

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8768K

The Keysight 8768K (formerly Agilent) is a high-performance, single-pole five-throw (SP5T) multiport coaxial switch operating from DC to 26.5 GHz. Engineered for ATE and high-frequency microwave applications, it utilizes proven latching technology to deliver exceptional isolation, low insertion loss, and outstanding repeatability over a lifetime of more than 5 million cycles. The switch incorporates self-interrupting contacts to minimize power dissipation and simplify driver circuitry.

SPECIFICATIONS

General

Interfaces	Solder terminals (standard) or Ribbon cable (Option 100); compatible with Keysight 11713B/C attenuator/switch drivers
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Physical

Power Supply	24 VDC nominal (20 to 30 VDC), Optional 5 VDC (4.5 to 7 VDC, Option 011), Optional 15 VDC (12 to 20 VDC, Option 015)
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Operating Temperature	-25 to +75 °C °C
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Dimensions (W×H×D)	52.1 mm (Diameter) × 56.4 mm (Height) mm
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Weight	0.24 kg kg
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RF & Microwave Performance

Frequency Range	DC to 26.5 GHz
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Characteristic Impedance	50 Ω
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Insertion Loss (DC to 2 GHz)	< 0.2 dB
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Insertion Loss (2 to 18 GHz)	< 0.5 dB
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Insertion Loss (18 to 26.5 GHz)	< 0.8 dB
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Isolation (DC to 2 GHz)	> 90 dB
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Isolation (2 to 18 GHz)	> 90 dB
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Isolation (18 to 26.5 GHz)	> 50 dB
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VSWR (DC to 2 GHz)	< 1.15
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VSWR (2 to 18 GHz)	< 1.25
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VSWR (18 to 26.5 GHz)	< 1.40
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Maximum Input Power (CW)	1 W
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Maximum Input Power (Peak)	100 W (for 10 μs max pulse width, 1% duty cycle)
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Switching & Actuation Characteristics

Switch Configuration	SP5T (Single-Pole, Five-Throw)
Termination Option	Unterminated
Actuation Type	Latching
Switching Time	< 20 ms (including contact settling time)
Operating Life	> 5,000,000 switching cycles
Self-Cutoff (Current Interrupts)	Integrated, automatic drive cutoff
Position Indication Contacts	Integrated, auxiliary contact capability for telemetry

Power Specifications

Solenoid Nominal Current (24V, Option 024)	120 mA
Solenoid Nominal Current (15V, Option 015)	185 mA
Solenoid Nominal Current (5V, Option 011)	325 mA

Physical & Mechanical Properties

RF Connector Type	3.5 mm female (SMA compatible)
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Environmental & Reliability

Storage Temperature Range	-55 to +85 °C
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Compliance & Ordering Information

Option 011	5 VDC Solenoid Voltage
Option 015	15 VDC Solenoid Voltage
Option 024	24 VDC Solenoid Voltage (Standard)
Option 100	Ribbon cable connector interface

Actuator Specifications

Solenoid Voltage Range (Option 011)	4.5 to 7 VDC (5 VDC nominal)
Solenoid Voltage Range (Option 015)	12 to 20 VDC (15 VDC nominal)
Solenoid Voltage Range (Option 024)	20 to 30 VDC (24 VDC nominal)

Environmental Specifications

Operating Humidity	95% RH at 40 °C for 5 days
Vibration (Operating)	7 g, 5 to 2000 Hz, 0.25 in p-p
Shock (Operating)	500 g, 0.5 ms half-sine
Altitude (Operating)	4,600 m (15,000 ft)
Altitude (Storage)	15,300 m (50,000 ft)

Position Indicators

Position Indicator Contact Max Voltage	30 V
Position Indicator Contact Max Current	100 mA

Control & Drive

Control Drive Connector	Solder terminals (standard) / 16-pin ribbon cable (Option 100)
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RF Performance

Maximum RF Peak Power Pulse Width	10 μ s
RF Power Rating (Through Path)	2 W CW
RF Power Rating (Internal Terminations)	1 W CW
RF Peak Power Rating (Through Path)	100 W
RF Peak Power Rating (Internal Terminations)	50 W

TECHNOLOGY

Electromechanical Coaxial Switch

APPLICATIONS

Microwave Signal Routing, Automated Test Equipment (ATE), RF Component Testing

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