

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8766K

The Keysight (Agilent HP) 8766K is a high-performance electromechanical single-pole three-throw (SP3T) coaxial microwave switch operating from DC to 26.5 GHz. Known for its high isolation and low insertion loss, it is designed for precision signal routing in automated test systems and microwave measurement setups.

SPECIFICATIONS

General

Interfaces	Solder terminals or ribbon cable (configuration dependent)
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Physical

Power Supply	5 VDC / 15 VDC / 24 VDC (option dependent)
Operating Temperature	-25 to +75 °C

RF Performance Specifications

Frequency Range	DC to 26.5 GHz
Impedance (Nominal)	50 Ω
Switch Configuration	SP3T (Single-Pole Three-Throw)
Insertion Loss (DC to 4 GHz)	< 0.2 dB
Insertion Loss (4 to 12.4 GHz)	< 0.5 dB
Insertion Loss (12.4 to 18 GHz)	< 0.7 dB
Insertion Loss (18 to 26.5 GHz)	< 1.0 dB
Isolation (DC to 4 GHz)	> 90 dB
Isolation (4 to 12.4 GHz)	> 80 dB
Isolation (12.4 to 18 GHz)	> 75 dB
Isolation (18 to 26.5 GHz)	> 70 dB
Voltage Standing Wave Ratio (VSWR) (DC to 4 GHz)	< 1.15
Voltage Standing Wave Ratio (VSWR) (4 to 12.4 GHz)	< 1.25
Voltage Standing Wave Ratio (VSWR) (12.4 to 18 GHz)	< 1.4
Voltage Standing Wave Ratio (VSWR) (18 to 26.5 GHz)	< 1.8

Actuator and Control Specifications

Actuator Type	Magnetic Latching
Switching Time (Max)	15 ms
Minimum Trigger Pulse Width (Latching)	15 ms

Mechanical and Physical Characteristics

RF Connector Type	3.5 mm female (SMA compatible)
Expected Mechanical Life (Cycles)	5,000,000 cycles per port

Environmental Specifications

Operating Temperature Range	-25 °C to +75 °C
Storage Temperature Range	-55 °C to +85 °C

Ordering Options and Configurations

Coil Operating Voltage Options	5 VDC (Opt 011) / 15 VDC (Opt 015) / 24 VDC (Opt 024)
Control Logic Options	Direct Drive / TTL Drive (option dependent)

RF Characteristics

RF Power Rating (Average)	1 W
RF Power Rating (Peak)	100 W (for pulse width ≤ 10 μs)
RF Port Termination	Unterminated
Port Configuration Options	SP3T only

Performance

Insertion Loss Repeatability	0.03 dB (typical after 1,000,000 cycles)
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Power & Control

Solenoid Current	120 mA (nominal @ 24 VDC)
Solenoid Coil Resistance	200 Ω (nominal @ 24 VDC option)

Environmental

Operating Shock	50 g (11 ms, half-sine)
Non-Operating Shock	500 g (1.8 ms, half-sine)
Operating Vibration	10 g (55 Hz to 2000 Hz)

Control & Interface

Control DC Connector Type	10-pin solder terminals (standard)
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TECHNOLOGY

Electromechanical Coaxial Switch

APPLICATIONS

RF and Microwave Signal Routing

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