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Data Sheet

August 13, 2026

KEYSIGHT / AGILENT / HP

Keysight / Agilent / HP 4280A 1MHz C Meter / C-V Plotter

HP Agilent 4280A 1 MHz C Meter / C-V Plotter The HP 4280A is a 1 MHz capacitance meter and C-V plotter for high-frequency C-V and C-t characterization of MOS and bipolar semiconductor devices. Fixed 1 MHz test frequency, 0.1 percent basic accuracy, internal DC bias to plus or minus 100 V, and HP-IB automation for wafer-process evaluation. MOS C-V doping and oxide evaluation; bipolar junction capacitance; wafer process monitors; C-t lifetime related plots with internal or external bias. The HP 4280A is a 1 MHz capacitance meter and C-V plotter for high-frequency C-V and C-t characterization of MOS and bipolar semiconductor devices. Fixed 1 MHz test frequency, 0.1 percent basic accuracy, internal DC bias to plus or minus 100 V, and HP-IB automation for wafer-process evaluation. MOS C-V doping and oxide evaluation; bipolar junction capacitance; wafer process monitors; C-t lifetime related plots with internal or external bias.



MODEL

**Keysight / Agilent /
HP 4280A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

4280A

LISTING

[https://aumictechlabs.c
om/products/4280a-2/](https://aumictechlabs.com/products/4280a-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight/Agilent/HP 4280A is a 1 MHz capacitance meter and C-V plotter engineered for precise component and material characterization. This instrument measures capacitance and conductance as functions of applied DC bias voltage or time, eliminating the need for multiple

separate instruments. The integrated design combines a precision 1 MHz C-G meter, programmable DC bias source, and accurate timing control into a single platform compatible with both floating and grounded device testing. Technical Specifications Measurement Capability Capacitance (C), conductance (G), or simultaneous C-G measurement Test signal frequency: 1 MHz Test signal level: 10 mVrms or 30 mVrms (selectable) Capacitance range: 0.001 pF to 1.900 nF across three ranges (10 pF, 100 pF, 1 nF) Conductance range: 0.01 μ S to 12.000 mS Measurement accuracy: 0.1% basic (conditions: $D < 0.05$ for C-G/C-V/G-V modes; $D < 0.01$ for C/G/C-t/G-t modes; C counts $\geq 1/100$ of range; 23°C $\pm$ 5°C; 30-minute warm-up; zero/open calibration applied) Resolution Standard display: 4½ digits Capacitance (standard): 0.001 pF on most sensitive range Capacitance (Option 001 High Resolution): 5½ digits; 1 fF resolution to 190 pF, 10 fF resolution to 1.2 nF Conductance: 10 μ S maximum resolution DC Bias Source Range: 0 V to +100 V Resolution: 1 mV on most sensitive range Staircase sweep: programmable start, stop, step voltage, hold time, and step delay time (up-down or single direction) Pulse bias capability for C-t measurements Measurement Modes C Mode: constant DC bias voltage measurement C-V Mode: stepped DC bias voltage sweep C-t Mode: programmed time intervals following bias pulse application Speed selection: Fast (~70 ms C or G only; ~150 ms C and G), Medium (~100 ms), Slow (~330 ms C or G only; ~520 ms C and G) Transient Measurements Internal pulse generator: 10 ms resolution External pulse generator compatibility (e.g., HP 8112A): 10 μ s resolution Measurement interval (td) settable range: 10 μ s minimum Key Features Consolidated measurement platform eliminating multi-instrument test setups Floating and grounded device support for diverse wafer probing configurations Programmable staircase bias sweep with independent timing parameters Multiple measurement speed modes optimizing between measurement time and noise rejection High-resolution option for enhanced capacitance sensitivity Typical Applications Semiconductor characterization, material property evaluation, capacitor testing, and device reliability assessment under varying DC bias conditions.

Features & description

From manufacturer datasheet

Features

- Fixed 1 MHz two-terminal-pair measurement to reject fixture noise

4280A Characteristics / Specifications

PARAMETER	VALUE
Model	4280A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	1 MHzCMeter / C-V Plotter
Alias	4280A; HP 4280A
Test Frequency	1 MHz plus or minus 0.01 percent
OSC Level	10 mV rms or 30 mV rms
Capacitance Range	1 fF to 1.9 nF
Conductance Range	10 nS to 12 mS
Basic Accuracy	0.1 percent (C and G)
Display Digits	4.5 digits maximum (C 5.5 digits with Opt 001)
Internal Bias Range	-100 V to +100 V (0 to plus or minus 100 V class 3-digit setting)
Bias Resolution	1 mV maximum
Bias Basic Accuracy	0.1 percent
Sweep Time	10 us class to 32 s (external-bias C-t notes)
Measurement Points	up to 9999
EXT FAST Ct Interval	td greater than or equal to 200 us with external pulse bias
Cable Compensation	CABLE LENGTH CAL
Open Compensation	ZERO OPEN
Measurement Method	two terminal pair
Interface	HP-IB
DUT Modes	floating or grounded with internal or external bias
Functions	CGC-V G-V C-t
Opt 0	5.5 digitCdisplay
Warm Up	per operating manual before specified accuracy
Related Note	HP AN 322 semiconductor C-V procedures

PARAMETER	VALUE
Form	benchtop C-V meter
Status	HP 4280A EOL Notes Figures from HP 4280A feature/specification summary in Application Note 322. Confirm Opt 001 and bias-source configuration. Finer error tables belong in the 4280A operating/calibration manual for the serial prefix.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Warm Up	per operating manual before specified accuracy

Specifications

PARAMETER	VALUE
Related Note	HP AN 322 semiconductor C-V procedures
Form	benchtop C-V meter
Status	HP 4280A EOL

Notes

Figures from HP 4280A feature/specification summary in Application Note 322. Confirm Opt 001 and bias-source configuration. Finer error tables belong in the 4280A operating/calibration manual for the serial prefix.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.