

# 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
  - $1 \text{ M}\Omega$  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 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.

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\* 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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