



# Digital Oscilloscope



# DPO7000 Series

## 500MHz, 2GSa/s, 2Gpts Memory Depth

Digital Oscilloscope



### Product Features

- 7-in-1 instrument integration: oscilloscope, 16-channel logic analyzer, spectrum analyzer, frequency counter, DVM, arbitrary waveform generator, protocol analyzer;
- Up to 2GSa/s real-time sampling rate, 2G memory depth, hardware real-time waveform recording and playback up to 2 million frames;
- Rich serial protocol triggering and decoding;
- Up to 500,000 wfms/s waveform capture rate;
- Up to 41 waveform automated measurements;
- Multiple data gathering and analysis: search, navigate and lister, histogram, bode plotter, power analyzer, counter.

## Specification

| Model                  | DPO7504E  | DPO7354E   | DPO7204E         | DPO7104E         |
|------------------------|---|--|------------------|------------------|
| Analog Channels        | 4   |  |                  |                  |
| Bandwidth              | 500MHz  | 350MHz   | 200MHz           | 100MHz           |
| Sampling Rate          | 2GSa/s single channel, 2GSa/s half channels, 1GSa/s all channels  |  |                  |                  |
| Memory Depth           | 2Gpts (single channel), 1Gpts (dual channels), 500Mpts (three or four channels)   |  |                  |                  |
| Waveform Capture Rate  | 500,000 wfms/s [for 25ns, dots display, single channel, auto memory depth]  |  |                  |                  |
| Vertical Resolution    | 8 bit   |  |                  |                  |
| Input Sensitivity      | 1 M $\Omega$ : 500 $\mu$ V/div ~ 10 V/div   |  |                  |                  |
|                        | 50 $\Omega$ : 500 $\mu$ V/div ~ 1 V/div   |  |                  |                  |
| Timebase Range         | 500ps/div~1 ks/div  | 1ns/div~1 ks/div   | 2ns/div~1 ks/div | 5ns/div~1 ks/div |
| Timebase Accuracy      | $\pm$ 1 ppm $\pm$ 1 ppm/year aging  |  |                  |                  |
| Bandwidth Limit        | 20 MHz, 100MHz, 200MHz, 350MHz, 650MHz, 750MHz (Independent option for each channel)  |  |                  |                  |
| Trigger Type           | Edge, Pulse, Video, Slope, Overtime, Window, Runt, Superamp, Pattern, Delay, Setup/Hold, RS232, LIN, CAN, SPI, I <sup>2</sup> C               |  |                  |                  |
| Serial Bus Decode      | RS232, I <sup>2</sup> C, SPI, LIN, CAN  |  |                  |                  |
| Arithmetic             | Add, Subtract, Multiply, Divide, FFT, A&B, AllB, A*B, !A, Intg, Diff, Sqrt, Lg, Ln, Exp, Abs, AX+B, Low Pass, High Pass, Band Pass, Band Stop |  |                  |                  |
| Automatic Measurements | 41 measurements, measurements update continuously with statistics   |  |                  |                  |
| Analyze                | Counter, DVM, Power analyzer, Histogram, Search, Navigate, Bode plotter   |  |                  |                  |
| Recorder               | $\geq$ 2 million frames (single channel)  |  |                  |                  |
| Input Coupling         | DC, AC or GND   |  |                  |                  |
| Input Impedance        | 1 M $\Omega$ $\pm$ 1%, 50 $\Omega$ $\pm$ 1% ; 21 pF $\pm$ 3 pF  |  |                  |                  |
| Waveform Generator     | Sampling Rate   | 200 MSa/s  |                  |                  |
|                        | Amplitude Resolution  | 12 bit   |                  |                  |
|                        | Max. Frequency  | 25 $\mu$ Hz  |                  |                  |
|                        | Waveform  | Sine, Square, Pulse, Ramp, Noise, DC, Sinc, EXP, Rise, Fall, Lorentz, Gauss, ECG, Haver Sine, Arb. |                  |                  |
| Digital Channels       | Input Channels  | 16   |                  |                  |
|                        | Sampling Rate   | 1GSa/s   |                  |                  |
| Connectivity           | USB host, USB device, LAN, Optional ports: HDMI, RS232  |  |                  |                  |
| Display                | 10.1 inch capacitive multi-touch, 256 intensity levels, color graded persistence  |  |                  |                  |

## Model

| Model    | Analog Channels | Bandwidth | Max. Real-time Sampling Rate | Max. Memory Depth | Max. Waveform Capture Rate | Digital Channels | Waveform Generator |
|----------|-----------------|-----------|------------------------------|-------------------|----------------------------|------------------|--------------------|
| DPO7102C | 2               | 100MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7202C | 2               | 200MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7352C | 2               | 350MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7502C | 2               | 500MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7104C | 4               | 100MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7204C | 4               | 200MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7354C | 4               | 350MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7504C | 4               | 500MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | --               | --                 |
| DPO7102E | 2               | 100MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7202E | 2               | 200MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7352E | 2               | 350MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7502E | 2               | 500MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7104E | 4               | 100MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7204E | 4               | 200MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7354E | 4               | 350MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |
| DPO7504E | 4               | 500MHz    | 2GSa/s                       | 2Gpts             | 500,000 wfms/s             | 16               | 25MHz, 1 Output    |



# Digital Oscilloscope

## DSO2000 Series

### 150MHz, 1GSa/s, 8M Memory Depth

Digital Oscilloscope



### Product Features

- 2 channels, 100MHz and 150MHz bandwidth;
- Sampling rate up to 1 GSa/s;
- 8M memory depth;
- Vertical range from 2mV/div to 10V/div;
- With digital voltage meter and frequency counter;
- Vertical resolution: 8 bits;
- Trigger mode: Edge, Pulse, Video, Slope, Overtime, Window, Pattern, Interval, Under Amp;
- Serial decode/trigger options for: UART, I2C, SPI, CAN, LIN;
- Can save multiple data formats, such as settings, waveforms, reference waveforms, CSV, pictures;
- 32 built-in measurement and a measurement statistics display;
- Built-in 1 output 25MHz waveform generator (in DSO2D10, DSO2D15 models).

## Specification

| Model                | DSO2D15  | DSO2D10 |
|----------------------|--|---------|
| Analog Channels      | 2  |         |
| Bandwidth            | 150MHz   | 100MHz  |
| Sample Rate          | 1GSa/s (single channel), 500MSa/s (all channels)   |         |
| Memory Depth         | 8Mpts (single channel), 4Mpts (all channels)   |         |
| Rising Time          | ≤2.4ns   | ≤3.5ns  |
| Vertical Resolution  | 8 bit  |         |
| Vertical Sensitivity | 1 MΩ: 500μV/div ~ 10 V/div   |         |
| Time Base Range      | 2ns/div~1 ks/div   |         |
| Bandwidth Limit      | 20MHz (selectable)   |         |
| Trigger Type         | Edge, Pulse, Video, Slope, Timeout, Window, Pattern, Interval, Under Amp   |         |
| Bus and Decoding     | UART, LIN, CAN, SPI, IIC   |         |
| Arithmetic           | Add, subtract, multiply, divide, FFT   |         |
| Measurements         | 32 automated measurements, with statistics   |         |
| Analysis Function    | Frequency counter, DVM   |         |
| Acquisition Mode     | Normal, Average, Peak Detect, HR (High Resolution)   |         |
| Input Coupling       | DC, AC or GND  |         |
| Input Impedance      | 1 MΩ ± 1%  |         |
| Waveform Generator   | Sampling rate: 200 MSa/s<br>Vertical resolution: 12 bits<br>Maximum output frequency: 25 MHz<br>Waveforms: Sine, Square, Ramp, Exp, Noise, DC, Arbitrary |         |
| Connectivity         | USB host, USB device, External trigger input   |         |
| Display              | 7-inch 64K TFT LCD   |         |

## Model

| Model   | Channels | Bandwidth | Sampling Rate | Memory Depth | Digital Voltmeter  | Input Sensitivity  | Waveform Generator |
|---------|----------|-----------|---------------|--------------|--------------------|--------------------|--------------------|
| DSO2D15 | 2        | 150MHz    | 1GSa/s        | 8Mpts        | 2 source, 3 digits | 2mV/div ~ 10 V/div | 25MHz, 1 Output    |
| DSO2D10 | 2        | 100MHz    | 1GSa/s        | 8Mpts        | 2 source, 3 digits | 2mV/div ~ 10 V/div | 25MHz, 1 Output    |
| DSO2C15 | 2        | 150MHz    | 1GSa/s        | 8Mpts        | 2 source, 3 digits | 2mV/div ~ 10 V/div | --                 |
| DSO2C10 | 2        | 100MHz    | 1GSa/s        | 8Mpts        | 2 source, 3 digits | 2mV/div ~ 10 V/div | --                 |