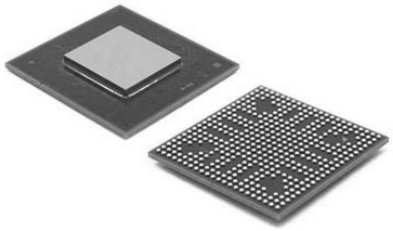
ADL5906ACPZN-R7

RF Detector 10MHz to 10000MHz 16-Pin LFCSP EP T/R

Manufacturer:	Analog Devices, Inc
Package/Case:	LFCSP-16
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The ADL5906 is a true rms responding power detector that has a 67 dB measurement range when driven with a single-ended 50 Ω source. The easy to use input makes the ADL5906 frequency versatile by eliminating the need for a balun or any other form of external input tuning for operation up to 10 GHz.

The ADL5906 provides a solution in a variety of high frequency systems requiring an accurate rms measurement of signal power. The ADL5906 can operate from 10 MHz to 10 GHz and can accept inputs from −65 dBm to +8 dBm with varying crest factors and bandwidths, such as GSM-EDGE, CDMA, W-CDMA,TD-SCDMA, WiMAX, and OFDM-based LTE carriers. In addition, its temperature stability over the broad temperature range of −55°C to +125°C makes it ideally suited for a wide array of communications, military, industrial, and instrumentation applications.

Used as a power measurement device, VRMS is connected to VSET. The output is then proportional to the logarithm of the rms value of the input. In other words, the reading is presented directly in decibels and is scaled 1.1 V per decade, or 55 mV/dB; other slopes are easily arranged. In controller mode, the voltage applied to VSET determines the power level required at the input to null the deviation from the setpoint. The output buffer can provide high load currents.

Requiring only a single supply of 5 V and a few capacitors, it is easy to use and capable of being driven single-ended or with a balun for differential input drive. The ADL5906 has a low 250 µA sleep current when powered down by a logic high applied to the PWDN pin. It powers up within approximately 1.4 µs to its nominal operating current of 68 mA at 25°C.

The ADL5906 is supplied in a 4 mm × 4 mm, 16-lead LFCSP and it is pin compatible with the ADL5902 and the AD8363 TruPwr™ rms detectors. This feature allows the designer to create one circuit layout for projects requiring different dynamic ranges. A fully populated RoHS-compliant evaluation board is available.

Key Features

Accurate rms-to-dc conversion from 10 MHz to 10 GHz

Single-ended ±1 dB dynamic range: 67 dB at 2.14 GHz No balun or external input matching required

Response independent of waveform types, such as GSM/CDMA/W-CDMA/TD-SCDMA/WiMAX/LTE

Logarithmic slope: 55 mV/dB

Temperature stability: <±1 dB from −40°C to +125°C

Operating temperature: −55°C to +125°C

Supply voltage: 4.75 V to 5.25 V

Sleep current: 250 µA

Pin-compatible withand

Application

Power amplifier linearization/control loops

Transmitter signal strength indication (TSSI)

RF instrumentation

Recommended For You

ADF4153BCPZ

Analog Devices, Inc

QFN

ADF5355BCPZ

Analog Devices, Inc

LFCSP32

AD8318ACPZ

Analog Devices, Inc

LFCSP

AD6620ASZ

Analog Devices, Inc

QFP

ADF4107BCPZ

Analog Devices, Inc

QFN

ADL5513ACPZ-R7

Analog Devices, Inc

LFCSP-16

AD8319ACPZ

Analog Devices, Inc

LFCSP

ADRF6755ACPZ

Analog Devices, Inc

QFN

ADL5535ARKZ-R7

Analog Devices, Inc

SOT89

AD608AR

Analog Devices, Inc

SOP16

ADF4107BRUZ-REEL7

Analog Devices, Inc

TSSOP16

ADRF6780ACPZN

Analog Devices, Inc

QFN

AD8317ACPZ

Analog Devices, Inc

LFCSP

AD608ARZ

Analog Devices, Inc

SOP16

AD8318ACPZ-REEL7

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LFCSP