500/350MHz DIGITAL STORAGE OSCILLOSCOPE















The GDS-3000 Series digital storage oscilloscope is a full-featured and powerful tool that allows you to tackle complex measurement issues with ease.

The GDS-3000 Series, carrying a maximum bandwidth of 500MHz, is equipped with a real-time sampling rate up to 5GSa/s and an equivalent-time sampling rate of 100GSa/s. The large 8-inch SVGA TFT LCD screen, combined with the advanced digital signal processing technology – VPO, provides meticulous detail and clarity for the displayed waveforms. The GDS-3000 Series gives you confidence not to miss any part of the test signal in the product verification and debugging stages and allows you to speed up your task without hesitation.

Rich Features

With widespread applications of embedded system using serial bus communications, resolving unexpected issues, such as propagation delay and bus contention, is often a challenge to design and testing engineers. The GDS-3000 Series provides (optional) design and testing engineers with powerful tools for the communication analysis and debugging of the most popular serial interface projects including I²C ,SPI and UART.

To fulfill the increasing power measurement demands, as a green energy trend, GDS-3000 provides an embedded power-measurement software (optional), which includes measurements of Power Quality, Harmonics, Ripple and Inrush Current, meeting requirements of most power measurement standards.

Hi-tech Platform

With 5GSa/s sampling and Visual Persistence Oscilloscope (VPO) technology, GDS-3000 displays waveforms truthfully and captures less-frequently-occurred signals, like glitches or runts, simultaneously without missing any spot of waveform information. A unique Split-screen feature allows each input channel to be operated independently with respective setting and waveform display. This gives users flexibility to use GDS-3000 Series as a multi-scope-in-one DSO. To alleviate the burden of manual operation and to reduce human error, additional features such as auto range are used to automatically adjust the horizontal and vertical scale of a displayed signal so that waveforms are displayed with the best possible viewing ratio.

The I/O Interfaces give you a good range of choices and convenience. In the front panel, a USB host port is used for easy data access. And in the rear panel, another USB port can be used for remote control or for screen printout directly from PictBridge compatible printers. In addition, RS-232 and LAN interfaces provide the flexibility supporting broad range of applications. The SVGA video output port allows you to display the screen on an external projector or monitor for information sharing and discussion.

Unique Signal Processing - VPO

The GDS-3000 VPO (Visual Persistence Oscilloscope) technology adopts a very unique signalprocessing design. To significantly increase the data processing speed and the waveform capture rate, GDS-3000 uses FPGA platform to replace conventional serial microprocessor architecture. This unique technology allows the GDS-3000 Series to show waveforms in a fashion like that of an analog oscilloscope. The VPO three dimension waveform display, containing the information of amplitude, time and intensity, provides more useful signal contents for the analysis of rapidchanged events, such as video, jitter and infrequent signals.

GDS-3000 Series

FEATURES

- 500/350MHz Bandwidth
- Dual Sampling Modes: 5GSa/s Real-Time Sampling Rate and 100GSa/s Equivalent **Time Sampling Rate**
- 25k Points Memory for Each Input Channel
- VPO (Visual Persistence Oscilloscope) Technology to Display Less-Frequently-**Occurred Signals**
- 8" 800 x 600 High Resolution TFT LCD Display
- Unique Split Screen System with **Independent Setting for Each Input Channel**
- Three Input Impedance Selections: $50\Omega/75\Omega/1M\Omega$
- Optional Power Measurement Software for Power Supply Measurement and Analysis
- Optional Serial BUS Triggering and Decoding Software Supporting I2C, SPI and UART
- Support GW APP Software-Easy Upgrade of **Feature New Function**



Front



Rear Panel

APPLICATIONS

- Industrial and Educational R&D Labs
- Product Testing and Quality Assurance
- Power Supply and Serial BUS Design
- System Integration & Debugging
- Maintenance & Repair Service



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Trigger Mode Trigger Type Trigger Type Trigger Holdoff R Coupling Sensitivity EXT TRIGGER Range Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Y MODE X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT CURSORS AND MEASUREMENT Automatic Measurement Cursor measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren	Auto (Suppor Edge, Pulse W Slope Trigger 10ns ~ 10s AC, DC, LF rej DC~30MHz A 350MHz~500l ±15V DC ~ 150MH 150MHz ~ 25 1M Ω ±3%, ~ 1ns/div ~ 100 10 div maxim 1,000 div max ±20 ppm ove s Input Channel 1; Ch ±3°at 100kHz	rts Roll Mode for 100 ms/vidth, Video, Runt, Rise & Event-Delay(1~65,535 ew sj., Hf rej., Noise rej. Approx. 1div or 10mV; 50M MHz Approx. 2.5div or 25idz Approx. 100mV; 25div or 25idz Approx. 150mV; 25idz Approx.	idiv and slower), Normal, Single & Fall, Alternate, Glitch Trigger, Duration ents), Time-Delay(10ns~10s), I ² C, SPI, UMZ~150MHz Approx. 1.5div or 15mV; mV 50MHz ~ 350MHz Approx. 150mV; 350 GDS-3502/3504 1-2.5-5 increments) RC all anel 4	n Trigger, ART(optional) 150MHz~350MHz Approx. 2div or 20r MHz~500MHz Approx. 200mV				
Trigger Type Trigger Holdoff R Coupling Sensitivity Range Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Y MODE X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Trigger Holdoff R Coupling Range Power Quality Measurements Harmonics Ripple Measuren	Edge, Puise W. Slope Trigger	Width, Video, Runt, Rise & Event-Delay(1–65,535 event), Hrej., Noise rej., Approx. 1div or 10mV; 50MMHz Approx. 2.5div or 25mHz Approx. 100mV; 25mHz Approx. 150mV; 25mHz Approx.	& Fall, Alternate, Glitch Trigger, Duration ents),Time-Delay(10ns-10s),1 ² C,SPI,UMHz-150MHz Approx. 1.5div or 15mV; mV 50MHz ~ 350MHz Approx. 150mV;350 GDS-3502/3504 1-2.5-5 increments)RC	ART(optional) 150MHz~350MHz Approx. 2div or 20r MHz~500MHz Approx. 200mV				
Coupling Sensitivity Range Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Coupling Range Poster Reage Record Range Power Quality Measurements Harmonics Ripple Measuren	10ns ~ 10s	ej. , Hf rej. , Noise rej. Approx. 1 div or 10mV; 50M MHz Approx. 2.5 div or 25i Az Approx. 100mV 100MHz Approx. 150mV;25 1-16pF 10s/div (1-2-5 increments; 0 10mm 10mm base) 10mm base) 11ms time interva 12mannel 3/Channel 2; Chan 2	MHz~150MHz Approx. 1.5div or 15mV; mV 50MHz ~ 350MHz Approx. 150mV;350 GDS-3502/3504 1-2.5-5 increments)RC al anel 4	150MHz~350MHz Approx. 2div or 20r MHz~500MHz Approx. 200mV				
Coupling Sensitivity Range Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren	AC, DC, LF re, DC–30MHz A 350MHz–5000 ±15V DC ~ 150MH - 25° 1MΩ±3%, ~ 1ns/div ~ 100 div maximi 1,000 div max ±20 ppm ove s Input Channel 1; Ch±3°at 100kHz	(pprox. 1div or 10mV; 50MMHz Approx. 2.5div or 25idz Approx. 100mV; 00MHz Approx. 150mV;25-16pF Os/div (1-2-5 increments; 0um ox (depend on time base) er any > 1 ms time intervanannel 3/Channel 2; Chan	imV 50MHz ~ 350MHz Approx. 150mV;350 GDS-3502/3504 1-2.5-5 increments)RC al anel 4	MHz~500MHz Approx. 200mV				
Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Y MODE X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sample ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren	#15V DC ~ 150MH 150MHz ~ 25 1MΩ ±3%, ~ 1ns/div ~ 100 10 div maxim 1,000 div max ±20 ppm ove s Input Channel 1; Ch ±3°at 100kHz	Az Approx. 100mV 10MHz Approx. 150mV;25 1-16pF 0s/div (1-2-5 increments; 6 um (depend on time base) er any > 1 ms time interva nannel 3/Channel 2; Chan z	50MHz ~ 350MHz Approx. 150mV;350 GDS-3502/3504 1-2.5-5 increments)RC al anel 4					
Sensitivity Input Impedance Range Pre-trigger Post-trigger Accuracy X-Y MODE X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sample ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren	$\begin{array}{c} DC - 150MH\\ 150MHz - 25\\ 1M\Omega \pm 3\%, \\ \\ \end{array}$ $\begin{array}{c} 1ns/div - 100\\ 10\ div\ maximi\\ 1,000\ div\ max\\ \pm 20\ ppm\ ove\\ \end{array}$ $\begin{array}{c} s\ lnput \\ \end{array}$ $\begin{array}{c} Channel\ 1;\ Ch\\ \pm 3^{\circ}at\ 100kHz \end{array}$	ioMHz Approx. 150mV;25 –16pF Ds/div (1-2-5 increments; 0 ium (c (depend on time base) er any > 1 ms time interva mannel 3/Channel 2; Chan z	GDS-3502/3504 1-2.5-5 increments)RC al nnel 4					
Range Pre-trigger Pre-trigger Post-trigger Accuracy X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Model CURSORS AND CURSORS AND MEASUREMENT Automatic Measurement Cursors measure Auto counter POWER POWER POWER POWER POWER HEASUREMENTS (OPTION) MEASUREMENTS (OPTION)	1 M Ω ± 3%, ~ 1 ns/div ~ 100 10 div maximi 1,000 div max ±20 ppm ove s Input Channel 1; Ch ±3°at 100kHz	-16pF Ds/div (1-2-5 increments; 0 um k (depend on time base) er any ≥ 1 ms time interva nannel 3/Channel 2; Chan z	GDS-3502/3504 1-2.5-5 increments)RC al nnel 4					
Range Pre-trigger Pre-trigger Post-trigger Accuracy X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Model CURSORS AND CURSORS AND MEASUREMENT Automatic Measurement Cursors measure Auto counter POWER POWER POWER POWER POWER HEASUREMENTS (OPTION) MEASUREMENTS (OPTION)	lns/div ~ 100 10 div maximi 1,000 div max ±20 ppm ove s Input Channel 1; Ch ±3°at 100kHz	Os/div (1-2-5 increments; 0 um « (depend on time base) er any	al nnel 4	DLL : 100ms/div ~ 100s/div				
Pre-trigger Post-trigger Post-trigger Accuracy X-Axis Input/Y-Axis Phase Shift SIGNAL ACQUISITION Real Time Sampl ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS MEASUREMENTS (OPTION) Prover Quality Measurements Harmonics Ripple Measuren	10 div maximi 1,000 div max ±20 ppm ove S Input Channel 1; Ch ±3°at 100kH:	wm (depend on time base) er any 2 1 ms time intervanannel 3/Channel 2; Chanz	al nnel 4	· · ·				
Phase Shift Real Time Sample Rate Record Length Acquisition Mode CURSORS AND CURSORS AND MEASUREMENT POWER MEASUREMENTS (OPTION) Phase Shift Real Time Sample Rate Record Length Acquisition Mode Cursors Automatic Measurement Cursors measure Auto counter Power Quality Measurements Harmonics Ripple Measuren	s Input Channel 1; Ch ±3°at 100kHz	nannel 3/Channel 2; Chan z	nnel 4					
ET Sample Rate Record Length Acquisition Mode CURSORS AND MEASUREMENT Cursors Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measurem	e Rate	5GSa/s						
CURSORS AND MEASUREMENT POWER MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS MEASUREMENTS Ripple Measuren Ripple Measuren			4GSa/s	4GSa/s				
MEASUREMENT Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren		25k points Normal, Average, Peak detect, High resolution, Single Average: 2 ~ 256 waveforms ; Peak detect: 2ns						
MEASUREMENT Automatic Measurement Cursors measure Auto counter POWER MEASUREMENTS (OPTION) Power Quality Measurements Harmonics Ripple Measuren		Amplitude, Time, Gating available 28 sets: Vpp, Vamp, Vavg, Vrms, Vhi, Vlo, Vmax, Vmin, Rise Preshoot/ Overshoot, Fall Preshoot/Overshoot, Freq, Period, Rise time, Fall time, Positive width, Negative width, Duty cycle, Phase, and eight different delay measurements (FRR, FRF, FFF, FFF, LRR, LRF, LFF) Voltage difference between cursors (△V) Time difference between cursors (△T) 6 digits, range from 2Hz minimum to the rated bandwidth						
Cursors measure Auto counter POWER POWER Power Quality MEASUREMENTS Measurements Harmonics Ripple Measuren	28 sets: Vpp ,							
POWER Power Quality MEASUREMENTS Measurements (OPTION) Harmonics Ripple Measuren	measurement							
POWER Power Quality MEASUREMENTS Measurements (OPTION) Harmonics Ripple Measuren								
MEASUREMENTS Measurements (OPTION) Harmonics Ripple Measuren	0 . 0		Crest factor, True power, Apparent power,	Reactive power Power factor Phase and				
Ripple Measuren				F, r ower ractor, r mase ang				
		Freq, Mag, Mag rms, Phase, THD-F, THD-R, RMS Vripple, Iripple						
		First peak, second peak						
CONTROL PANEL Autoset	Single-button	, automatic setup of all ch	hannels for vertical, horizontal and trig	ger systems, with undo autoset				
FUNCTION Auto-Range	Allow automatic	Allow automatically adjusts the time base and/or the vertical scale of displayed waveform when the frequency and/or the amplitude of						
Save Setup	20set							
Save Waveform	24set	24set						
DISPLAY SYSTEM TFT LCD Type Waveform Update R		SVGA color display(LED B	Back-light)					
Display Resolution		3500 wfms/sec 800 horizontal x 600 vertical pixels (SVGA)						
Interpolation		uivalent time sampling	6					
Waveform Displa Display Graticule		s, Variable persistence, Inf ns	mnite persistence					
Display Brightne								
INTERFACE RS-232C	DB-9 male co		. USB I : I					
USB Port Ethernet Port		2 sets USB 2.0 high-speed host port ;1 set USB high-speed 2.0 device port RJ-45 connector, 10/100Mbps						
SVGA Video Port	DB-15 female	connector, monitor outp	out for display on SVGA monitors					
GPIB Go/NoGo BNC		Adapter (Optional) A TTL open collector outp	out					
Internal Flash Di	sk 64MB							
Kensington Style Line Output	Kensington Style Lock Line Output Rear-panel security slot connects to standard Kensington-style lock 3.5mm stereo jack for Go/NoGo audio alarm							
	3.5mm stered	o jack for Go/NoGo audio						
OPERATING ENVIRONMENT Temperature POWER SOURCE Line Voltage Ran		· · · · · · · · · · · · · · · · · · ·	o alarm					
MISCELLANEOUS Multi-Language	0°C ~ 50°C, Rel	lative Humidity≤80% at 40°	o alarm °C or below ; ≤45% at 41°C~50°C					
On-Line Help Time clock	0°C ~ 50°C, Rel ge AC 100V ~ 24	· · · · · · · · · · · · · · · · · · ·	o alarm °C or below ; ≤45% at 41°C~50°C					

 $\mbox{\ensuremath{\scriptsize \pm}}$ Three-year warranty, excluding probes & LCD display panel.

Specifications subject to change without notice. DS-

DS-3000GD3DH

	ORDERING INFORMATION							
EOI	GDS-3502 GDS-3504 GDS-3352	4 500MHz, 4-Channel, Visual Persistence DSO						
	ACCESSORIES User manual x 1 ,Power cord x 1 GTP-351R : 350MHz 10:1 passive probe for GDS-3352 (one per channel) GTP-501R : 500MHz 10:1 passive probe for GDS-3502/3504 (one per channel)							
	FREE DOWNLOAD							
	PC Software	FreeWave software	Driver	USB driver ; LabView driver				
	OPTION							
		Power analysis software: Power quality/Harmonic/Ripple/ In-rush current measurements Serial Bus analysis software: 1 ² C/SPI/UART(only 4 channel models support SPI function)						

OPTIONAL ACCESSORIES							
GUG-001 GTP-033A GTP-352R GCP-020 GCP-300 GCP-530 GCP-1000 GCP-1030 GCP-206P GCP-425P GDP-025 GDP-050 GDP-100 GDB-03 GKT-100	GPIB to USB adapter 35MHz 1:1 Passive probe 350MHz 20:1 Passive probe 40kHz/240A Current probe 300kHz/200A Current probe 500kHz/150A Current probe 50MHz/30A Current probe 1MHz/7A Current probe 100MHz/30A Current probe Power supply for current probe (2 in Power supply for current probe (4 in Power supply for current probe (50MHz High voltage differential promulation of the probability of the	robe robe robe robe	•				

