KEYSIGHT TECHNOLOGIES (AGILENT HP)

85027C

The Agilent / Keysight 85027C is a high-performance directional bridge designed for high-precision reflection measurements over a wide frequency range up to 18 GHz. It is engineered to operate seamlessly with HP/Agilent Scalar Network Analyzers, offering outstanding directivity and test port match for accurate microwave measurement applications.

SPECIFICATIONS

General

Interfaces	Custom multi-pin analog interface cable for Scalar Network Analyzer connection

Physical

Power Supply	Powered directly by the connected Scalar Network Analyzer
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	124 mm × 26 mm × 147 mm mm
Weight	0.5 kg kg
Integrated Cable Length	1.5 m
Shipping Weight	1.0 kg

Frequency and Impedance

Frequency Range	10 MHz - 18 GHz
Nominal Impedance	50 Ω
Test Port Impedance	50 Ω

RF Performance

Minimum Directivity (12.4 to 18 GHz)	≥ 34 dB
Minimum Directivity (0.01 to 12.4 GHz)	≥ 36 dB
Typical Insertion Loss (at 18 GHz)	8.0 dB
Test Port Match (0.01 to 8.4 GHz)	SWR ≤ 1.15 (Equivalent Source Match)
Test Port Match (8.4 to 12.4 GHz)	SWR ≤ 1.25 (Equivalent Source Match)
Test Port Match (12.4 to 18 GHz)	SWR ≤ 1.43 (Equivalent Source Match)

Power and Electrical Ratings

Maximum Continuous RF Input Power	+23 dBm
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	Type-N
Test Port Connector Gender	Female

Compatibility

Compatible Scalar Network Analyzers (AC & DC modes)	Agilent 8757
Compatible Scalar Network Analyzers (AC mode only)	Agilent 8756, Agilent 8755

Environmental

Storage Temperature	-40 to +75 °C

Performance

Internal Detector Type	Schottky diode
Minimum Directivity (0.01 to 8.4 GHz)	40 dB
Minimum Directivity (8.4 to 12.4 GHz)	36 dB
Insertion Loss (Input to Test Port) at 10 MHz	6.5 dB (nominal)
Insertion Loss (Input to Detector) at 10 MHz	6.5 dB (nominal)
Insertion Loss (Input to Detector) at 18 GHz	8.0 dB (nominal)
Variation with Frequency (Input to Test Port, 0.01 to 8.4 GHz)	±0.8 dB
Variation with Frequency (Input to Test Port, 0.01 to 12.4 GHz)	±1.1 dB
Variation with Frequency (Input to Test Port, 0.01 to 18 GHz)	±1.5 dB
Variation with Frequency (Input to Detector, 0.01 to 8.4 GHz)	±1.2 dB
Variation with Frequency (Input to Detector, 0.01 to 12.4 GHz)	±1.5 dB
Variation with Frequency (Input to Detector, 0.01 to 18 GHz)	±2.0 dB

Options

Option 005 Test Port Connector	3.5 mm (male)

TECHNOLOGY

RF and Microwave Directional Bridge

APPLICATIONS

Reflection and transmission measurements with scalar network analyzers