


RF Detector 50MHz to 6000MHz 6-Pin SC-70 T/R

Manufacturer:	Analog Devices, Inc
Package/Case:	SC70-6
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The ADL5501 is a mean-responding power detector for use in high frequency receiver and transmitter signal chains from 50 MHz to 6 GHz. It is easy to apply, requiring only a single supply between 2.7 V and 5.5 V and a power supply decoupling capacitor. The input is internally ac-coupled and has a nominal input impedance of 50 Ω . The output is a linear-responding dc voltage with a conversion gain of 6.3 V/V rms at 900 MHz.

The ADL5501 is intended for true power measurement of simple and complex waveforms. The device is particularly useful for measuring high crest factor (high peak-to-rms ratio) signals, such as CDMA-, CDMA2000-, W-CDMA-, and QPSK-/QAM-based OFDM waveforms. The on-chip modulation filter provides adequate averaging for most waveforms.

The on-chip, 100 Ω series resistance at the output, combined with an external shunt capacitor, creates a low-pass filter response that reduces the residual ripple in the dc output voltage. For more complex waveforms, an external capacitor at the FLTR pin can be used for supplementary signal demodulation.

The ADL5501 offers excellent temperature stability across a 30 dB range and near 0 dB measurement error across temperature over the top portion of the dynamic range. In addition to its temperature stability, the ADL5501 offers low process variations that further reduce calibration complexity.

The ADL5501 operates from -40°C to $+85^{\circ}\text{C}$ and is available in a small 6-lead SC-70 package. It is fabricated on a proprietary high fT silicon bipolar process.

Key Features

Application

True rms response	Measurement of CDMA-, CDMA2000-, W-CDMA-, and QPSK-/ QAM-based OFDM, and other complex modulation waveforms
Excellent temperature stability	
Up to 30 dB input dynamic range	RF transmitter or receiver power measurement
50 Ω input impedance	
1.25 V rms, 15 dBm, maximum input	
Single-supply operation: 2.7 V to 5.5 V	
Low power: 3.3 mW at 3 V supply	
RoHS-compliant	

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

Analog Devices, Inc
LFCSP