TK954 – DIGITALLY CONTROLLED CRYSTAL OSCILLATOR

TECHNICAL FEATURE

FEATURES

- Very Low Phase Noise
- High Resolution
- Superior Temperature Stability



PERFORMANCE

Output frequency70 MHz
Frequency deviation+/- 140 KHz
Frequency control16 bit binary word
Frequency increment~4 Hz
Frequency change<30s
Phase noise1 KHz offset - 140 dBc/Hz
10 KHz offset - 153 dBc/Hz
Total spurious power (Integrated)84 dBc
Harmonic levels80 dBc min.
Output power+9 dBm
Mechanical frequency adjustment \pm 5 ppm min.
Long Term Stability± 1.5x10-6/yr
Operating Temperature Range20° to +60° C

DESCRIPTION

The digitally controlled oscillator (DCXO) provides variations in the output frequency without the degradation in frequency stability and phase noise is typical of a wide deviation voltage controlled oscillator.

The output frequency stability is a function of the internal reference signal. This highly stable reference is generated from a fixed frequency crystal oscillator in a temperature-controlled environment

A DDS frequency synthesizer chip generates the desired output frequency. A microprocessor is used to control the DDs chip and translate the digital command word to the appropriate output frequency.

The unit was designed for applications such as Doppler radar where a low phase noise stable reference is required.

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