

Power Measurement and Analysis Software

► DPOPWR



DPOPWR

DPOPWR Power Measurement and Analysis software transforms Tektronix digital 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. DPOPWR, used with a Tektronix DPO7000 Series oscilloscope and differential voltage and current probes, forms a complete measurement system for power supply design and test. To improve the efficiency of switching power supplies with increased power densities, designers need to analyze power dissipation and characterize transitions at higher switching frequencies. Using DPOPWR'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 DPOPWR,

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 safe operating area, with mask test capability and measuring the peak flux density. With the current harmonic standard (EMC) being imposed worldwide to maximize the efficiency of the existing total generation capacity, compliance to the IEC EN61000-3-2, EN61000-3-2 AM14 Standard is critical. Reduce your development and testing time by using the pre-compliance testing capability of DPOPWR to test power supply designs to these standards from your bench. DPOPWR enables you to set units and scale factor for 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 the Reliability of the Magnetic Component

Automatic Ripple Measurement Setup Eliminates Manual Processes

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

Pre-compliance Testing to the EN61000-3-2, EN61000-3-2 AM14 and MIL 1399 (400 Hz) Standards Reduces Compliance Test Time and Risk

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

Modulation Analysis Quickly Provides Accurate Active Power Factor Characterization

Automatic Deskew Ensures Accurate, Time-correlated Results

Correct Scale Factor and Unit Display While Using Third Party Current Probes Eliminates Manual Calculations and Human Error

► 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 to IEC Standard EN61000-3-2, EN61000-3-2 AM14 and MIL Standard 1399 (400 Hz)

Debugging Active Power Factor Correction Circuits

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► Characteristics

Power Device Analysis

Switching Analysis –

Switching Loss, HiPower Finder, Safe Operating Area (SOA), SOA Mask Editor with Mask Testing, Dynamic ON Resistance, di/dt, dv/dt.

Modulation Analysis –

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

Magnetics

Magnetic Loss, Inductance, Maximum Magnetic Flux Density, Permeability, Remanence Flux Density, Coercive Force.

Input/Output Analysis

Input Analysis –

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 (400 Hz) standards.

Output Analysis –

Ripple due to line frequency and switching frequency, Turn-on time, Spectral Analysis (automated spectral analysis 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

DPO7000 Series Digital Phosphor Oscilloscopes –

DPO7254, DP07104, DPO7054.

Current Probes –

TCP202,[†] TCPA300,[†] with TCP312, TCP305, TCP303, TCPA400[†] with TCP404XL, AM503B with A6312, A6302, A6303, P6021 or P6022, TCP0030.

Differential Probes –

P5205,[†] P5210,[†] P5200[†] and ADA400A[†].

Deskew Fixture – 067-1686-xx.

Adapter – TPA-BNC (TekVPI™ to BNC adapter).

[†] Probe requires TPA-BNC adapter.

► Ordering Information

DPOPWR

Power Measurement and Analysis Software.

When ordered along with

DPO7000 Series Oscilloscope

DPO7000 – Opt. PWR.

Includes: Application CD and electronic documentation.

After-purchase Upgrade

DPO7UP – Opt. PWR.

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www.tektronix.com



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