

# 4 GHz Active Probes

## P7240 • P6249 • P6241 • P6209 Data Sheet



### Features & Benefits

- <120 ps Rise Time (Guaranteed)
- 4 GHz Bandwidth
- <0.5 pF Input Capacitance (P6241 Only)
- Small Form Factor Probe Head
- 8 V<sub>p-p</sub> Dynamic Range (P6241 Only)
- Direct Access to SMDs

- Oscilloscopes Supported:
  - P7240 TDS/CSA7000 Series
  - P6249 TDS/CSA7000, 6000, 700, 600 Series
  - P6241 TDS/CSA7000, 6000, 700, 600 Series
  - P6209 CSA/TDS8000, TDS800 Series
- Probe Interfaces:
  - P7240 TekConnect™ Interface
  - P6249 TekProbe® II BNC Interface
  - P6241 TekProbe II BNC Interface
  - P6209 TekProbe SMA Interface

### Applications

- High-speed Digital Systems Design
- Component Design/Characterization
- Signal Integrity, Jitter and Timing Analysis
- Manufacturing Engineering and Test
- Signals with Voltage Swings up to 8 V<sub>p-p</sub>
- Measures 3.0 V Logic, InfiniBand, PCI Express, DDR, Rambus Data Lines, Gigabit Ethernet

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. Tektronix provides you a wide range of 4 GHz active probes to select from for your application.



### TekConnect Interface - P7240

The P7240 with TekConnect interface is a high-performance active probe with high bandwidth and low-capacitive loading to make it the probe of choice for demanding design applications, such as Rambus, DDR DRAM and AGP. This probe and others in the family are also suited for applications in the communication industry, for measurements on Fibre Channel and Gigabit Ethernet. With the TekConnect interface, you can be assured that maximum signal integrity is maintained to meet present and future bandwidth needs.

### TekProbe BNC Interface - P6249 and P6241

The P6249 and P6241 have similar performances to the P7240. Primarily used for the TDS694C and TDS794D performance scopes, these probes may also be used with conventional BNC interfaces through the Tektronix 1103 TekProbe Power Supply. The P6249 provides 4  $V_{p-p}$  dynamic range. The P6241 offers a 10X attenuation and a 8  $V_{p-p}$  dynamic range plus has a lower input capacitance due to the unique probe tip. A full complement of versatile probe tip accessories helps users connect to the wide range of devices faced by digital designers.

### SMA Interface/Sampling Oscilloscopes - P6209

The P6209 provides a high-bandwidth, low circuit loading probing solution for the CSA/TDS8000B sampling oscilloscopes with TekProbe SMA input connection. Based on the P6249 probe design, the P6209 has similar performance and a similar small probe head for access to today's fine-pitch SMDs and connection points.

### Characteristics

#### Model

Characteristic	P7240	P6249	P6241	P6209
Rise Time	<120 ps	<120 ps	<120 ps	<120 ps
Bandwidth	4.0 GHz	4.0 GHz	4.0 GHz	4.0 GHz
Attenuation	5X	5X	10X	5X
DC Resistance	20 k $\Omega$	20 k $\Omega$	40 k $\Omega$	20 k $\Omega$
Input Capacitance	<1 pF	<1 pF	<0.5 pF	<1 pF
Dynamic Range	$\pm 2$ V	$\pm 2$ V	$\pm 4$ V	$\pm 2$ V
Offset Range	$\pm 5$ V	$\pm 5$ V	$\pm 10$ V	$\pm 5$ V
Interface	TekConnect™	TekProbe® II	TekProbe® II	TekProbe SMA

### Ordering Information

#### P7240

4.0 GHz Active Probe.

#### P6249

4.0 GHz Active Probe.

#### P6241

4.0 GHz Active Probe.

#### P6209

4.0 GHz Active Probe.

**Warranty** – One year.

#### User Manuals –

P7240: Order 071-0759-xx.

P6249: Order 071-0538-xx.

P6241: Order 071-1188-xx.

P6209: Order 071-0634-xx.

**Included Accessories**

Product Name/Description	P6241 Part Number	Quantity	P7240/P6249/P6209 Part Number	Quantity
3 Inch Ground Leads (Set of 2)	196-3437-10	1		
Customizable Ground Lead (Set of 5)	196-3482-00	1	196-3482-00	1
Lead Set: 196343700 (3) 196345700 (2)			196-3456-00	1
Y Lead Adapter	196-3434-00	2		
L Adapter (Set of 2)	016-1913-00	1		
Adapter Spring (Set of 10)			016-1774-00	1
SMT KlipChip™ Adapter	206-0364-01	2	206-0364-01	2
Short Pogo Pin Ground (Set of 8)	016-1917-00	1		
Pogo Pin (Set of 10)			016-1772-xx	1
Square Pin Socket (Set of 10)			016-1773-xx	1
Square Pin Adapter (Set of 4)	016-1910-01	1		
Probe Tip (Set of 30)			131-5638-30	1
Color Coding Bands, 2 Each of 5 Colors	016-1315-00	1	016-1315-00	1
Probe Carrying Case	016-1879-01	1	016-1879-01	1
Accessory Case	006-7164-00	1	016-7164-00	1
Wrist Strap	006-3415-04	1	006-3415-04	1
SureToe™ (Set of 12)	ST501 (Replacement Pkg of 12)	1	ST501 (Replacement Pkg of 12)	1

**Recommended Accessories**

Product Name/Description	P6241 Part Number	Quantity	P7240/P6249/P6209 Part Number	Quantity
SMK4 - IC Grabber (Set of 2)	013-0309-00	1	013-0309-00	1
SureFoot®, 50 mil (Set of 12)			SF501	1
SureFoot, 25 mil (Set of 12)			SF502	1
SureFoot, 0.5 mil (Set of 12)			SF503	1

**Support 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

Opt. R5 – Repair Service 5 Years



P7240 / P6249 / P6209  
Part Reorder 1-800-835-3553

 <b>Tektronix SF502</b> Small Form BELLIX 25mil SET OF 12 PAT. 5,387,872	 <b>Tektronix ST501</b> Small Form SOCKETS, 25mil SET OF 12	 <b>Tektronix 016-1775-00</b> SOCKETS, 25mil SET OF 15
 <b>Tektronix SF501</b> Small Form FORNANCE 25mil SET OF 12 PAT. 5,387,872	 <b>Tektronix SF503</b> Small Form RED 0.8mm SET OF 12 PAT. 5,387,872	 <b>Tektronix 016-1725-00</b> POGO PIN GND SET OF 15
 <b>Tektronix 131-5626-00</b> PROBE TIP SET OF 30	 <b>Tektronix 016-1724-00</b> SPRING ADAPTER SET OF 10	 <b>016-1315-00</b> Coding Color Clips
 <b>Quantity 1</b> SMT KlipChip Adapter		 <b>013-0309-00</b>



**P6241 Probe Accessory Reorder List**  
To reorder parts, visit [www.tektronix.com/accessories](http://www.tektronix.com/accessories) or call 1-800-833-9200 (USA)  
Outside USA contact your local Tektronix representative

 <b>ST501</b> Small Form SOCKETS, 25mil SET OF 12	 <b>016-1910-XX</b> SQUARE PIN ADAPTER SET OF 4	 <b>016-1913-XX</b> Y-ADAPTER SET OF 2	 <b>016-1917-XX</b> POGO PIN GROUND SET OF 8
 <b>196-3437-10</b> 3" GROUND LEAD SET OF 2	 <b>016-1315-XX</b> (P6241) COLOR MARKER BANDS 5 COLORS	 <b>206-0364-XX</b> SMT KlipChip 1 EA	 <b>SMG50</b> SMT KlipChip SET OF 20
 <b>196-3434-XX</b> Y-LEAD ADAPTER 1 EA	 <b>196-3468-XX</b> Y-LEAD ADAPTER SET OF 2	 <b>016-1886-XX</b> (P7240) COLOR MARKER BANDS 5 COLORS	 <b>013-0309-XX</b> IC GRABBER SET OF 2
 <b>SMK4</b> IC GRABBER SET OF 2		 <b>196-3482-XX</b> Customizable Ground Lead	



Product(s) are manufactured in ISO registered facilities.



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For other areas contact Tektronix, Inc at: 1 (503) 627-7111

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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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