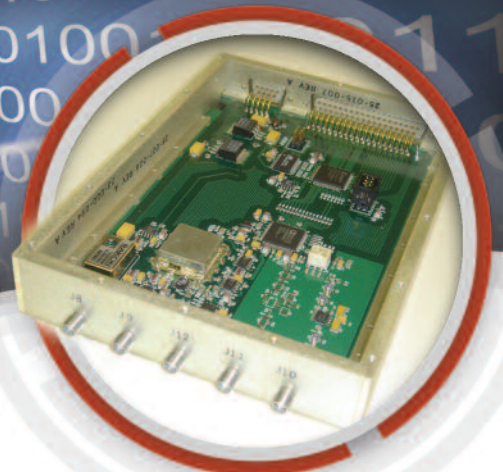


MODEL ADS-53X FREQUENCY SYNTHESIZER

SCITEQ FREQUENCY SYNTHESIZER



DESCRIPTION

THE ADS-53X SERIES OF DIRECT DIGITAL SYNTHESIZERS (DDS) OFFERS A HI-PERFORMING AND FLEXIBLE FREQUENCY SYNTHESIZER TO ADDRESS A VARIETY OF APPLICATIONS AND MARKETS INCLUDING ACOUSTO-OPTICAL DEFLECTION, EW RADAR AND HIGH QUALITY RECEIVERS. THE SILICONE-BASED ADS-53X PROVIDES A WIDE BAND (UP TO 400 MHZ) FREQUENCY COVERAGE WITH EXCELLENT PHASE NOISE, STEP SIZE AND SWITCHING SPEED IN A LOW COST AND COMPACT DESIGN. THE PROPRIETARY VCO WITHIN THE ADS-532 MODULE PROVIDES THE NECESSARY DDS CLOCK (@ 4 TIMES THE HIGHEST FREQUENCY CONTROL BIT) AND THE ADDITIONAL CIRCUITRY REQUIRED TO PHASE LOCK THIS VCO TO AN INTERNAL OR EXTERNAL 10 MHZ REFERENCE SIGNAL.

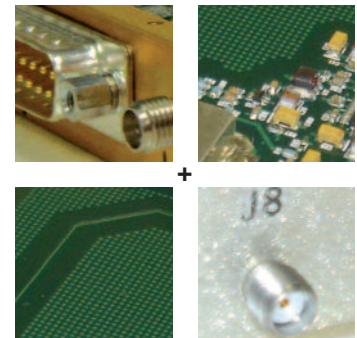
THE ADS-53X PLATFORM PROVIDES DESIGNERS AND ENGINEERS FLEXIBILITY IN THEIR SYNTHESIZER DEPLOYMENT. THIS, BY OFFERING BOTH SERIAL OR PARALLEL CONTROL OPTIONS, AND EXTERNAL OR INTERNAL REFERENCE OPTIONS. OTHER OPTIONS ARE AVAILABLE AS WELL WITH THIS HIGHLY CUSTOMIZABLE PLATFORM.

FEATURES

- Optional Internal/External Clock
- High Output Frequency - 400 MHz DDS
- Standard 1 GHz clock rate, optional 2 GHz
- 10-bit DAC
- 32-bit control register for extremely good resolution
- Flexibility: Both serial and parallel control options
- Compact Size

APPLICATIONS

- Acousto-Optical Deflection
- Imaging Radar
- EW Radar
- High Quality Receivers





Founded in 1971, Meret Optical Communications Inc. is an engineering intensive, high technology provider of high-performance RF synthesis products, VCOs and video transmission equipment.

MODEL ADS-53X SCITEQ FREQUENCY SYNTHESIZER

PERFORMANCE SPECIFICATION

Output Frequency

Range1 MHz to 400 MHz
 Resolution<0.4612 Hz
 Control30 parallel BINARY bits
 (pos-true logic) with strobe

Main Output

Level+6 dBm into 50 Ohm
 Accuracy/Flatness ± 3 dB

Complimentary Output

ADS-53xsame as main output $180^\circ \pm 2^\circ$

Auxiliary Output

Frequency10 MHz
 Level>-15 dBm into 50 Ohm

Spectral Purity (Model ADS-532 only*)

Harmonics-20 dBc
 Spurious-40 dBc, typical
 Phase Noise<-100 dBc/Hz @ 100 Hz offset
 <-105 dBc/Hz @ 1 kHz offset
 <-110 dBc/Hz @ 10 kHz offset
 <-125 dBc/Hz @100 kHz offset

*Denotes internal reference only. Model ADS-531 spectral purity is a function of external reference.

Reference Frequency

ADS-531: External1,000 MHz @
 0 dBm ± 2 dB into 50 Ohm
 ADS-532: External10 MHz @ +2 dBm ± 2 dB into 50 Ohm
 Or Internal10 Mhz @ +/- 1 ppm accuracy

Frequency Switching

Switching Speed< 40nSec @ 1 Ghz
 Actual is a function of clock
 and frequency

Connectors

Internal Clock OutputSMA Female (J12) (optional)
 RF OutputSMA Female (J11) (optional)
 RF OutputSMA Female (J10)
 Ref OutputSMA Female (J9) (optional)
 Ext Ref InputSMA Female (J8)
 Frequency Control37-pin male subminiature
 D-connector (J7)
 Power9-pin subminiature male
 D-connector (J2)

Environmental

Operating Temp0°C to +50°C
 Storage Temp-20°C to +70°C

Power Supply (nominal)

ADS-531Single +5V @800mA
 ADS-532+15V @ 100mA Max.
 and +5V @ 800mA Max

Dimensions

ADS-5313.75"(W) x 4.78"(D) x 0.89"(H)
 ADS-5325"(W) x 7.08"(D) x 1.125"(H)

Weight2 lbs (0.9 kg),
 3 lbs (1.4 kg) shipping

