8. Specifications

Performance Condition: The electrical specifications found in these tables of warranted specifications apply when the oscilloscope has been adjusted at an ambient temperature between +20℃ and +30℃, a warm-up period at least 30 minutes are necessary. This oscilloscope is operating at an ambient temperature between 0℃ and +50℃ only.

Vertical system：

Channel 1(CH1) and Channel 2(CH2)	2mV/div to 5V/div
Accuracy	±(3% × ｜Readout｜ ＋0.05 div × Volts/div + 0.8mV)
Bandwidth	DC ~ 60MHz (-3dB) for GDS-806 series DC ~ 100MHz (-3dB) for GDS-810 series DC ~ 150MHz (-3dB) for GDS-820 series DC~250MHz (-3dB) for GDS-840 series AC couple, 10Hz~60MHz (-3dB) for GDS-806 series; 10Hz~100MHz (-3dB) for GDS-810 series; 10Hz~150MHz (-3dB) for GDS-820 series; 10Hz~250MHz (-3dB) for GDS-840 series
Rise time	＜5.8ns for GDS-806S/C; ＜3.5ns for GDS-810S/C; ＜2.3ns for GDS-820S/C; ＜1.4ns for GDS-840S/C
Input Coupling	AC, DC ＆ Ground
Input Impedance	1MΩ ±2% , ~ 18pF for GDS-806S/C, GDS-810S/C, and GDS-840S/C; 1MΩ ±2% ~22pF for GDS-820S/C

Polarity	Normal & Invert
Maximum Voltage Between Signal and Common at input BNC	300V (DC＋AC peak), Installation Category II
Waveform Signal Process	CH1－CH2、CH1＋CH2、FFT
Offset Range:	
2mV/div ~ 50mV/div	±0.5V
100mV/div ~ 500mV/div	±5V
1V/div ~ 5V/div	±50V
Bandwidth Limit	20MHz (－3dB)

Trigger：

Sources	CH1、CH2、LINE、EXT.
Modes	Auto-Level、AUTO、NORMAL、SINGLE、TV、Time-delay、Event-delay、Edge、Pulse Width
Time Delay Range	100ns to 1.3ms
Events Delay Range	2 to 65000
Start Trigger Level (For USER Mode)	±12V adjustable
Coupling	AC，DC，LFrej，HFrej，Noise rej

Sensitivity	
DC ~ 25MHz	Approx. 0.5div or 5mV
25MHz ~ 60MHz	Approx. 1.5div or 15mV for GDS-806S/C
25MHz ~ 100MHz	Approx. 1.5div or 15mV for GDS-810S/C
25MHz ~ 150MHz	Approx. 1.5div or 15mV for GDS-820S/C and GDS-840S/C
150MHz ~ 250MHz	Approx. 2div or 20mV for GDS-840S/C
TV	TV trigger sensitivity: 0.5 division of synch signal

External Trigger：

Range	DC：±15V，AC：±2V
Sensitivity	
DC ~ 25MHz	~ 50mV for GDS-806S/C and GDS-810S/C
DC ~ 30MHz	~ 50mV for GDS-820S/C and GDS-840S/C
25MHz~60MHz	~100mV for GDS-806S/C
25MHz~100MHz	~100mV for GDS-810S/C
30MHz ~ 150MHz	~ 100mV for GDS-820S/C and GDS-840S/C
150MHz ~ 250MHz	~ 150mV for GDS-840S/C
Input Impedance	1MΩ ±2% , ~ 18pF for GDS-806S/C, GDS-810S/C, and GDS-840S/C; 1MΩ ±2% ~22pF for GDS-820S/C
Maximum Input	300V (DC＋AC peak), CATII

Horizontal：

Range	1ns/div ~ 10s/div (1-2-5 increments)
Modes	Main, Window, Window Zoom, Roll, X-Y
Accuracy	0.01%
Delay Range	
Pre-trigger	20 div maximum
Post-trigger	1000 div

X-Y mode：

X-Axis Input	Channel 1 (CH1)
Y-Axis Input	Channel 2 (CH2)
Phase shift	±3° at 100kHz

Signal Acquisition System：

Real-time Sample Rate	100MSa/s maximum on each channel
Equivalent Sample Rate	25GSa/s E.T. maximum on each channel
Vertical Resolution	8 Bits
Record Length / Channel	125k Points
Single Shot Record Length	125k Points
Single Shot Bandwidth	10MHz
Acquisition Mode	Sample, Peak Detect, Average
Peak Detection	10ns (500ns/div ~ 10s/div)
Average	2、4、8、16、32、64、128、256、256

Cursors and Measurement：

Automated Voltage Measurement	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min}
Automated Time Measurement	Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle
Cursors Measurement	Voltage difference between cursors (ΔV) Time difference between cursors (ΔT) Reciprocal of ΔT in Hertz (1/ΔT)

Trigger Frequency Counter

Readout Resolution	6 digits
Frequency Range	20Hz minimum to rated bandwidth
Accuracy	±2%
Signal Source	All available trigger source except the Video trigger mode

Control Panel Functions：

Autoset	“Autoset” adjust Vertical VOLT/DIV, Horizontal SEC/DIV, and Trigger level automatically.
Save/Recall	Up to 15 sets of measurement conditions can be saved and recalled
Waveform Trace Save/Recall	2 sets of waveform can be saved and recalled

Display System：

LCD Type	5.7 inch Mono LCD (320*240) for GDS-806S, GDS-810S, GDS-820S, GDS-840S 5.7 inch Color LCD (320*240) for GDS-806C, GDS-810C, GDS-820C, GDS-840C
Waveform Display Graticule	8 ×10 divisions、 8 ×12 divisions（menu off）
Display Contrast	Adjustable

Power Source：

Line Voltage Range	100V ~ 240V AC, auto selection
Line Frequency	47Hz ~ 63Hz
Power Consumption	45 Watts, 65VA maximum, with Fan
Fuse Rating	2 Ampere Slow, 250V,

Interface：

Only for GDS-806S/C and GDS-810S/C with interface option, GDS-820S/C, and GDS-840S/C

Centronics port	
	A 25-pin IBM PC type, parallel printer interface
Printer Compatibility	
HP LaserJet with HP PCL5	Black & white @150×150dpi
HP DeskJet	Black & white @150×150dpi
USB Interface	USB 1.1 & USB 2.0 Full speed compatible. **Device only, not support USB printers**
RS-232 Interface	A DB 9-pin male DTE RS-232 interface
GPIB Interface	Option

Only for GDS-806S/C and GDS-810S/C with interface option; GDS-820S/C and GDS-840S/C with GPIB option

Fully programmable with IEEE488.2 compliance

Miscellaneous：

Probe Compensation Output	$2V_{pp}$±3%
Adjustable Probe Compensation Signal	
Only for GDS-806S/C and GDS-810S/C	
Frequency Range	1KHz ~ 100KHz adjustable; 1kHz step
Duty Cycle	5% ~ 95% adjustable; 5% step
Probe	2 sets
Overall Dimensions	310(W) ×142(H) ×254(D) mm
Weight	~3.8 kg for GDS-806S/C and GDS-810S/C ~ 4.1 kg for GDS-820S/C and GDS-840S/C

Atmospherics：

Ambient Temperature	
Operating	0℃ ~ 50℃
Storage	－20℃ ~ 70℃
Relative Humidity	
Operating	80% R.H @ 35℃
Storage	80% R.H. @ 70℃

GTP-060A-2, GTP-100A-2, 150A-2 & GTP-250A-2 Probe：

Position ×10

Attenuation Ratio	10:1
Bandwidth	DC to 60MHz for GDS-806S/C DC to 100MHz for GDS-810S/C DC to 150MHz for GDS-820S/C DC to 250MHz for GDS-840S/C
Rise Time	5.8ns for GDS-806S/C; 3.5ns for GDS-810S/C; 2.3ns for GDS-820S/C 1.4ns for GDS-840S/C
Input Resistance	10MΩ when used with oscilloscope which have 1MΩ input
Input Capacitance	Approx. 17pF
Compensation Range	10 to 35pF
Maximum Input Voltage	500V CAT I, 300V CAT II (DC + peak AC) Derating with frequency.

Position ×1	
Attenuation Ratio	1:1
Bandwidth	DC to 6MHz
Rise Time	58ns
Input Resistance	1MΩ (oscilloscope input resistance)
Input Capacitance	47pF plus oscilloscope capacitance
Compensation Range	10 to 35pF
Maximum Input Voltage	300V CAT I, 150V CAT II (DC + peak AC) Derating with frequency.
Operating Temperature	－10℃ ~ 55℃
Humidity	85% R.H or less @ 35℃
Safety	Meets IEC 1010-1 CAT II

Declaration of Conformity

We

GOOD WILL INSTRUMENT CO., LTD.
No. 95-11, Pao-Chung Rd., Hsin-Tien City, Taipei Hsien, Taiwan

GOOD WILL INSTRUMENT (SUZHOU) CO., LTD.
No.69 Lushan Road, Suzhou New District Jiangsu, China.

declares that the below mentioned product

GDS-800 series digital storage oscilloscope

are herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Law of Member States relating to Electromagnetic Compatibility (89/336/EEC, 92/31/EEC, 93/68/EEC) and Low Voltage Equipment Directive (73/23/EEC).

For the evaluation regarding the Electromagnetic Compatibility and Low Voltage Equipment Directive, the following standards were applied:

◎ **EMC**

EN 61326-1: Electrical equipment for measurement, control and laboratory use — EMC requirements **(1997+A1: 1998+A2: 2001)**	
Conducted and Radiated Emission EN 55011: 1998 class A	Electrostatic Discharge EN 61000-4-2: 1995+A1: 1998
Current Harmonic EN 61000-3-2: 2000	Radiated Immunity EN 61000-4-3: 1996+A1: 1998
Voltage Fluctuation EN 61000-3-3: 1995	Electrical Fast Transients EN 61000-4-4: 1995
----------	Surge Immunity EN 61000-4-5: 1995
----------	Conducted Susceptibility EN 61000-4-6: 1996
----------	Voltage Dips/ Interrupts EN 61000-4-11: 1994

◎ **Safety**

Low Voltage Equipment Directive 73/23/EEC & amended by 93/68/EEC
IEC/EN 61010-1: 2001