

KEYSIGHT TECHNOLOGIES (AGILENT HP)

5328A

The Keysight Technologies (formerly Agilent / HP) 5328A is a highly versatile, modular 100 MHz universal frequency counter and timer. Known for its rugged reliability and extensive option slot configurations, the 5328A serves as a foundational instrument for precise frequency, period, time interval, and ratio measurements in laboratory and automatic test equipment (ATE) environments.

SPECIFICATIONS

General

Interfaces	HP-IB (GPIB) optional (Option 011)
Display	8-digit 7-segment LED display

Physical

Operating Temperature	0 to 50 °C °C
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Input Channel A and Channel B Characteristics

Frequency Range (DC Coupled)	0 Hz to 100 MHz
Sensitivity (Sinewave)	50 mV RMS (0 Hz to 100 MHz), 25 mV RMS (0 Hz to 40 MHz)
Input Impedance (Resistance)	1 MΩ
Input Coupling	AC or DC (switchable)
Trigger Slope	Positive or negative (independent controls)
Channel Setup	Separate or Common A (switchable)
Minimum Pulse Width	5 ns

Measurement Modes & Functions

Frequency Measurement (Channel A/B)	0 Hz to 100 MHz
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Time Base & Reference Oscillator Options

Nominal Reference Frequency	10 MHz
Standard Aging Rate (per Month)	$< 3 \times 10^{-7}$
Standard Line Voltage Stability	$< 1 \times 10^{-7}$ (for 10% line change)
High-Stability OCXO Option 010 Aging Rate (per Day)	$< 5 \times 10^{-10}$
High-Stability OCXO Option 010 Temperature Stability	$< 7 \times 10^{-9}$ (0 to 50 °C)
External Reference Input Impedance	1 kΩ
External Reference Minimum Level	1 V RMS
Internal Reference Output Frequency	10 MHz
Internal Reference Output Amplitude	> 1 V p-p into 50 Ω

Resolution & Measurement Accuracy

Single-Shot Time Interval Resolution	100 ns
Time Interval Average Resolution	Down to 10 ps

Rear Panel, Interfaces & Accessory Options

GPIB Interface Capability	Optional via Option 011
Digital Voltmeter (DVM) Option	Option 020 adds internal Digital Voltmeter capability
High Performance Universal Module	Option 040 (improves time interval resolution to 10 ns single-shot)

Physical, Power & Environmental

Number of Display Digits	8 digits standard
Storage Temperature Range	-40 °C to +75 °C

Options

Option 010 OCXO Short-Term Stability	< 1 × 10 ⁻¹¹ rms for a 1 s average
Option 010 OCXO Line Voltage Stability	< 1 × 10 ⁻⁹ for ±10% line voltage variation
Option 010 OCXO Warm-up Time	Within 5 × 10 ⁻⁹ of final value in 20 minutes
Option 020 DVM Ranges	±10 V, ±100 V, ±1000 V (autoranging or manual)
Option 040 Time Interval Hold-off	Variable from 20 µs to 20 ms
Option 041 HP-IB Programmability	Adds HP-IB control of trigger levels, coupling, attenuation, slope, and impedance

Display

Display Type	7-segment red LED
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Power Requirements

Line Voltage Options	100 V / 120 V / 220 V / 240 V AC (+5%, -10%), switch selectable
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Environmental

Operating Altitude	Up to 4,600 m (15,000 ft)
Storage Altitude	Up to 15,240 m (50,000 ft)

APPLICATIONS

Universal Frequency and Time Interval Measurement

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