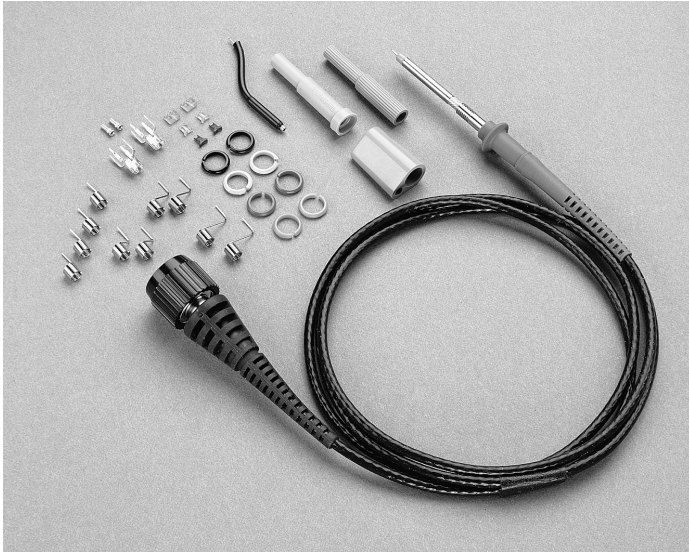


20X Low Capacitance Probe

P6158 Data Sheet



P6158.

Features & Benefits

- 3 GHz Bandwidth
- 1.5 pF Input Capacitance
- 1 k Ω Input Resistance
- 22 V_{RMS} Max. Input Voltage
- Activates 20X Readout in TEKPROBE™ Interface Instruments
- Compact Probe Tip Compatible with a Wide Range of Tektronix Accessories and Adapters

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

P6158 DC to 3 GHz

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® power supply 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. Designed for the TDS500/600/700/5000/6000/7000 Series oscilloscopes, the P6158 probe may also be used with 50 Ω 11000 Series plug-ins and the 11800 Series SD2X Sampling/TDR plug-ins with BNC to SMA Adapters.

Characteristics

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

Rise Time – >100 ps.

Attenuation – x20 (-26 dB).

Attenuation Accuracy – $\pm 3\%$.

Input C – 1.5 pF.

Input R – 1 k Ω .

Output Termination – Terminate into 50 Ω .

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.

20X Low Capacitance Probe

P6158 Data Sheet

Recommended Instruments

TDS500/600/700/7000 Series.
 11000 Series.
 11800 SD2X Sampling/TDR plug-ins.
 TDS820/TDS8000/CSA8000/11801C/CSA803C.

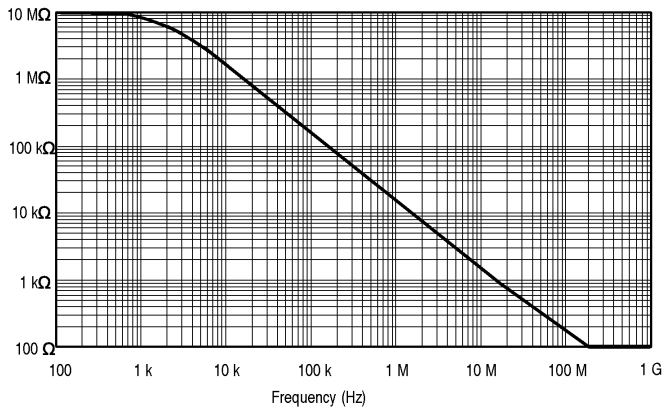


Figure 1. P6158 Attenuation vs. frequency.

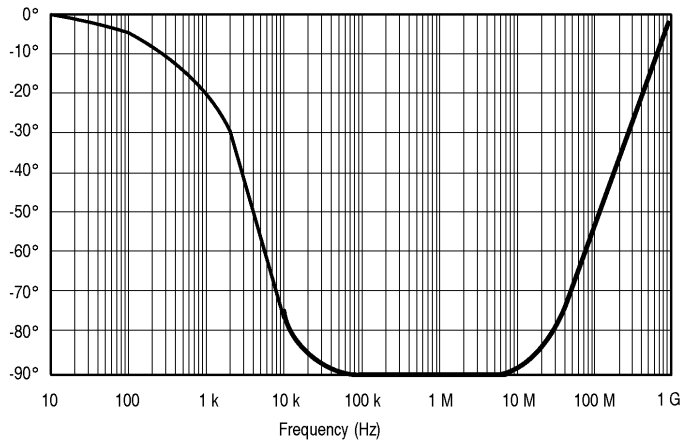


Figure 2. P6158 Input impedance and phase.

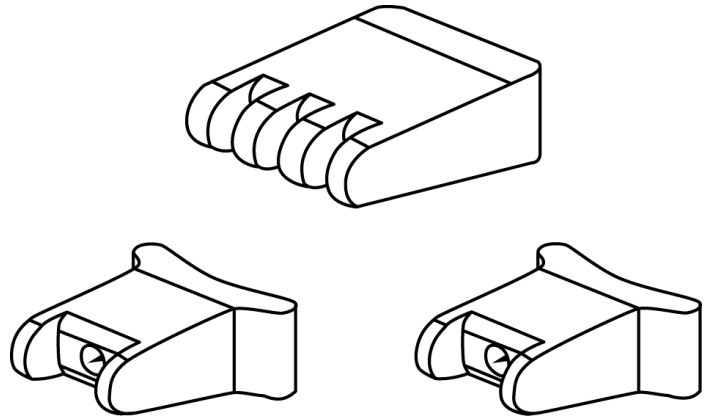


Figure 3. SF200A Series SureFoot® adapters.

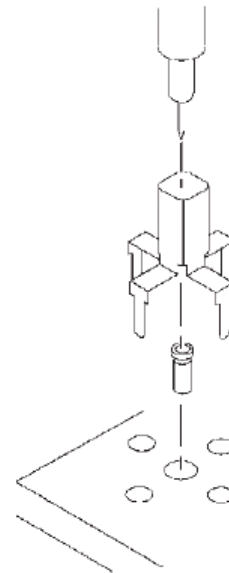


Figure 4. Compact probe tip circuit board test points.

20X Low Capacitance Probe

P6158 Data Sheet

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.) – Order SF201A.

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

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

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



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

CE Marking Not Applicable.

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

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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



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