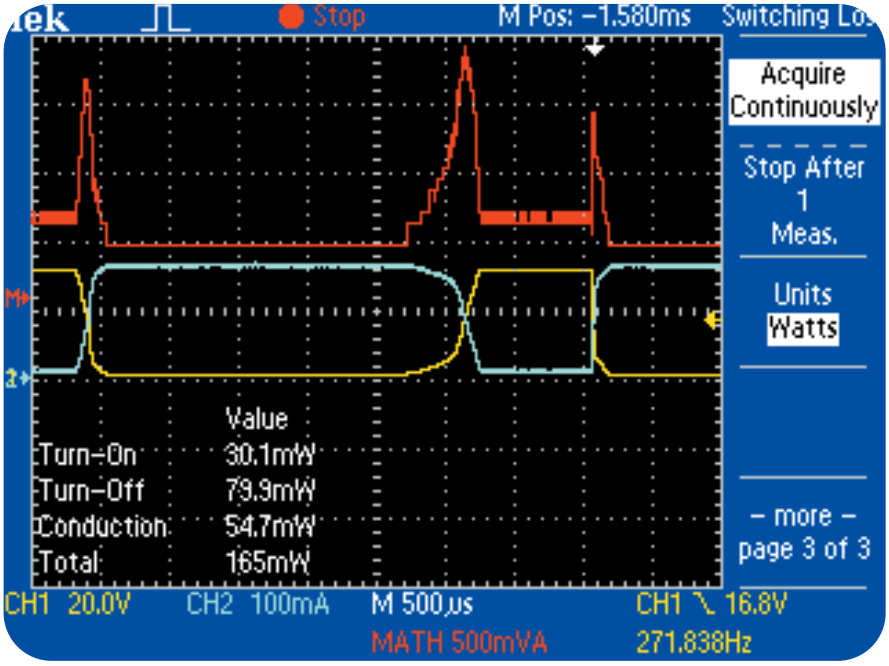
Power Measurement and Analysis Software

▶ TPS2PWR1



Power Measurement and Analysis Software

As an industrial power designer or technician, you must perform a range of power-specific measurements to develop, test and race products to market. The TPS2000 Series oscilloscopes, when equipped with TPS2PWR1 power measurement and analysis software, allows you to optimize your productivity by reducing your development and test time with a broad range of power-specific measurements, such as switching loss (including turn-on, turn-off and conduction losses), harmonic distortion measurements to the 50th harmonic, and dv/dt and di/dt cursor measurements. Use a single instrument to make an array of measurements – from measuring high voltages[*1] and high currents to debugging control circuits.

To improve the efficiency of industrial power designs, you must analyze power dissipation and characterize transitions at higher switching frequencies. Using TPS2PWR1's unique switching loss feature, you can measure switching device power dissipation with the touch of a button. Coupled with the TPS2000 Series oscilloscopes' unique digital real-time (DRT) sampling technology, the TPS2PWR1 software package enables you to efficiently and accurately characterize industrial power systems by measuring power loss at the switching device.

Reduce your development and testing time by using TPS2PWR1's harmonic testing capability to the 50th harmonic to test power supply designs to these standards from your bench, the power lab, or on-site.

In addition, TPS2PWR1 software enables you to set units and scale factor for Tektronix current and voltage probes to read the result in the right unit.

[*1] To make floating measurements greater than 30 V_{RMS}, use the optional P5120 passive high-voltage probe or similarly rated passive high-voltage probe, or an appropriately rated high-voltage differential probe, subject to the ratings of such high-voltage probe.

▶ Features & Benefits

Improve Efficiency of Power Designs with Switching Loss Measurements Including Turn-on, Turn-off and Conduction Losses

Reduce Test Time with Harmonic Measurements to the 50th Harmonic

Eliminate Manual Calculations with Automated Power Analysis, Waveform Analysis and Phase Analysis with True Power, Reactive Power, Power Factor, Crest Factor, Phase Relationships

Reduce Measurement Time with dv/dt and di/dt Cursors

▶ Applications

Motor Drive Design and Test

UPS Design and Test

Power Semiconductor Characterization

Power Quality Equipment Design and Test

Power Monitoring and Performance Verification

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Power Measurement Application Software

▶ TPS2PWR1

▶ Characteristics

Power Measurements – True real power in watts, reactive power in VAR, power factor, crest factor, RMS measurements, frequency measurements.

Cursors – dv/dt and di/dt.

Phase Angles – CH1 & CH2, CH2 & CH3 (four channel scopes only), CH1 & CH3 (four channel scopes only).

Harmonics Measurements – Up to the 50th harmonic, THD, individual harmonic levels display, individual harmonic phase to fundamental, RMS values.

Switching Loss Measurements – Turn-on loss, turn-off loss, conduction loss, total switch loss.

Tektronix Oscilloscopes and Probes Supported

TPS2000 Series oscilloscopes –
TPS2012, TPS2014, TPS2024.

Current Probes

A621, A622, TCP202 with 1103 power supply, TCPA300 with TCP312, TCP305, TCP303, TCPA400 with TCP404XL, P6021, P6022, CT2, CT4 with TCP202 and 1103 power supply.

Passive Voltage Probes

P2220 –
200 MHz, 1X/10X switchable passive probe.
P5120 –
Passive high-voltage probe (1000 V CAT II tip to ground; 600 V CAT II reference to earth ground).

Differential Probes

P5200 –
High-voltage active differential probe (1300 V_{p-p}, 25 MHz).
P5205 –
High-voltage active differential probe (1300 V_{p-p}, 100 MHz) (1103 power supply required).
P5210 –
High-voltage active differential probe (5600 V_{p-p}, 50 MHz) (1103 power supply required).

▶ Ordering Information

TPS2PWR1

Power Measurement and Analysis Software

TPS2PBND

Power bundle for TPS2000 Series oscilloscopes. Includes (4) P5120 probes and TPS2PWR1 power measurement and analysis software.

International User Manual

Opt. L0 – English (071-1452-xx).
Opt. L1 – French (071-1453-xx).
Opt. L2 – Italian (071-1454-xx).
Opt. L3 – German (071-1455-xx).
Opt. L4 – Spanish (071-1456-xx).
Opt. L5 – Japanese (071-1457-xx).
Opt. L6 – Portuguese (071-1458-xx).
Opt. L7 – Simplified Chinese (071-1459-xx).
Opt. L8 – Traditional Chinese (071-1460-xx).
Opt. L9 – Korean (071-1461-xx).
Opt. LR – Russian (071-1462-xx).

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Our most up-to-date product information is available at:
www.tektronix.com

Product(s) are manufactured in ISO registered facilities.

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