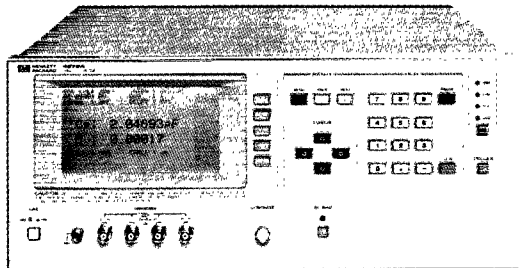


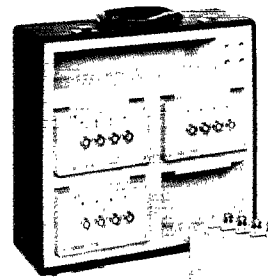
COMPONENT MEASUREMENT

1 MHz C-V Meter/Standard Capacitor Sets HP 4279A, 16380A, 16380C

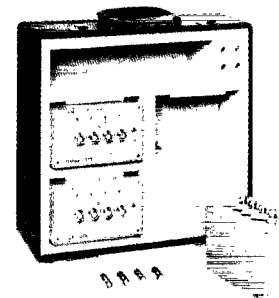
- Built-in programmable dc bias sweep source with a voltage accuracy of 0.1%
- High-speed C-V measurements: 10 ms, 20 ms, and 30 ms/meas point
- 0.1% basic accuracy and six-digit resolution
- Automatic dc bias polarity control



HP 4279A



HP 16380A



HP 16380C

HP 4279A 1 MHz C-V Meter

The HP 4279A 1 MHz C-V Meter offers the optimal solution for increasing quality and throughput when measuring the capacitance versus bias voltage characteristics of varactor diodes, MOS diodes, and the like. The HP 4279A measures capacitance over a range of 0.00001 pF to 1280.00 pF with a basic accuracy of 0.1% and a six-digit display resolution, while sweeping the accurate dc bias voltage. The automatic bias polarity control feature allows quick selection of the correct polarity bias voltage for the device under test.

Specifications

Parameters Measured: C-D, Q, ESR, G

Display: 4, 5, 6 digits, selectable, maximum display 999999

Measurement Frequency: 1 MHz \pm 0.02%

Test Signal Level: 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, and 1 V rms

Measurement Terminals: 4-terminal pair

Test Cable Length Compensation: 0 m, 1 m and 2 m

Error-Correction: OPEN/SHORT/LOAD and temperature compensation

Measurement Time: 10 ms/20 ms/30 ms selectable

Measurement Accuracy (@ 23° C \pm 5° C) and Range

Basic measurement accuracy: \pm 0.1% (@ D \leq 0.1)

Range: C: 0.00001 pF to 1280.00 pF, D: 0.00001 to 9.99999

Internal dc Bias: 0 V to \pm 38 V, up to 51 sweep points are programmable via HP-IB

Bias voltage	Voltage step	Accuracy (at 23° C \pm 5° C)
\pm (0.000 to 4.000) V	1 mV	\pm (0.1% of setting + 1 mV)
\pm (4.002 to 8.000) V	2 mV	\pm (0.1% of setting \pm 2 mV)
\pm (8.005 to 20.000) V	5 mV	\pm (0.1% of setting + 3 mV)
\pm (20.01-38.00) V	10 mV	\pm (0.1% of setting + 10 mV)

Bias Polarity Control: Automatically performed

External dc Bias: 0 V to \pm 100 V via rear panel connector

General

Operating Temperature and Humidity: 0° C to 55° C, \leq 95% RH at 40° C

Power: 100/120/220 V \pm 10%, 240 V +5% -10%; 48 to 66 Hz; 200 VA max

Size: 177 mm H \times 426 mm W \times 498 mm D (7 in \times 16.8 in \times 19.6 in)

Weight: Approximately 15 kg (33 lb)

Accessories Available: Refer to page 355.

Ordering Information

HP 4279A 1 MHz C-V Meter	Price \$11,200
Opt W30 Extended Repair Service (see page 624)	+ \$215
Opt 003 1% Frequency Shift	\$0
Opt 009 Delete Manual	-\$36

HP 16380A and 16380C Standard Capacitor Sets

The HP 16380A and HP 16380C Precision Standard Capacitor Sets cover the range of 1 pF to 1 μ F in decade steps. The HP 16380A consists of four discrete air-dielectric capacitors with nominal values of 1 pF, 10 pF, 100 pF, and 1000 pF. Similarly, the HP 16380C consists of four discrete capacitors, but with solid dielectrics and with nominal values of 0.01 μ F, 0.1 μ F, and 1 μ F.

Both the HP 16380A and HP 16380C are furnished with test certification of 0.01% calibration accuracy. Capacitance stability with respect to time varies from capacitor to capacitor but is in the range of \pm 50 or \pm 300 ppm/year.

The HP 16380A and HP 16380C both have the four-terminal pair configuration to allow direct connection to any of Hewlett-Packard's many four-terminal pair impedance measuring instruments. The HP 16380A/C can be easily adapted to two-, three-, and five-terminal configurations.

HP 16380A, 16380C Specifications (valid at 1 kHz, 23 \pm 5° C)

HP 16380A

Capacitance	1 pF	10 pF	100 pF	1000 pF
Nominal accuracy	\pm 0.1%			
Calibration accuracy	\pm 0.01%			
Stability	\leq 300 ppm/yr*			
Dissipation factor	\leq 0.0001			
Size	112 mm H \times 142 mm W \times 88 mm D			
Weight	8.0 kg (includes case)			

*Supplemental performance characteristics.

HP 16380C

Capacitance	0.01 μ F	0.1 μ F	1 μ F
Nominal accuracy	\pm 0.1%		
Calibration accuracy	\pm 0.01%		
Stability	\leq 50 ppm/yr		
Dissipation factor	\leq 0.0004	\leq 0.0005	\leq 0.0007
Size	117 mm H \times 142 mm W \times 88 mm D		
Weight	6.3 kg (includes case)		

Ordering Information

HP 16380A Standard Capacitor Set (1 pF, 10 pF, 100 pF, 1000 pF)	Price \$3,500
HP 16380C Standard Capacitor Set (0.01 μ F, 0.1 μ F, 1 μ F)	\$6,000