

# 1.5 GHz Active Probe

## TAP1500 Datasheet



TAP1500 Single-ended Active FET Probe provides excellent high-speed electrical and mechanical performance required for today's digital system designs.

### Key features

- 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  $16 \text{ V}$

### 1.5 GHz active probes for TekVPI™ probe interface

- 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

## Specifications

All specifications are guaranteed unless noted otherwise. All specifications apply to all models unless noted otherwise.

### Warranted electrical characteristics

Attenuation (probe only)	10X $\pm$ 2%
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### Typical characteristics

Bandwidth (probe only)	$\geq$ 1.5 GHz
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Rise time (probe only)	<267 ps
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Input capacitance	<1 pF
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Input resistance	1 M $\Omega$
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Linearity	$\pm$ 8 V (16 V <sub>p-p</sub> )
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Input offset range	$\pm$ 10 V
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Maximum non-destructive input voltage	$\pm$ 15 V (DC + peak AC)
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Propagation delay	5.3 ns
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### Physical characteristics

#### Probe head size

Height	11.25 mm (0.44 in)
Width	5.1 mm (0.20 in)
Length	60.4 mm (2.39 in)

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#### Other dimensions

Cable length	1300 mm (51 in)
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#### Weight

Net	0.45 kg (1.0 lbs)
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### Power requirements

The probe is powered directly by oscilloscopes with the TekVPI probe interface.

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**EMC, environment, and safety****Temperature**

<b>Operating</b>	0 °C to +50 ° (+32 °F to 122 °F)
<b>Nonoperating</b>	-40 °C to +71 °C (-40 °F to 160 °F)

**Humidity**

<b>Operating</b>	5% to 95% Relative Humidity up to +30 °C (+86 °F) 5% to 85% Relative Humidity at 30 °C to +50 °C (+86 °F to +122 °F) noncondensing
<b>Nonoperating</b>	5% to 95% Relative Humidity up to +30 °C (+86 °F) 5% to 85% Relative Humidity at 30 °C to +75 °C (+86 °F to +167 °F) noncondensing

**Altitude**

<b>Operating</b>	Up to 4,400 m (14,436 ft)
<b>Nonoperating</b>	Up to 12,192 m (40,000 ft)

**Regulatory**

<b>Compliance labeling</b>	WEEE (European Union)
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**Ordering information****TAP1500 models**

<b>TAP1500</b>	1.5 GHz Active Probe
<b>TAP1500X2</b>	1.5 GHz Active Probe. Discounted two TAP1500 probe package

**Standard accessories****Standard accessories**

Description	Quantity with TAP1500 or TAP1500X2	Reorder part number	Reorder quantity
Low-inductance 1 in. Z-Ground lead	2 each	196-3438-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 <sup>1</sup>	1 each	071-1809-xx English or 071-1810-xx Japanese or 071-1811-xx Simplified Chinese	1 each
Nylon carrying case <sup>2</sup>	1 each	016-1952-xx	1 each

<sup>1</sup> Manual language must be specified when ordering.

<sup>2</sup> The TAP1500X2 does not include individual probe cases. Users who desire the individual probe case should order the TAP1500 probe.

## Recommended oscilloscopes

Oscilloscopes with the TekVPI™ probe interface.

## Warranty

One-year warranty covering all parts and labor.

## Options

### Manual options

Opt. L5	Japanese manual
Opt. L7	Simplified Chinese 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 (including warranty)
Opt. R5	Repair Service 5 Years (including warranty)
Opt. SILV600	Standard warranty extended to 5 years

## Recommended accessories

013-0309-xx	IC Micro-grabber, Qty 2
006-3415-xx	Antistatic wrist strap
067-1707-xx	TekVPI calibration fixture (for PV)

CE Marking Not Applicable.



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



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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.tek.com](http://www.tek.com).

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