

KEYSIGHT TECHNOLOGIES (AGILENT HP)

84907K

The Keysight Technologies (formerly Agilent) 84907K is a compact, programmable coaxial step attenuator designed for high-performance measurements up to 26.5 GHz. It delivers exceptional attenuation repeatability of better than 0.03 dB and a long operating life of over 5 million cycles per section. Built with miniature thin-film tantalum nitride attenuation cards on sapphire substrates, it offers low SWR and precise performance, making it highly suitable for integration into automated test equipment (ATE) and instrument systems.

SPECIFICATIONS

General

Interfaces	10-pin socket
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Physical

Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	121.6 mm x 51.6 mm x 40.4 mm mm
Weight	0.229 kg kg

RF Performance Specifications

Frequency Range	DC to 26.5 GHz
Attenuation Range	0 to 70 dB
Attenuation Step Size	10 dB
Nominal Impedance	50 Ω
Insertion Loss (0 dB)	0.6 dB + 0.03 dB/GHz
Maximum VSWR (DC to 12.4 GHz)	1.25
Maximum VSWR (12.4 to 26.5 GHz)	1.5
RF Repeatability	0.03 dB (maximum)
Maximum RF Input Power (Average)	1 W
Maximum RF Input Power (Peak)	100 W

Electromechanical & Switching

Switching Cycle Lifetime	Greater than 5 million operations per section
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Physical & Mechanical Specifications

RF Input/Output Connectors	Choice of 3.5 mm female or 3.5 mm male/female
Programming Connector	10-pin socket
Attenuation Card Material	Thin-film tantalum nitride on sapphire substrate

Environmental Specifications

Non-Operating Temperature Range	-40 °C to +75 °C
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Ordering & Configurations

Driver Unit Compatibility	Keysight 11713B/C attenuator/switch drivers
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Performance

Attenuation Accuracy (DC to 12.4 GHz)	±0.3 dB to ±1.1 dB (attenuation dependent)
Attenuation Accuracy (12.4 to 18 GHz)	±0.4 dB to ±1.5 dB (attenuation dependent)
Attenuation Accuracy (18 to 26.5 GHz)	±0.5 dB to ±1.8 dB (attenuation dependent)
Switching Time	20 ms (maximum, including settling time)
Number of Sections	3
Section Attenuation Values	10, 20, 40 dB
RF Power Sensitivity	< 0.001 dB/W

Electrical

Solenoid Voltage Options	5 V (Option 011) / 15 V (Option 015) / 24 V (Option 024)
Solenoid Current	325 mA @ 5 V (Opt 011) / 188 mA @ 15 V (Opt 015) / 125 mA @ 24 V (Opt 024)
Solenoid Coil Resistance	17 Ohm (Opt 011) / 90 Ohm (Opt 015) / 220 Ohm (Opt 024)

Environmental

Operating Altitude	4,600 m
Storage Altitude	15,200 m
Operating Shock	10 g (6 ms)
Non-Operating Shock	500 g (1.8 ms)
Operating Humidity	95% RH @ 40 °C
Operating Vibration	0.38 mm, 5 to 55 Hz, 3 g peak, 2 hours/axis
Non-Operating Vibration	0.05 in, 10 to 55 Hz, 10 g peak, 20 min/axis

Compliance

Humidity Compliance	MIL-STD-202, Method 106D
Vibration Compliance	MIL-STD-202, Method 204C, Condition B
Shock Compliance	MIL-STD-202, Method 213B, Condition I

TECHNOLOGY

Coaxial Step Attenuator

APPLICATIONS

RF and Microwave Signal Attenuation

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