KEYSIGHT TECHNOLOGIES (AGILENT HP)

34906A

The Keysight 34906A is a dual 4-channel RF multiplexer module designed for the 34970A, 34972A, DAQ970A, and DAQ973A Data Acquisition / Switch Units. Configured as two independent 1x4 multiplexers with a 75 characteristic impedance, it offers a high usable bandwidth of up to 2 GHz with direct SMB connections, and up to 1 GHz when using the included BNC-to-SMB adapters. It is ideal for routing high-frequency, broadband, or pulsed signals between devices under test and RF instrumentation.

SPECIFICATIONS

Physical

Operating Temperature	0 °C to 55 °C °C
Weight	0.27 kg kg

General & Configuration

Number of Channels	8 (arranged as two independent 1x4 multiplexers)
Multiplexer Topology	Dual 1x4, single-ended (switched center conductor, common shield)
Characteristic Impedance	75 Ω
Compatible Mainframes	Keysight 34970A, 34972A

Voltage & Current Ratings

Maximum Switching Voltage	42 V (DC or AC peak)
Maximum Switching Current	0.7 A
Maximum Carry Current	0.7 A
Maximum Switching Power	10 W

Signal Integrity & DC Performance

Initial Contact Resistance	< 1.5 Ω

AC Performance & High-Frequency Characteristics (SMB Direct)

Usable Bandwidth (SMB Direct)	2 GHz
Insertion Loss @ 100 MHz (SMB Direct)	< 0.20 dB
Insertion Loss @ 500 MHz (SMB Direct)	< 0.35 dB
Insertion Loss @ 1 GHz (SMB Direct)	< 0.50 dB
Insertion Loss @ 2 GHz (SMB Direct)	< 1.50 dB
Crosstalk @ 100 MHz (SMB Direct)	< -75 dB
Crosstalk @ 500 MHz (SMB Direct)	< -60 dB
Crosstalk @ 1 GHz (SMB Direct)	< -55 dB
Crosstalk @ 2 GHz (SMB Direct)	< -45 dB
SWR @ 100 MHz (SMB Direct)	< 1.15
SWR @ 500 MHz (SMB Direct)	< 1.30
SWR @ 1 GHz (SMB Direct)	< 1.35
SWR @ 2 GHz (SMB Direct)	< 1.45

AC Performance & High-Frequency Characteristics (with BNC Adapter)

Usable Bandwidth (with BNC-to-SMB Adapter)	1 GHz
Insertion Loss @ 100 MHz (with BNC-to-SMB Adapter)	< 0.25 dB
Insertion Loss @ 500 MHz (with BNC-to-SMB Adapter)	< 0.75 dB
Insertion Loss @ 1 GHz (with BNC-to-SMB Adapter)	< 1.50 dB
Crosstalk @ 100 MHz (with BNC-to-SMB Adapter)	< -65 dB
Crosstalk @ 500 MHz (with BNC-to-SMB Adapter)	< -50 dB
Crosstalk @ 1 GHz (with BNC-to-SMB Adapter)	< -40 dB
SWR @ 100 MHz (with BNC-to-SMB Adapter)	< 1.25
SWR @ 500 MHz (with BNC-to-SMB Adapter)	< 1.45
SWR @ 1 GHz (with BNC-to-SMB Adapter)	< 1.70

Timing & Speed

Maximum Scan Rate	60 channels/sec
Rise Time	< 300 ps
Signal Delay	< 3.0 ns

Connectivity & Accessories

Module Connector Type	SMB
Included Cable Accessories	10 BNC-to-SMB adapter cables (75 Ω)

Environmental & Physical Parameters

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

Switching Characteristics

Relay Switching Time	< 10 ms
Relay Type	Latching coaxial

Performance

Maximum Isolation Voltage (Channel-to-Earth)	42 V peak

RF Performance (SMB Direct)

Channel-to-Channel Isolation @ 500 MHz (SMB Direct)	> 95 dB
Channel-to-Channel Isolation @ 2 GHz (SMB Direct)	> 80 dB

RF Performance (with BNC-to-SMB Adapter)

Channel-to-Channel Isolation @ 100 MHz (with BNC-to-SMB Adapter)	> 100 dB
Channel-to-Channel Isolation @ 500 MHz (with BNC-to-SMB Adapter)	> 90 dB
Channel-to-Channel Isolation @ 1 GHz (with BNC-to-SMB Adapter)	> 80 dB

RF Performance

Volt-Hertz Limit	1 x 10^7 V-Hz

General

Mainframe Slots Required	1

TECHNOLOGY

RF Multiplexer

APPLICATIONS

Broadband and RF signal switching

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