

Active Probes

TAP2500 - TAP3500 Datasheet



The TAP2500 and TAP3500 Single-ended Active FET probes provide excellent high-speed electrical and mechanical performance required for today's digital system designs.

Key features

- Outstanding electrical performance
 - High probe bandwidth
 - Fast probe rise time
 - Excellent signal fidelity
 - ≤ 0.8 pF input capacitance
 - 40 k Ω input resistance
 - -4 V to +4 V input dynamic range
 - -10 V to +10 V_{DC} input offset range
 - ± 30 V (DC + peak AC) Maximum input voltage (nondestructive)
- 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_{p-p}

TAP2500 and TAP3500 active probes for TekVPI™ probe interface

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 ≤ 0.8 pF input capacitance and 40 k Ω input resistance
- Versatile DUT connectivity for attaching to small SMDs
- Preserves instrument bandwidth at the probe tip for up to 3.5 GHz oscilloscopes

Specifications

All specifications apply to all models unless noted otherwise.

Warranted electrical characteristics

Attenuation (probe only)	10X
Rise time (probe only)	<140 ps (TAP2500)
	<130 ps (TAP3500)

Typical characteristics

Bandwidth (probe only)	≥2.5 GHz (TAP2500)
	≥3.5 GHz TAP3500)
Input capacitance	≤0.8 pF
Input resistance	40 kΩ
Input dynamic range	±4.0 V
Input offset range	±10 V
Maximum non-destructive input voltage	±30 V (DC + peak AC)
Propagation delay	5.3 ns

Physical characteristics

Probe head size	
Height	7.6 mm (0.30 in)
Width	7.6 mm (0.30 in)
Length	57.2 mm (2.25 in)
Other dimensions	
Cable length	1300 mm (51 in)
Weight	
Unit	1.55 kg (3.44 lbs) (probes, accessories, and packaging)
Net	0.091 kg (0.2 lbs) (probe only, using ME lab scale)

Power requirements

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

EMC, environment, and safety**Temperature**

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

Humidity

Operating	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
Nonoperating	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

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

Emissions compliance EN 55011, Class A

Regulatory

Compliance labeling	C-Tick (Australia/New Zealand)
	CE (European Union)
	WEEE (European Union)

Ordering information**Models**

TAP2500	2.5 GHz Active Probe
TAP3500	3.5 GHz Active Probe

Standard accessories**Standard accessories**

Description	Quantity with TAP2500 or TAP3500	Reorder part number	Reorder quantity
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 each
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 each
Nylon carrying case	1 each	016-1952-xx	1 each
Plastic accessory case	1 each	006-7164-xx	1 each
Instruction manual	1 each	071-1836-xx	1 each

Datasheet

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
015-0678-xx	SMA-to-Probe tip adapter
067-1701-xx	TekVPI calibration fixture (for PV)

CE Marking Not Applicable.



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

ASEAN / Australasia (65) 6356 3900
Belgium 00800 2255 4835*
Central East Europe and the Baltics +41 52 675 3777
Finland +41 52 675 3777
Hong Kong 400 820 5835
Japan 81 (3) 6714 3010
Middle East, Asia, and North Africa +41 52 675 3777
People's Republic of China 400 820 5835
Republic of Korea 001 800 8255 2835
Spain 00800 2255 4835*
Taiwan 886 (2) 2722 9622

Austria 00800 2255 4835*
Brazil +55 (11) 3759 7627
Central Europe & Greece +41 52 675 3777
France 00800 2255 4835*
India 000 800 650 1835
Luxembourg +41 52 675 3777
The Netherlands 00800 2255 4835*
Poland +41 52 675 3777
Russia & CIS +7 (495) 6647564
Sweden 00800 2255 4835*
United Kingdom & Ireland 00800 2255 4835*

Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777
Canada 1 800 833 9200
Denmark +45 80 88 1401
Germany 00800 2255 4835*
Italy 00800 2255 4835*
Mexico, Central/South America & Caribbean 52 (55) 56 04 50 90
Norway 800 16098
Portugal 80 08 12370
South Africa +41 52 675 3777
Switzerland 00800 2255 4835*
USA 1 800 833 9200

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

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