

Measure two voltage points in a circuit and provide, as an output, the difference between two voltages.

Avoid ground loop errors in mixed signal circuits.

Test twisted pair data links.

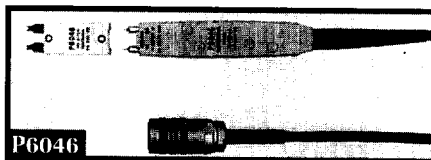
P6046

- Active Differential System
- DC to 100 MHz
- 1X/10X Differential
- Typically 10,000:1 CMRR Derating to 1,000:1 at 50 MHz
- ± 250 V Maximum Voltage with 10X Attenuator

Differential Measurements

Differential measurement systems enable you to simultaneously measure two voltage points in a circuit and provide as an output the difference between the two voltages.

Tektronix offers two types of differential measurement probes: the active differential probe system and the passive matched pair of probes. The P6046 and P5200 are active differential amplifiers in probe form which connect to one channel of a standard scope amplifier. The P6135A and P5135 are passive probe pairs designed to enhance the performance of a differential amplifier.



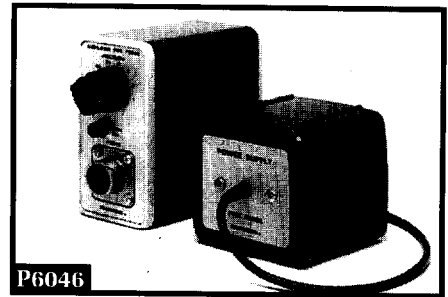
P6046 with 10X Attenuator

P6046 ACTIVE DIFFERENTIAL PROBE SYSTEM

The P6046 is a self-contained active differential system consisting of a Differential Probe, Amplifier and Power Supply. Active FET amplifiers at the dual-inputs reduce circuit loading. Combined with the differential processing occurring in the probe head, the P6046 provides superior common mode rejection ratios (CMRR) at high frequencies typically 10,000:1 out to 50 kHz, derating to 5,000:1 at 1 MHz.

Since the P6046 is self-contained, it provides a differential output into a single channel of any oscilloscope. System controls enable you to select AC or DC coupling, adjust the DC balance and select mV/div from 1 to 200 mV (10 mV to 2 V with attenuator head) in standard 1, 2, 5 steps.

A slip-on 10X attenuator is also included which increases the maximum input voltage from ± 25 V to ± 250 V and the common mode dynamic range from ± 5 V to ± 50 V.



P6046 Amplifier with Power Supply

Characteristics

CMRR – With deflection factors of 1 to 20 mV/div: at least 10,000:1 at 50 kHz, 5,000:1 at 1 MHz, and 1,000:1 at 50 MHz (DC coupled).

Common Mode Linear Dynamic Range – ± 5 V, ± 50 V with 10X attenuator.

Bandwidth – DC to 100 MHz (-3 dB).

Rise Time – 3.5 ns or less.

Deflection Factor Range – 1 to 200 mV/div in eight calibrated steps, 1-2-5 sequence, accurate within 3% (with an oscilloscope deflection factor of 10 mV/div). Input RC 1 M Ω paralleled by 10 pF or less.

Input Coupling – AC or DC, selected by a switch on the probe. Low frequency response AC-coupled is -3 dB at 20 Hz, 2 Hz with 10X attenuator.

Displayed Noise – Typically 450 mV or less (tangentially measured).

Maximum Input Voltage – ± 25 V (DC + peak AC), ± 250 V with 10X attenuation, derated with frequency. The P6046 circuitry can be damaged by electrostatic discharge. Please refer to the manual for use.

Output Impedance – 50 Ω through a BNC-connector. 50 Ω termination supplied with amplifier for use with 1 M Ω systems.

Probe Cable – 6 ft. long, terminated with special nine-pin connector.

APPLICATIONS

- Power Supplies
- Disk Drives
- Electronic Ballast
- Intelligent Motion
- Single and Three Phase Adjustable Speed Drives

ORDERING INFORMATION

P6046
1X, 6 ft. FET Differential Probe with Amplifier and Power Supply **\$2,395**

Includes: 50 Ω Termination (011-0049-01); Amp and Power Supply (015-0106-00); 50 Ω Coaxial Cable (012-0076-00); Hanger Assembly (014-0029-00); Carrying Case (016-0111 01); Dual Attenuator Head (010-0419-00); Swivel Probe Tip; Spring Ground Contact; Connector Test Point Jack; Instruction Manual (070-7129-01).

Opt. A6 – Japan, 100 V, 50 Hz **NC**
Power Supply with Amplifier – Order 015-0106-00 **\$1,515**

SERVICE ASSURANCE OPTIONS

Opt. R2 – Adds two years of post-warranty Repair Protection..... **+\$100**
Opt. C5 – Adds five years of Calibration Services..... **+\$325**

Product(s) available through your local Tektronix representative (listed in the back of this catalog) or call 1-800-426-2200.



Tektronix Measurement products are manufactured in ISO registered facilities.