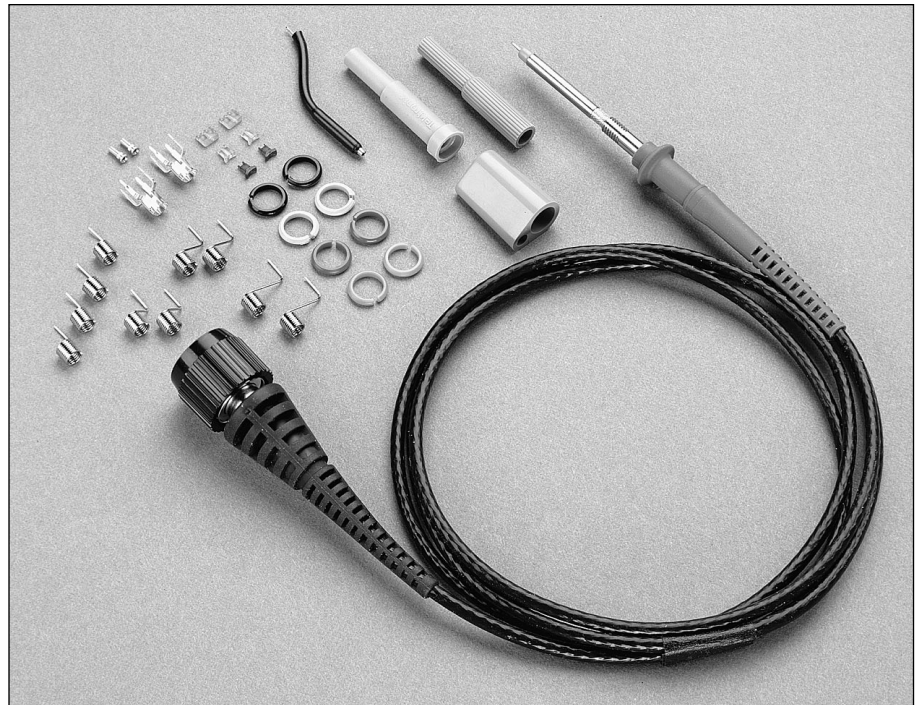


# 20X Low Capacitance Probe

P6158

## ★ Features and Benefits

- 3 GHz Bandwidth
- 1.5 pF Input Capacitance
- 1 k $\Omega$  Input Resistance
- 22 V<sub>RMS</sub> Max. Input Voltage
- Activates 20X Readout in TEKPROBE® Interface Instruments
- Compact Probe Tip Compatible with a Wide Range of Tektronix Accessories and Adapters



## A Applications

- High-speed Device Characterization
- Propagation Delays for ECL, CMOS, and Other Logic Circuitry and Devices
- Circuit Board Impedance Testing (TDR)
- High-speed Sampling Systems

The P6158 is a 3 GHz, 20X, low-capacitance probe. The P6158 is ideal for high-speed applications because of its ability to extend high-frequency response to 3 GHz. The BNC connector incorporates encoding to correct scale factors for 20X attenuation in oscilloscopes with TEKPROBE® interface. To facilitate SMD probing, the P6158 comes standard with SureFoot™ adapters. Additionally, the probe comes standard with an array of short

ground leads that insert minimal inductance into the signal path of the measured waveform. The compact probe head/tip assembly is compatible with the full line of 3.5 mm probe accessories. Although designed for the TDS 500/600/700 series oscilloscopes, the P6158 probe may be used with 11000 Series plug-ins, and the 11800 Series SD2X Sampling/TDR plug-ins.

## CHARACTERISTICS

### TYPICAL SPECIFICATIONS

**Bandwidth** (Probe Only) – DC to 3 GHz, –3 dB.

**Rise Time** – <100 ps.

**Attenuation** –  $\pm 20$  (–26 dB).

**Attenuation Accuracy** –  $\pm 3\%$ .

**Input C** – 1.5 pF.

**Input R** – 1 k $\Omega$ .

**Output Termination** – Terminate into 50  $\Omega$ .

**Signal Delay** – 5 ns.

### PHYSICAL CHARACTERISTICS

**Probe Tip/Head Style** – 3.5 mm/Compact.

**Output Cable Length** – 1.2 m.

### ENVIRONMENTAL CHARACTERISTICS

**Temperature** –

Operating: –15° C to +55° C (+5° F to +131° F).

**Humidity** –

High Operating: 55° C @ 95 to 97% RH.

Low Operating: 30° C @ 95 to 97% RH.

### RECOMMENDED INSTRUMENTS

TDS 500/600/700 Series.

11000 Series.

11800 SD2X Sampling/TDR plug-ins.

CE Certified for CE Marking.



See Tektronix on the World Wide Web:  
<http://www.tek.com>



Tektronix Measurement  
products are manufactured  
in ISO registered facilities.

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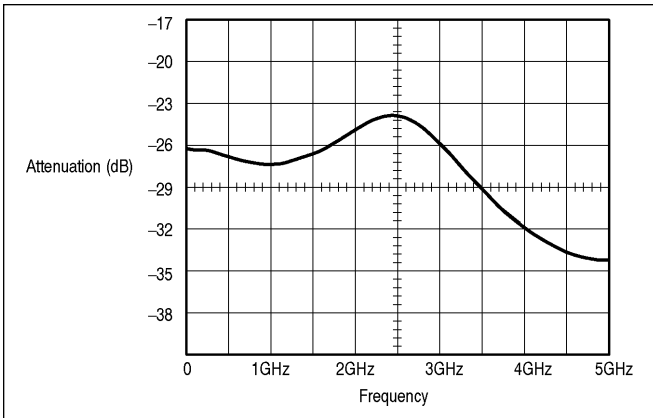


Figure 1. P6158 Attenuation vs frequency.

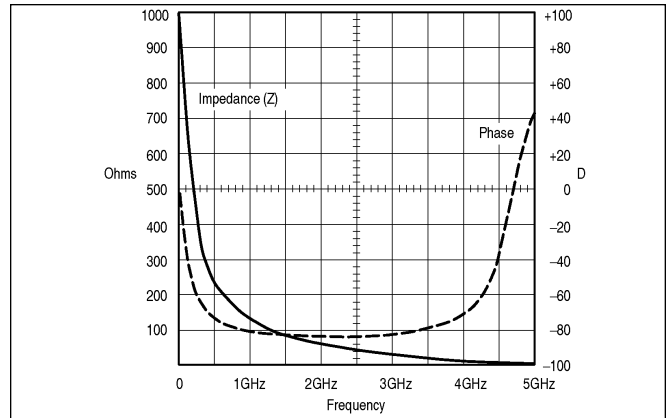


Figure 2. P6158 Input impedance and phase.

## ORDERING INFORMATION

### P6158

3 GHz Low Capacitance Probe.

**Includes:** P6158 Probe Tip Accessory Kit (020-2232-00) with: Attenuator Tip Cover (204-1049-00); 2 ea. 50 mil, 25 mil (0.65 mm), and 0.5 mm SureFoot™ Adapters; 2-in. Ground Lead (195-4240-00); Ground Collar (343-1003-01); 2 ea. Ground Tip Contact, 5 lengths w/cover shell (016-1077-00); 2 ea. Compact Probe Tip Circuit Board Test Points; 2 ea. Marker Set, Various Colors (016-0633-00); Instruction Manual (071-0123-00).

### RECOMMENDED REPLACEMENT ACCESSORIES

**SureFoot™ Adapter, Orange, 50 mil (12 ea.) – SF201A.**

**SureFoot™ Adapter, Blue, 0.65 mm/25 mil (12 ea.) – SF202A.**

**SureFoot™ Adapter, Red, 0.50 mm/20 mil (12 ea.) – SF203A.**

**Compact Probe Tip Circuit Board Test Points (25 ea.) – 131-5031-00.**

**Compact Probe Tip Circuit Board Test Points (100 ea.) – 131-4244-00.**

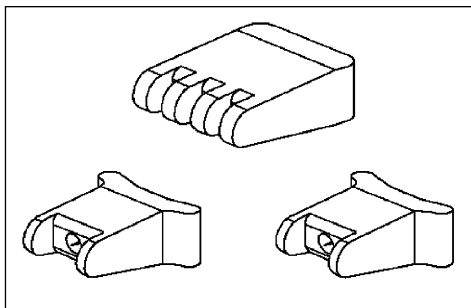


Figure 3. SF200A Series SureFoot™ adapters.

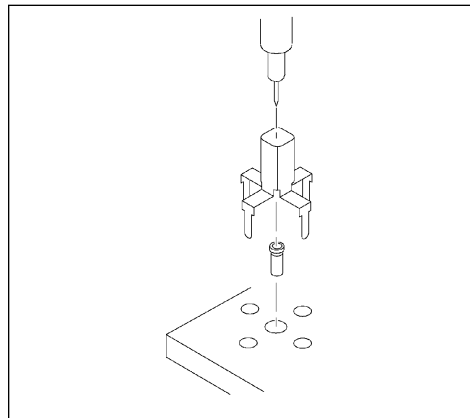


Figure 4. Compact probe tip circuit board test points.

### For further information, contact Tektronix:

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**From other areas, contact:** Tektronix, Inc. Export Sales, P.O. Box 500, M/S 50-255, Beaverton, Oregon 97077-0001, USA 1 (503) 627-6877.

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