

KEYSIGHT TECHNOLOGIES (AGILENT HP)

85027A

The Keysight (Agilent HP) 85027A is a high-performance directional bridge designed for reflection measurements from 10 MHz to 18 GHz. Designed to operate seamlessly with scalar network analyzers like the Agilent 8757, 8756, and 8755, it features high directivity, outstanding test port match, and the capability to detect both AC and DC signals depending on the analyzer used.

SPECIFICATIONS

General

Interfaces	Integrated 1.5 m cable with multi-pin analyzer connector; RF Input: Type-N (f)
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Physical

Power Supply	Powered directly from compatible scalar network analyzer
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	143 mm × 26 mm × 103 mm mm
Weight	0.5 kg kg
Shipping Weight	1.4 kg

Frequency and Impedance Specifications

Frequency Range	10 MHz - 18 GHz
Nominal Impedance	50 Ω

RF Performance Parameters

Directivity (0.01 to 8 GHz)	≥40 dB
Directivity (8 to 12.4 GHz)	≥37 dB
Directivity (12.4 to 18 GHz)	≥35 dB
Test Port Match (0.01 to 8 GHz)	≥30 dB Return Loss (1.065 SWR)
Test Port Match (8 to 12.4 GHz)	≥24 dB Return Loss (1.135 SWR)
Test Port Match (12.4 to 18 GHz)	≥22 dB Return Loss (1.173 SWR)
Typical Insertion Loss at 18 GHz	8.0 dB

Power and Electrical Ratings

Maximum Continuous RF Input Power	+23 dBm (200 mW)
Maximum DC Voltage (RF Port)	±10 V

Connector and Port Configurations

RF Input Connector Type	Type-N
RF Input Connector Gender	Female
Test Port Connector Type	APC-7

Calibration and Compatibility

Compatible Scalar Network Analyzers	Agilent/HP 8757 (AC and DC modes), 8756 (AC mode), 8755 (AC mode)
Detection Modes	AC and DC (depending on scalar network analyzer used)

Environmental

Storage Temperature	-40 to +75 °C
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Performance

Insertion Loss (0.01 to 8 GHz)	6.5 dB (nominal)
Insertion Loss (8 to 12.4 GHz)	7.0 dB (nominal)

RF Performance

Input Port Match (0.01 to 8 GHz)	20 dB (SWR 1.22)
Input Port Match (8 to 12.4 GHz)	17 dB (SWR 1.33)
Input Port Match (12.4 to 18 GHz)	15 dB (SWR 1.43)

Physical Characteristics

Cable Length	1.5 m (5 ft)
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Interfaces

Analyzer Connector Type	10-pin male
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Connectors

Test Port Connector Gender	Sexless (APC-7)
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TECHNOLOGY

Directional Bridge

APPLICATIONS

Scalar reflection measurements

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.