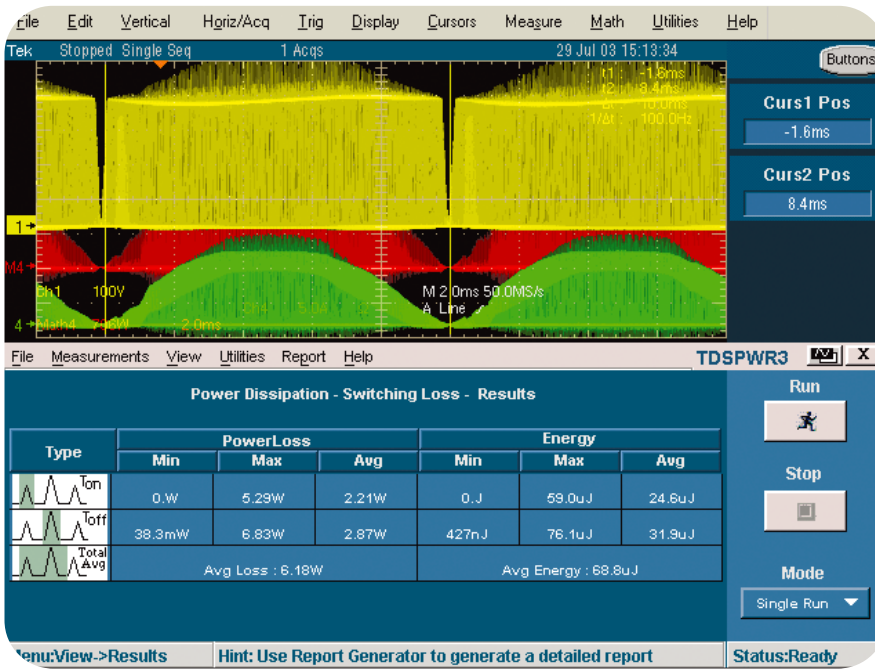


Power Measurement and Analysis Software

► TDSPWR3



Power Measurement and Analysis Software Package

TDSPWR3 power measurement and analysis software transforms Tektronix oscilloscopes into sophisticated analysis tools that quickly measure and analyze power dissipation in power supply switching devices and magnetic components, and then generates detailed test reports in customizable formats. TDSPWR3, used with a Tektronix TDS5000, TDS/CSA7000 or TDS6000 Series oscilloscope and differential voltage and current probes, forms a complete measurement system for power supply design and test. Using TDSPWR3's unique switching loss and B-H analysis features, you can measure switching and magnetic device power dissipation with a touch of a button. Tektronix oscilloscopes' high bandwidth, high sample rate and deep memory, combined with the TDSPWR3, enable you to

efficiently and accurately characterize switching power supplies by measuring power loss at the switching device and magnetic component. Reliability at the component level of the switching power supply can be analyzed using a safe operating area with mask test capability and measuring the peak flux density.

Reduce your development and testing time by using the pre-compliance testing capability of TDSPWR3 to test power supply designs to the IEC EN61000-3-2, EN61000-3-2 AM14 standards from your bench.

TDSPWR3 enables you to set units and scale factor for Tektronix current and voltage probes to read the result in the right unit. Automated deskew capabilities help you to get accurate results.

► Features & Benefits

HiPower Finder and B-H Analysis Pinpoint the Source of Reliability Problems

Power Loss Measurements at the Switching Device and Magnetic Component Improve Switching Power Supply Efficiency

Sophisticated Report Generation Saves Time

Customizable Safe Operating Area Mask Testing with Linear and Log Scale for Reliability Testing

In-circuit Bpeak, Permeability, and Coercive Force Measurements Determine Magnetic Component Reliability

Automatic Ripple Measurement Setup Eliminates Manual Processes

Spectrum Analysis Locates Ripple and Noise on the Output Voltage and EMI Issues with the Switching Power Supply

Pre-compliance Testing for EN61000-3-2, EN61000-3-2 AM14, and MIL Standard 1399 (400 Hz) Reduces Test Time

Automated THD, True Power, Apparent Power, Power Factor, and Crest Factor Eliminate Manual Calculations

Modulation Analysis Quickly Provides Accurate Active Power Factor Characterization

► Applications

Power Loss Measurement at Switching Device and Magnetic Component

Characterization of Power Semiconductor Devices

Optimal Drive Characterization of Synchronous Rectifiers

Measurement and Analysis of Ripple and Noise

Pre-compliance Testing

Debugging Active Power Factor Correction Circuits

COMPUTING
COMMUNICATIONS
VIDEO

Power Measurement and Analysis Software

▶ TDSPWR3

▶ Characteristics

Power Device Analysis – Switching Loss, HiPower Finder, B-H Analysis, Magnetic Loss, Inductance, Maximum Magnetic Flux Density, Permeability, Remenence Flux Density, Coercive Force, Total Loss*1, Safe Operating Area (SOA), Gated SOA, SOA Mask Editor with Mask Testing, Dynamic On Resistance, di/dt, dv/dt.

Line Power Measurements – True Power, Apparent Power, Power Factor, Crest Factor, Current Harmonic, THD, Pre-compliance testing for EN61000-3-2, EN61000-3-2 AM14 and MIL-1399 standard (400 Hz).

Output Measurement – Ripple due to line frequency and switching frequency, Turn on time.

Modulation Analysis – Pulse Width, Duty Cycle, Period, and Frequency variation vs. Time.

Spectral Analysis – Automated Spectral analyses by setting start frequency, stop frequency, and resolution bandwidth.

Report Generation – Create template, custom report layout, and report generation.

Deskew – Automatic.

Tektronix Oscilloscopes and Probes Supported

TDS5000 Series Digital Phosphor Oscilloscopes – TDS5032, TDS5034, TDS5054, TDS5052, TDS5104.

TDS7000 Series Digital Phosphor Oscilloscopes – TDS7054, TDS7104, TDS7154*2, TDS7254*2, TDS7404*2.

CSA7000 Series Communications Signal Analyzer – CSA7154*2, CSA7404*2.

TDS6000 Series Digital Storage Oscilloscope – TDS6404*2, TDS6604*2.

*1 Total loss measurement needs four channels; it is not supported in TDS5032 or TDS5052.

Current Probes – TCP202, TCPA 300 with TCP312, TCP305, TCP303, TCPA400 with TCP404XL, AM503B with A6312, A6302, A6303, P6021, or P6022.

Differential Probes – P5205, P5210, P5200 and ADA400A.

Deskew Fixture – 067-1478-00.

Probe Adapter – TCA-1MEG, while using with TDS6000/CSA7000/TDS7154/TDS7254/TDS7404.

▶ Ordering Information

When Ordered Along With TDS5000/TDS7000/CSA7000/TDS6000

Opt. PW3 (includes Opt. 2A for advanced math for TDS5000).

Includes: Application CD and electronic documentation.

After-purchase Upgrade

TDS5UP – Opt. PW3.

TDS7UP – Opt. PW3.

CSA7UP – Opt. PW3.

TDS6UP – Opt. PW3.

Recommended Accessories

TDS5000 –

Opt. 2M.

Opt. 17.

TDS7000/CSA7000 – Opt 3M or Opt. 4M.

*2 A TCA-1MEG TekConnect 1M buffer amplifier is required to use a 1 M Ω differential probe with the TDS7154/TDS7254/TDS7404, TDS6000, and CSA7000 Series oscilloscopes.

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Updated 20 September 2002

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



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