

## TEKTRONIX

# TDS6154C

The Tektronix TDS6154C is a high-performance 15 GHz digital storage oscilloscope in the TDS6000 Series, engineered for advanced debug, compliance testing, and high-speed serial data analysis.

## SPECIFICATIONS

### General

|            |                                                                     |
|------------|---------------------------------------------------------------------|
| Interfaces | USB 2.0 (front panel), 1000Base-T Ethernet (LAN), GPIB (IEEE 488.2) |
| Display    | 10.4-inch (264 mm) active-matrix color TFT LCD, 1024 × 768 (XGA)    |

### Physical

|                       |                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------|
| Power Supply          | 100 to 240 V AC $\pm 10\%$ (47 to 63 Hz), 115 V AC $\pm 10\%$ (360 to 440 Hz), <1000 VA power consumption |
| Operating Temperature | 5 °C to 40 °C °C                                                                                          |
| Dimensions (W×H×D)    | 451 mm × 282 mm × 505 mm mm                                                                               |
| Weight                | 20.4 kg kg                                                                                                |

### Vertical System

|                              |                                                               |
|------------------------------|---------------------------------------------------------------|
| Analog Bandwidth             | 15 GHz                                                        |
| Input Channels               | 4                                                             |
| Vertical Resolution          | 8 bits (>11 bits with averaging)                              |
| Rise Time (10% to 90%)       | 28 ps (typical)                                               |
| Rise Time (20% to 80%)       | 19 ps (typical)                                               |
| Input Coupling               | 50 $\Omega$ : DC                                              |
| Input Impedance              | 50 $\Omega$                                                   |
| Input Sensitivity Range      | 10 mV/div to 1 V/div                                          |
| DC Gain Accuracy             | $\pm 2\%$                                                     |
| Maximum Input Voltage        | 1.5 V RMS (with TekConnect 50 $\Omega$ )                      |
| Channel-to-Channel Isolation | $\geq 15:1$ at 15 GHz                                         |
| Offset Range                 | $\pm 1.5$ V (10 to 100 mV/div), $\pm 5$ V (101 mV to 1 V/div) |
| Position Range               | $\pm 5$ div                                                   |

## Horizontal System

|                                    |                                                                |
|------------------------------------|----------------------------------------------------------------|
| Real-Time Sample Rate (2 Channels) | 40 GS/s                                                        |
| Real-Time Sample Rate (4 Channels) | 20 GS/s                                                        |
| Maximum Record Length              | Up to 64 MS on all 4 channels (configuration/option dependent) |
| Timebase Range                     | 5 ps/div to 40 s/div                                           |
| Timebase Delay Range               | -5.0 div to 250 s                                              |
| Channel-to-Channel Deskew Range    | ±75 ns                                                         |

## Trigger System

|                                  |                                                    |
|----------------------------------|----------------------------------------------------|
| Trigger Modes                    | Auto, Normal, Single                               |
| Trigger Holdoff Range            | 250 ns to 12 s                                     |
| Pinpoint Triggering Combinations | Over 1400 combinations                             |
| Serial Pattern Triggering Rate   | Up to 3.125 Gb/s (with 8b/10b protocol triggering) |

## Computer System & Storage

|                   |                          |
|-------------------|--------------------------|
| Operating System  | Windows XP               |
| Removable Storage | Front-panel CD-R/W drive |

## Connectivity & Interface Ports

|                 |            |
|-----------------|------------|
| Probe Interface | TekConnect |
|-----------------|------------|

## Power & Environmental

|                           |                                |
|---------------------------|--------------------------------|
| Non-Operating Temperature | -22 °C to +60 °C               |
| Operating Humidity        | 20% to 80% RH (non-condensing) |
| Operating Altitude        | Up to 3,000 m (10,000 ft)      |

## Ordering Information & Options

|                   |        |
|-------------------|--------|
| Standard Warranty | 1 year |
|-------------------|--------|

## Performance

|                          |                                              |
|--------------------------|----------------------------------------------|
| Timebase Accuracy        | ±15 ppm                                      |
| Timebase Aging           | ±1 ppm/year                                  |
| Trigger Jitter           | 1.5 ps RMS (typical)                         |
| Acquisition Modes        | Sample, Average, Envelope, Waveform Database |
| Number of Math Waveforms | 4                                            |

## Inputs & Outputs

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| Internal Reference Output | 10 MHz                                                |
| External Reference Input  | 10 MHz                                                |
| Calibrator Output         | 1 V into ≥10 kΩ (500 mV into 50 Ω), 1 kHz square wave |

Triggering

|                                 |                                                                                                                                                |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Trigger Types                   | Edge, Glitch, Width, Runt, Timeout, Transition, Setup/Hold, Window, Pattern, State, Comm (option dependent), Serial Pattern (option dependent) |
| Trigger Sensitivity             | 0.5 div (DC to 2 GHz), 1.0 div (2 GHz to 5 GHz), 2.0 div (5 GHz to 10 GHz), 3.0 div (10 GHz to 15 GHz)                                         |
| Trigger Level Range (Internal)  | ±12 divisions from center of screen                                                                                                            |
| Trigger Level Range (Auxiliary) | ±5 V                                                                                                                                           |
| Auxiliary Trigger Input         | 50 Ω, BNC connector, 5 V RMS maximum input voltage                                                                                             |

Measurements

|                     |                                                                                        |
|---------------------|----------------------------------------------------------------------------------------|
| Waveform Math       | Add, subtract, multiply, divide, integrate, differentiate, FFT, user-defined equations |
| Cursor Measurements | Amplitude, Time, Screen, Waveform                                                      |

Power

|                   |                         |
|-------------------|-------------------------|
| Power Consumption | 950 W maximum (1150 VA) |
|-------------------|-------------------------|

Environmental

|                         |                          |
|-------------------------|--------------------------|
| Acoustic Noise          | 52 dBA                   |
| Operating Vibration     | 0.22 g RMS (5 to 500 Hz) |
| Non-Operating Vibration | 2.28 g RMS (5 to 500 Hz) |
| Operating Shock         | 10 g (11 ms, half-sine)  |

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

High-Speed Serial Data Analysis, Design Validation, Jitter Analysis, Compliance Testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.