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Data Sheet

August 3, 2026

LECROY

LeCroy HDO6054 High Definition Oscilloscope, 500MHz, 4 Channel

LeCroy HDO6054 High Definition Oscilloscope, 500 MHz, 4 Channel The Teledyne LeCroy HDO6054 isaHigh Definition Oscilloscope in the HDO6000 family using HD4096 12-bit ADC technology. It provides 500 MHz bandwidth, 4 analog channels, 2.5 GS/s single-shot sample rate, and standard 50 Mpts/Ch memory (upgradable to 100 or 250 Mpts/Ch). A 12.1" WXGA touch display and MAUI analysis toolset support high-resolution debug. High-resolution analog debug; power electronics and sensor measurements needing low noise; embedded multi-channel validation at 500 MHz; spectrum analyzer mode and WaveScan/History analysis. The Teledyne LeCroy HDO6054 isaHigh Definition Oscilloscope in the HDO6000 family using HD4096 12-bit ADC technology. It provides 500 MHz bandwidth, 4 analog channels, 2.5 GS/s single-shot sample rate, and standard 50 Mpts/Ch memory (upgradable to 100 or 250 Mpts/Ch). A 12.1" WXGA touch display and MAUI analysis toolset support high-resolution debug. High-resolution analog debug; power electronics and sensor measurements needing low noise; embedded multi-channel validation at 500 MHz; spectrum analyzer mode and WaveScan/History analysis.

No photo

MODEL

LeCroy HDO6054

CALIBRATION

**N/A — off-catalog
OEM datasheet**

CONDITION

**See OEM
documentation**

STATUS

**Not listed on
Aumictech
inventory**

RFQ / SKU

HDO6054

LISTING

**Off-catalog — OEM dat
asheet only**

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

Features & description

From manufacturer datasheet

Features

- Bandwidth: 500 MHz (−3 dB @ 50 Ω) • Channels: 4 analog • Vertical resolution: 12-bit; up to 15-bit with ERES • Sample rate: 2.5 GS/s single-shot; RIS up to 125 GS/s (repetitive) • Memory: 50 Mpts/Ch standard; Option -L 100 Mpts/Ch; Option -XL 250 Mpts/Ch • Rise time (10–90%, 50 Ω): 700 ps typical (500 MHz models) • Display: 12.1" WXGA touch • Optional MSO: 16 digital channels @ 1.25 GS/s (MSO-equipped configurations)

HDO6054 Characteristics / Specifications

PARAMETER	VALUE
Model	HDO6054
Manufacturer	Teledyne LeCroy
Instrument Type	High Definition Oscilloscope
Family	HDO6000
Alias	HDO6054; LeCroy HDO6054; HDO 6054 Vertical
Rise Time (	90%, 50 Ω): 700 ps typical
Input Channels	4
Vertical Resolution	12-bits; up to 15-bits with ERES
Sensitivity	50 Ω : 1 mV/div–1 V/div; 1 M Ω : 1 mV/div–10 V/div (fully variable)
DC Gain Accuracy (gain component)	$\pm$ (0.5%) F.S., offset at 0 V
Bandwidth Limiters	20 MHz, 200 MHz
Maximum Input Voltage	50 Ω : 5 Vrms; 1 M Ω : 400 V max (DC + Peak AC $\leq$ 10 kHz)
Input Coupling	50 Ω : DC, GND; 1 M Ω : AC, DC, GND
Input Impedance	50 Ω $\pm$ 2.0%; 1 M Ω $\pm$ 2.0% 15 pF
SNR architecture	HD4096 high-SNR amplifiers (~55 dB SNR cited in family literature) Acquisition
Sample Rate (Repetitive / RIS)	125 GS/s, user selectable (20 ps/div to 10 ns/div)
Record Length	STD 50 Mpts/ch; -L 100 Mpts/ch; -XL 250 Mpts/ch (all channels)
Acquisition Modes	Real-time, Roll, RIS, Sequence (up to 30,000 segments std; 60,000 -L; 65,000 -XL) with ~1 μ s intersegment dead-time
Timebase Range	20 ps/div–5 ks/div (std memory); to 10 ks/div (-L); 25 ks/div (-XL)
Timebase Accuracy	$\pm$ 2.5 ppm (5 to 40 $^{\circ}$ C) + 1.0 ppm/year from calibration
ERES	12.5- to 15-bit vertical resolution
Averaging	Summed/continuous to 1 million sweeps Triggering
Modes	Auto, Normal, Single, Stop
Sources	Any channel, External, Ext/10, or line

PARAMETER	VALUE
Coupling	DC, AC, HFREJ, LFREJ
Max Trigger Rate	1M triggers/s (Sequence Mode, up to 4 channels)
Edge Trigger Sensitivity (Ch	4, 500 MHz model): 0.9 div @ 10 MHz; 1.0 div @ 200 MHz; 1.5 div @ 250 MHz; 2.0 div @ 500 MHz Display / Analysis
Display	12.1" WXGA touch
Tools	WaveScan, History Mode, Spectrum Analyzer mode, serial decode options (orderable) Operational Notes HDO6054 (2.5 GS/s HDO6000) differs from HDO6054A/B (Enhanced Sample Rate up to 10 GS/s). Prefer the HDO6000 datasheet row for HDO6054 for warranted specs.
Bandwidth	500 MHz (–3 dB @ 50 Ω)
Channels	4 analog
Sample rate	2.5 GS/s single-shot; RIS up to 125 GS/s (repetitive)
Memory	50 Mpts/Ch standard; Option -L 100 Mpts/Ch; Option -XL 250 Mpts/Ch
Rise time (10–90%, 50 Ω)	700 ps typical (500 MHz models)
Optional MSO	16 digital channels @ 1.25 GS/s (MSO-equipped configurations)
Rise Time	(10–90%, 50 Ω): 700 ps typical (500 MHz models) - Display: 12.1" WXGA touch - Optional MSO: 16 digital channels @ 1.25 GS/s (MSO-equipped configurations)

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	HD06054
Manufacturer	Teledyne LeCroy
Instrument Type	High Definition Oscilloscope
Family	HD06000
Alias	HD06054; LeCroy HD06054; HD0 6054
Vertical	
Bandwidth @ 50 Ω (-3 dB): 500 MHz	
Rise Time (10-90%, 50 Ω): 700 ps typical	
Specifications	
PARAMETER	VALUE
Input Channels	4
Vertical Resolution	12-bits; up to 15-bits with ERES
Sensitivity	50 Ω: 1 mV/div-1 V/div; 1 MΩ: 1 mV/div-10 V/div (fully variable)
DC Gain Accuracy (gain component)	±(0.5%) F.S., offset at 0 V
Bandwidth Limiters	20 MHz, 200 MHz
Maximum Input Voltage	50 Ω: 5 Vrms; 1 MΩ: 400 V max (DC + Peak AC ≤ 10 kHz)
Input Coupling	50 Ω: DC, GND; 1 MΩ: AC, DC, GND
Input Impedance	50 Ω ±2.0%; 1 MΩ ±2.0% 15 pF
SNR architecture	HD4096 high-SNR amplifiers (~55 dB SNR cited in family literature)
Acquisition	
Sample Rate (Single-shot): 2.5 GS/s	
Specifications	
PARAMETER	VALUE
Sample Rate (Repetitive / RIS)	125 GS/s, user selectable (20 ps/div to 10 ns/div)
Record Length	STD 50 Mpts/ch; -L 100 Mpts/ch; -XL 250 Mpts/ch (all channels)
Acquisition Modes	Real-time, Roll, RIS, Sequence (up to 30,000 segments std; 60,000 - L; 65,000 -XL) with ~1 μs intersegment dead-time

PARAMETER	VALUE
Timebase Range	20 ps/div-5 ks/div (std memory); to 10 ks/div (-L); 25 ks/div (-XL)
Timebase Accuracy	±2.5 ppm (5 to 40 °C) + 1.0 ppm/year from calibration
ERES	12.5- to 15-bit vertical resolution
Averaging	Summed/continuous to 1 million sweeps

Triggering

Specifications

PARAMETER	VALUE
Modes	Auto, Normal, Single, Stop
Sources	Any channel, External, Ext/10, or line
Coupling	DC, AC, HFREJ, LFREJ

Hold-off: 2 ns to 20 s or 1 to 99,999,999 events
Max Trigger Rate: 1M triggers/s (Sequence Mode, up to 4 channels)
Edge Trigger Sensitivity (Ch1-4, 500 MHz model): 0.9 div @ 10 MHz; 1.0 div @ 200 MHz; 1.5 div @ 250 MHz; 2.0 div @ 500 MHz

Display / Analysis
Display: 12.1" WXGA touch
Tools: WaveScan, History Mode, Spectrum Analyzer mode, serial decode options (orderable)

Operational Notes
HD06054 (2.5 GS/s HD06000) differs from HD06054A/B (Enhanced Sample Rate up to 10 GS/s). Prefer the HD06000 datasheet row for HD06054 for warranted specs.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: N/A — off-catalog OEM datasheet. See OEM documentation · Not listed on Aumictech inventory.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.