Tektronix®

Active Probe for SMDs
P6245 • P6243 Datasheet

P6243

Features & Benefits

P6245

- ≥1.5 GHz Bandwidth (Typical, Probe Only)
- ≤1 pF Input Capacitance
- 1 MΩ Input Resistance
- Direct Access to SMDs as Small as 0.5 mm Pitch
- Measures CMOS, BiCMOS, ECL, GaAs, and TTL Logic

P6243

- 1 GHz Bandwidth (probe only)
- ≤1 pF Input Capacitance
- 1 MΩ Input Resistance
- Direct Access to SMDs as Small as 0.5 mm Pitch
- Measures CMOS, BiCMOS, ECL, GaAs, and TTL Logic
- Low-mass Probe Head/Cable
- No Additional Power Supplies or Cables Are Required with TEKPROBE™ BNC Interface

Applications

- High-speed Digital Systems Design
- Component Design/Characterization
- Manufacturing Engineering and Test
- Educational Research

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P6245 and P6243 Active Probes for TEKPROBE BNC Interfaces

P6245

The P6245 Active FET probe achieves high-speed signal acquisition by solving three traditional problems:

- Lower DUT loading (≤1 pF/1 MΩ probe loading)

- Direct and easy access to SMDs

- Access DUT signals and scope bandwidth for TDS600/700/3000/5000/6000/7000[1] and CSA7000 scopes up to 1 GHz bandwidths

The P6245 and P6243 Active probes provide the electrical and mechanical performance required for today's digital systems designs. No additional power supplies or cables are required when used with TEKPROBE BNC oscilloscopes. Both the P6245 and P6243 achieve high-speed signal acquisition and low circuit loading, required for solving today's problems faced by designers.

The small compact probe head and versatile attachment accessories allow direct connection to the device under test.

The P6245 and P6243 Active Probes provide scope bandwidth at the probe tip for the TDS500/600/700; the P6243 provides scope bandwidth at the probe tip for the TDS3000 Series scope up to 1 GHz bandwidth.

[1] Some TDS6000 or TDS7000 oscilloscopes require a TCA-BNC adapter.

P6243

The P6243 Active FET probe is the high-performance probing solution for 500 MHz oscilloscopes. The P6243 has a probe only bandwidth of 1 GHz and will provide a 500 MHz system bandwidth when used with Tektronix' full line of 500 MHz oscilloscopes. In addition, the P6243 is powered by the TEKPROBE BNC interface, eliminating the need for additional power supplies and cables when used with TEKPROBE BNC oscilloscopes.

The P6243 offers superior signal acquisition on surface mount devices compared to the much higher capacitive loading of passive probes. The P6243 has ≤1 pF capacitive loading which allows it to measure high-speed signals without affecting the signal or device under test. Furthermore, the included accessories and adapters allow for easy attachment to SMDs.

Characteristics

Probe Type	P6243	P6245
Cable Length	1.3 m	1.3 m
Attenuation	10X	10X
Bandwidth in GHz (Probe Only)	1 GHz	1.5 GHz
Rise Time	<350 ps	<250 ps
Input C in pF	≤1 pF	≤1 pF
Input R in Ω	1 MΩ	1 MΩ
Linear Dynamic Range	±8 V	±8 V
DC Offset Range	N/A	10 V
Max Voltage (Nondestruct) (DC+PkAC)	±15 V	±15 V
Propagation Delay	5.3 ns ±200 ps	5.3 ns ±200 ps

Ordering Information

P6245
Active Probe.

P6243
Active Probe.

Included Accessories

Description	Quantity P6245	Quantity P6243	Reorder Part Number
Solderable Probe Tips	10 each	10 each	131-5638-xx (Pkg. of 10)
1 in. Ground Lead	2 each	2 each	196-3439-xx (Pkg. of 10)
6 in. Ground Lead	2 each	1 each	196-3436-xx
3 in. Ground Lead	2 each	1 each	196-3437-xx
Y Lead Adapters	2 each	1 each	196-3463-xx
SMT KlipChip™ Adapter	4 each	2 each	206-0364-xx
Color Coding Clips, 2 each 5 colors	1 each	1 each	016-1315-xx
Right Angle Square Pin Adapter	2 each	1 each	214-4227-xx
100 Mil Square Pin Adapter	2 each	1 each	131-5777-xx

Service

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)
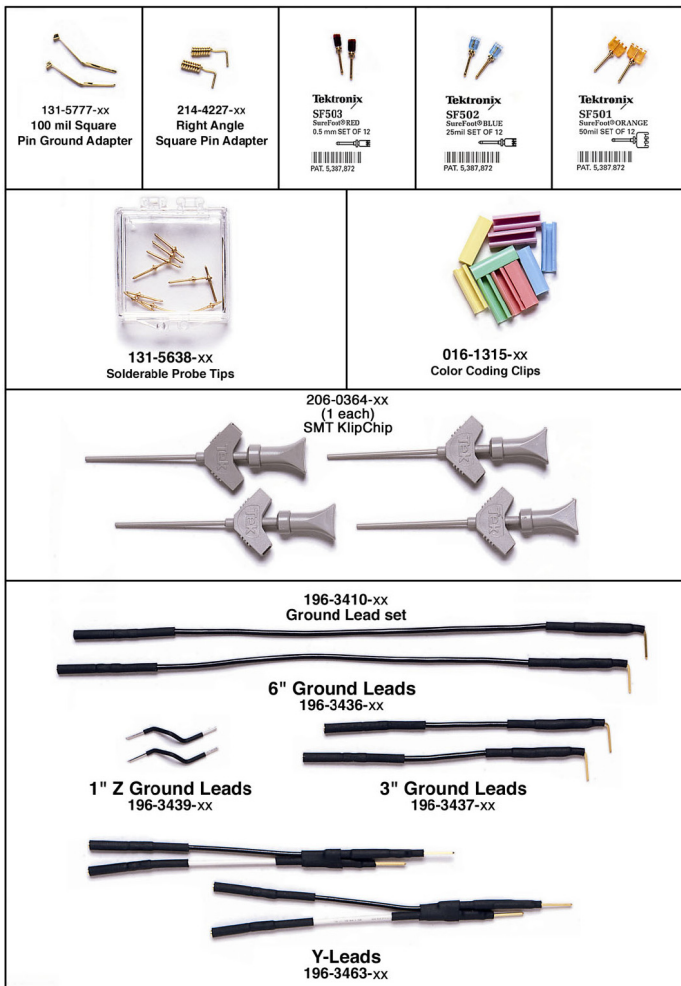**Opt. R3 –** Repair Service 3 Years
Opt. R5 – Repair Service 5 Years
Opt. SILV400 – Standard Warranty Extended to 5 Years (P6243).
Opt. SILV600 – Standard Warranty Extended to 5 Years (P6245).

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Tektronix

P6245 / P6243
Part Reorder 1-800-833-9200

131-5777-xx 100 mil Square Pin Ground Adapter	214-4227-xx Right Angle Square Pin Adapter	**Tektronix** SF503 SureFoot® RED 0.5 mm SET OF 12 PAT. 5,387,872	**Tektronix** SF502 SureFoot® BLUE 25mil SET OF 12 PAT. 5,387,872	**Tektronix** SF501 SureFoot® ORANGE 50mil SET OF 12 PAT. 5,387,872

131-5638-xx
Solderable Probe Tips

016-1315-xx
Color Coding Clips

206-0364-xx
(1 each)
SMT KlipChip

196-3410-xx
Ground Lead set

6" Ground Leads
196-3436-xx

1" Z Ground Leads
196-3439-xx

3" Ground Leads
196-3437-xx

Y-Leads
196-3463-xx

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

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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.tek.com**

05 Dec 2018   60W-13989-7

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