input Resistance
  - $-8$  V to  $+8$  V Input Dynamic Range
  - $-10$  V to  $+10$  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  $0.5$  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  $16$  V<sub>p-p</sub>

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  $1$  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 071-1810-xx Japanese or 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
Opt. SILV600	Standard Warranty Extended to 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)



Copyright © Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks, or registered trademarks of their respective companies.

26 Jul 2012

51W-19043-5

