
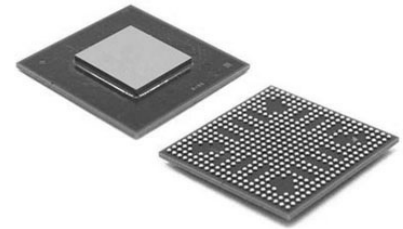


RF Detector 50MHz to 9000MHz 16-Pin LFCSP EP T/R

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 ADL5902 is a true rms responding power detector that has a 65 dB measurement range when driven with a single-ended 50 Ω source. This feature makes the ADL5902 frequency versatile by eliminating the need for a balun or any other form of external input tuning for operation up to 9 GHz.

The ADL5902 provides a solution in a variety of high frequency systems requiring an accurate measurement of signal power. 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 ADL5902 can operate from 50 MHz to 9 GHz and can accept inputs from -62 dBm to at least +3 dBm with large crest factors, such as GSM, CDMA, W-CDMA, TD-SCDMA, WiMAX, and LTE modulated signals.

The ADL5902 can determine the true power of a high frequency signal having a complex low frequency modulation envelope or can be used as a simple low frequency rms voltmeter. Used as a power measurement device, VOUT 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 1.06 V per decade, or 53 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 set point. The output buffer can provide high load currents.

The ADL5902 has 1.5 mW power consumption when powered down by a logic high applied to the PWDN pin. It powers up within approximately 5 μs to its nominal operating current of 73 mA at 25°C. The ADL5902 is supplied in a 4 mm × 4 mm, 16-lead LFCSP for operation over the wide temperature range of -40°C to +125°C.

The ADL5902 is also pin-compatible with the AD8363, 50 dB dynamic range TruPwr™ detector. 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 50 MHz to 9 GHz

Single ended input dynamic range of 65 dBNo balun or external input matching required

Waveform and modulation independent, such as GSM/CDMA/W-CDMA/TD-SCDMA/WiMAX/LTE

Linear-in-decibels output, scaled 53 mV/dB

Transfer function ripple: $\leq \pm 0.1$ dB

Temperature stability of $\leq \pm 0.3$ dB

All functions temperature and supply stable

Operates from 4.5 V to 5.5 V from -40°C to $+125^{\circ}\text{C}$

Power-down capability to 1.5 mW

Pin-compatible with the 50 dB dynamic range AD8363

Application

Power amplifier linearization/control loops

Transmitter power controls

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