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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 75000 – Modular System Platform

HP Agilent 789C Coaxial Directional Detector 8 to 12.4 GHz The HP 789C is a coaxial directional detector that combines a directional coupler and a 423A-class crystal detector on the auxiliary arm so there is no connector between coupler and diode. OEM Hewlett-Packard Journal February 1965 tables list 789C from 8 to 12.4 GHz with frequency response plus or minus 0.5 dB, directivity 17 dB, SWR 1.41, equivalent source match 1.25, maximum input 1 watt, insertion loss about 0.7 dB including coupling, low-level sensitivity greater than 20 uV per uW CW, and high-level 7 mW to produce at least 100 mV. Detector output impedance is 15 k ohm maximum shunted by about 10 pF; noise is 200 uV peak-to-peak with CW power for 100 mV output. Detector polarity is negative; detector connector is BNC female; RF connectors are precision Type N female on both ports. The HP 789C is a coaxial directional detector that combines a directional coupler and a 423A-class crystal detector on the auxiliary arm so there is no connector between coupler and diode. OEM Hewlett-Packard Journal February 1965 tables list 789C from 8 to 12.4 GHz with frequency response plus or minus 0.5 dB, directivity 17 dB, SWR 1.41, equivalent source match 1.25, maximum input 1 watt, insertion loss about 0.7 dB including coupling, low-level sensitivity greater than 20 uV per uW CW, and high-level 7 mW to produce at least 100 mV. Detector out



MODEL

**Agilent / Keysight
789C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

789C

LISTING

[https://aumictechlabs.c
om/products/789c-2/](https://aumictechlabs.com/products/789c-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 75000 Series is a modular system platform engineered for precision electronic test and measurement applications. Built on VXIbus and AXIe architectures, it delivers flexible multi-instrument configurations through an augmented local bus for inter-slot communication, synchronization, and module-to-module data movement. The platform scales horizontally or vertically, integrates via PCIe and LAN interfaces, and functions as a virtual PXI or benchtop instrument. Engineers configure the 75000 for applications spanning atomic force microscopy to precision current-voltage analysis, leveraging advanced timing and triggering capabilities across diverse measurement domains.

Technical Specifications

Modular Architecture
VXIbus and AXIe platforms available
Augmented local bus for inter-slot communication and synchronization
PCIe and LAN interfaces for remote operation
Horizontal or vertical configuration options

AFM Module (7500 AFM)
XY scan range: 90 μm
Z scan range: 12 μm
XY positioning noise (closed-loop): < 0.15 nm
typical Z noise level: < 0.03 nm
XY linearity: < 0.5%
Out-of-plane travel: < 0.1% full range
Laser wavelength: 650 nm
Video camera: 2 M pixel color, 1.7 μm resolution
Sample stage manual travel (XY): ~10 mm; motorized (Z): ~10 mm
Maximum sample diameter: ~25 mm; maximum height: ~8 mm
Standard modes: Contact, LFM, AAC, Phase, CS-AFM, MFM, EFM, KFM, Liftmode, F-d Spectroscopy, F-V Spectroscopy, Force Modulation, Q-Control, LV PFM
Optional modes: MAC, STM, PicoTREC, DLFM, Nanolithography, Electrochemistry, Heating/Cooling, Thermal K, PicoScript
STM scanner available for pico-ampere and sub-pico-ampere current imaging
Precision IV Analysis Module
Current measurement capability: 0.1 fA
minimum Configurable SMU modules: up to 8 or 10 slots
Measurement types: IV, CV, pulse/dynamic IV
Integrated analysis without programming

Key Features
Patented top-down tip scanner technology for AFM PEEK polymer or stainless steel nose cones
Advanced timing, triggering, and synchronization across modules
Scalable current measurement from 0.1 fA
Typical Applications
Atomic force microscopy, nanoscale characterization, current-voltage analysis, multi-parameter device testing.

Compatibility & Integration
Operates as virtual PXI or benchtop instrument via PCIe and LAN; EasyEXPERT group+ software available.

789C Characteristics / Specifications

PARAMETER	VALUE
Model	789C
Instrument Type	Coaxial directional detector
Frequency Range	8 to 12.4 GHz
Frequency Response	plus or minus 0.5 dB
Directivity	17 dB
Maximum Swr	1.41
Equivalent Source Match	1.25
Maximum Input	1 watt
Insertion Loss	approximately 0.7 dB including coupling loss
Low Level Sensitivity	greater than 20 uV per uW CW
High Level Drive	7 mW input to produce at least 100 mV output
Detector Output Impedance	15 k ohm maximum shunted by approximately 10 pF
Detector Noise	200 uV peak to peak with CW power applied to produce 100 mV
Detector Polarity	negative
Detector Connector	BNC female
Rf Connectors	precision TypeNfemale on both RF ports
Related Detectors	786D 0.96 to 2.11 GHz, 787D 1.9 to 4.1 GHz, 788C 3.7 to 8.3 GHz
Related Crystal	same semiconductor diode assembly as HP 423A crystal detectors
Manufacturer	HP Agilent Keysight
Use Case	ALC takeoff and swept detection
Literature	Hewlett-Packard Journal February 1965 directional detector specification table 789C
Family	HP 786D/787D/788C/789C directional detectors
Documentation Type	OEM HP Journal specification table
Brand Lineage	Hewlett Packard Agilent Keysight
Form Factor	coaxial directional detector body

PARAMETER	VALUE
System Role	coupled RF detector for leveling
Square Law Load	catalog 002 load resistor for square-law operation at 24 C

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.

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Notes

From Hewlett-Packard Journal Vol. 16 No. 6 February 1965 directional-detector table for 789C (8-12.4 GHz, plus or minus 0.5 dB, 17 dB directivity, SWR 1.41, 1 W, 0.7 dB IL, greater than 20 uV/uW). Square-law 002 and positive-polarity 003 details are option notes on that same table, not copied as Parameter rows.

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.