

TEKTRONIX

P7313

The Tektronix P7313 is a high-performance 13.0 GHz Z-Active differential probe designed for use with high-bandwidth real-time oscilloscopes. Featuring the innovative Z-Active architecture, it offers high DC input resistance combined with an exceptionally low high-frequency AC loading, making it ideal for characterizing high-speed serial buses and differential signals.

SPECIFICATIONS

General

Interfaces	TekConnect
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Physical

Power Supply	Powered via TekConnect interface
Operating Temperature	0 to 40 °C
Dimensions (W×H×D)	112 mm × 41 mm × 27 mm (Compensation box) mm
Weight	0.16 kg (probe only, without accessories) kg

Electrical Performance Specifications

Analog Bandwidth	13.0 GHz
Rise Time (10% to 90%)	< 40 ps
Rise Time (20% to 80%)	< 25 ps
Attenuation Settings	5X, 25X (user-selectable)
Differential Input Resistance (DC)	100 kΩ
Single-Ended Input Resistance (DC)	50 kΩ
Differential Input Capacitance	< 0.27 pF (with Z-Active solder-in tips)
System Noise (Referenced to Input, 5X Setting)	< 1.0 mV rms
System Noise (Referenced to Input, 25X Setting)	< 4.0 mV rms

Dynamic Operating Limits

Differential Dynamic Range (5X Setting)	0.8 Vp-p
Differential Dynamic Range (25X Setting)	4.0 Vp-p
Operating Voltage Window (Common Mode Range)	-4.0 V to +5.0 V
DC Offset Range	-2.5 V to +2.5 V
Maximum Non-Destructive Input Voltage	±15 V (DC + peak AC)

Accuracy and Metrology

DC Gain Accuracy	±2%
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System Compatibility and Connectivity

Signal Path Coupling	DC
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Physical and Mechanical Characteristics

Cable Length	1.2 m
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Environmental and Safety Compliance

Non-Operating Temperature Range	-55 to +105 °C
Operating Humidity	0% to 90% RH (at or below +30 °C)
Operating Altitude	Up to 3,000 m (10,000 feet)
Non-Operating Altitude	Up to 15,240 m (50,000 feet)

Performance

CMRR at 1 MHz	>60 dB (typical)
CMRR at 100 MHz	>38 dB (typical)
CMRR at 1 GHz	>30 dB (typical)
CMRR at 10 GHz	>20 dB (typical)
CMRR at 13 GHz	>15 dB (typical)
Propagation Delay	5.3 ns (±0.2 ns)
Input Delay Jitter	< 1 ps RMS

Compliance

Safety Compliance	UL61010-1, CAN/CSA-C22.2 No. 61010-1, EN61010-1, IEC61010-1
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Environmental

Operating Vibration	0.31 g RMS, 5 Hz to 500 Hz
Non-Operating Vibration	2.46 g RMS, 5 Hz to 500 Hz
Non-Operating Shock	50 g, 11 ms, half-sine

Reliability

ESD Tolerance	> 8 kV (Human Body Model)
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Electrical

Common Mode Input Resistance	25 kΩ
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TECHNOLOGY

Z-Active

APPLICATIONS

High-Speed Serial Bus Design, Signal Integrity, Differential Signal Characterization

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