KEYSIGHT TECHNOLOGIES (AGILENT HP)

34946A

The Keysight 34946A (formerly Agilent) is a high-performance microwave switch module designed for use with the 34980A Multifunction Switch/Measure Unit. Featuring dual independent 1x2 (SPDT) terminated coaxial switches, it provides bi-directional signal routing from DC up to 26.5 GHz. With excellent insertion loss, outstanding isolation, and low VSWR, this module is optimized for high-frequency testing applications including multi-band receiver/transmitter verification. An external switch driver option (Option 100) is also available to support external microwave switches, maximizing system configuration flexibility.

SPECIFICATIONS

General

Interfaces	Mainframe backplane interface; external switch drive signals (Option 100)
Display	None (status displayed on 34980A mainframe)

Physical

Power Supply	Powered by 34980A mainframe backplane
Operating Temperature	0 to 55 °C °C

RF Performance

Switch Configuration	Two independent 1x2 (SPDT) terminated coaxial switches
Frequency Range	DC to 4 GHz (Option 001), DC to 20 GHz (Option 020), DC to 26.5 GHz (Option 026)
Nominal Impedance	50 Ohms
Unused Port Termination	50 Ohms
Connector Type	SMA (female)
Maximum Switching Power	1 W
Insertion Loss (DC to 4 GHz)	< 0.3 dB
Insertion Loss (4 to 20 GHz)	< 0.7 dB
Insertion Loss (20 to 26.5 GHz)	< 1.0 dB
Isolation (DC to 4 GHz)	> 100 dB
Isolation (4 to 20 GHz)	> 70 dB
Isolation (20 to 26.5 GHz)	> 60 dB
VSWR (DC to 4 GHz)	< 1.15
VSWR (4 to 20 GHz)	< 1.35
VSWR (20 to 26.5 GHz)	< 1.70
Switch Lifetime	5,000,000 cycles (typical)
Repeatability	0.03 dB (typical)

System Integration

Compatible Mainframe	Keysight / Agilent 34980A
Slot Requirement	1 slot in 34980A mainframe
External Switch Support	Option 100 provides drive capability for up to two external coaxial switches

Environmental

Storage Temperature Range	-40 °C to 70 °C
Operating Humidity	Up to 80% R.H. at 40 °C (non-condensing)

Performance

Switching Speed	< 15 ms
Switch Type	Latching coaxial

TECHNOLOGY

Electromechanical RF/Microwave Switching

APPLICATIONS

Automated RF and microwave signal routing, multi-band transmitter/receiver testing

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