

KEYSIGHT TECHNOLOGIES (AGILENT HP)

87106A

The Keysight 87106A is a high-performance multiport SP6T terminated coaxial switch designed for microwave and RF instrumentation. Operating from DC to 4 GHz, it provides exceptionally low insertion loss, high isolation, and outstanding repeatability over a minimum lifetime of 5 million cycles. It is ideal for routing signals in automated test equipment (ATE) systems, communications systems, and general-purpose RF signal routing applications.

SPECIFICATIONS

General

Interfaces	20-pin ribbon cable connector or optional solder terminals
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Physical

Power Supply	24 VDC (Option 024, standard), 15 VDC (Option 015), or 5 VDC (Option 011)
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Operating Temperature	-25 to +75 °C °C
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Dimensions (W×H×D)	63.5 mm (diameter) × 52.0 mm (height) mm
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Weight	0.25 kg kg
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RF Performance

Frequency Range	DC to 4 GHz
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Characteristic Impedance	50 Ω
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Insertion Loss	< 0.3 dB
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Isolation	> 100 dB
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VSWR	< 1.15
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Insertion Loss Repeatability	0.03 dB maximum (typically 0.01 dB over 5 million cycles)
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Maximum RF Input Power (CW, Cold Switching)	2 W
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Maximum RF Input Power (CW, Terminated Path)	1 W
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Maximum RF Input Power (Peak, Cold Switching)	100 W (10 μs pulse width, 1% duty cycle)
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Maximum RF Input Power (Peak, Terminated Path)	50 W (10 μs pulse width, 1% duty cycle)
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Actuator and Electrical Control

Actuator Type	Latching with self-interruption
Nominal Coil Voltage	24 VDC (Option 024), 15 VDC (Option 015), 5 VDC (Option 011)
Coil Operating Voltage Range (24V Standard)	20 to 30 VDC
Coil Current (24V Standard)	200 mA (at nominal 24 VDC)
Switching Speed / Transition Time	< 15 ms
Self-Interruption Feature	Yes (automatic solenoid disconnect)
TTL/CMOS Control Option	Available with Option 400
RF Path Indicator Contacts	Optoelectronic indicators

Mechanical and Interface Characteristics

Switch Configuration	SP6T (Single Pole Six Throw), terminated
RF Connector Type	SMA female
Control / DC Connector Type	20-pin DIP male ribbon cable header (Option 100 adds solder terminals)
Mechanical Lifetime (Cold Switching)	5,000,000 cycles minimum

Environmental and Reliability

Storage Temperature Range	-55 to +85 °C
Operating Humidity	95% RH at 40 °C (non-condensing)
Vibration (Operating)	7 g, 5 to 2000 Hz
Shock (Operating)	500 g, 0.5 ms half-sine
Altitude (Operating)	4,570 m (15,000 ft)
Altitude (Non-operating)	15,240 m (50,000 ft)

Power

Coil Voltage Options	24 VDC (standard) / 5 VDC (Option 011) / 15 VDC (Option 015)
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Control

Drive Options	Electronic position indicators (Option 300) / TTL/CMOS compatible drive (Option 400) / TTL/CMOS compatible drive and electronic position indicators (Option 500)
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RF Specifications

RF Termination Impedance	50 Ω
RF Termination Power Handling (Average)	1 W
RF Termination Power Handling (Peak)	50 W (pulse width $\leq$ 10 μ s)
RF Connector Gender	Female

Control & Drive

Coil Current (Switching Peak)	200 mA @ 24 VDC
Coil Current (Holding)	0 mA (Self-interrupting)

TECHNOLOGY

Coaxial Electro-mechanical 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.