DATA SHEET

USB Coaxial Switches

U1816A: DC to 8 GHz, Dual SP6T
U1816C: DC to 26.5 GHz, Dual SP6T
U1816E: DC to 50 GHz, Dual SP6T
U1816F: DC to 67 GHz, Dual SP6T



Key features

- Extend the number of test ports for multi-DUT or multiport devices measurement
- Achieve lower cost-per-port and increase throughput without compromising performance
- Allows switching of multiple signals without physically changing the connections.
- Minimizes crosstalk between channels with excellent isolation and low VSWR ensuring signal integrity

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Description

The Keysight Technologies, Inc. U1816A/C/E/F is a USB-controlled switch matrix that consists of two single-pole-six-throw (SP6T) switches. It allows switching of multiple signal paths without physically changing the connections. This allows multiple tests to be performed with the same setup, eliminating the need for frequent connects and disconnects. An entire testing process can be automated, increasing the throughput in high-volume production environments.

Specifications

Specifications describe the instrument's warranted performance. Supplemental and typical characteristics are intended to provide information useful in applying the instrument by giving typical, but not warranted performance parameters. U1816x specifications are tested at nominal voltage at 25 °C.

Specifications	U1816A	U1816C	U1816E	U1816F
Frequency range	DC to 8 GHz	DC to 26.5 GHz	DC to 50 GHz	DC to 67 GHz
Insertion loss (max)	0.3 dB + 0.015 x frequency (GHz)		0.35 + 0.023 x frequency (GHz)	
Isolation (min)	100 dB	DC to 12 GHz: 100 dB 12 to 15 GHz: 80 dB 15 to 20 GHz: 70 dB 20 to 26.5 GHz: 65 dB	DC to 9 GHz: 95 dB 9 to 26.5 GHz: 85 dB 26.5 to 40 GHz: 75 dB 40 to 45 GHz: 70 dB	DC to 9 GHz: 95 dB 9 to 26.5 GHz: 85 dB 26.5 to 40 GHz: 75 dB 40 to 54 GHz: 70 dB 54 to 67 GHz: 65 dB
VSWR (max)	DC to 4 GHz: 1.20 4 to 8 GHz: 1.35	DC to 4 GHz: 1.20 4 to 12.4 GHz: 1.35 12.4 to 18 GHz: 1.45 18 to 26.5 GHz: 1.70	DC to 4 GHz: 1.15 4 to 12.4 GHz: 1.20 12.4 to 20 GHz: 1.40 20 to 30 GHz: 1.40 30 to 50 GHz: 1.60	DC to 4 GHz: 1.15 4 to 12.4 GHz: 1.20 12.4 to 20 GHz: 1.35 20 to 30 GHz: 1.40 30 to 54 GHz: 1.60 54 to 67 GHz: 1.92

Supplemental Specifications and Characteristic

Supplemental characteristics are intended to provide useful information. They are typical but non-warranted performance parameters

Supplementary Information	U1816A	U1816C	U1816E	U1816F
Insertion loss repeatability	0.03 dB		0.05 dB	0.08 dB
Connector	SMA (f)		2.4 mm (f)	1.85 mm (f)
Drive method	USB			
Switching time[1]	15 ms			
Life cycles	5 million		1 million	
DC supply voltage (power adapter provided)	15 to 19 V			
Physical dimension	Height: 103.8 mm (4.09 in) Width: 232.6 mm (9.16 in) Depth: 245.0 mm (9.65 in) Weight: 2.43 kg (5.35 lb)			

1. The switching time of < 15 ms is guaranteed at the switch level only. Typically, the total effective switching time varies around 15 to 25 ms, the extra time may be attributed to the overall test system performance (eg. CPU)

Environmental Specification

The U1816A/C/E/F is designed to fully comply with Keysight Technologies' product operating environmental specifications.

Environment condition	11636A/B/C
Temperature Operating Storage	 0°C to 55°C –40°C to 70°C
Vibration Operating random Survival random	 5 to 500 Hz, 0.3 Grms 5 to 500 Hz, 3.41 Grms
Shock End use handling shock Transportation shock	 Half sine waveform, 120 in/s, duration <3 ms Trapezoidal, 50 g, delta-V: 8m/s
Humidity Operating/storage	 15 to 95% Relative Humidity (RH)
Altitude Operating/storage	 4600 m/4600 m
ESD immunity Contact discharge Air discharge	 4 kV 8 kV

Ordering Information

Model	Description
U1816A	DC to 8 GHz, Dual SP6T switches
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U1816E	DC to 50 GHz, Dual SP6T switches
U1816F	DC to 67 GHz, Dual SP6T switches

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