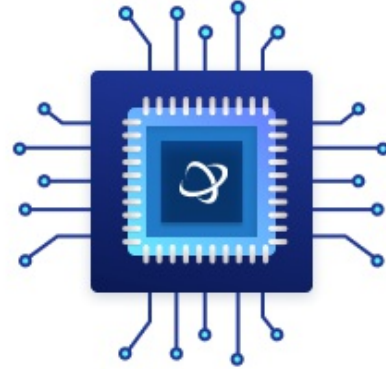


Wideband 18GHz RF and Microwave Synthesizer

Manufacturers	Renesas Technology Corp
Package/Case	
Product Type	Clock & Timer ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for 8V97003NLGI or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The 8V97003 is a high-performance wideband microwave Synthesizer / Phase Lock Loop (PLL) that generates output frequencies up to 18GHz from an integrated Voltage Controlled Oscillator (VCO) offering an octave of frequency tuning range. The device offers a high-performance 32-bit fractional feedback divider and an output divider to allow users to fully benefit from the wideband characteristics of the VCO. The device's figure of merit (FOM) of -236dBc/Hz and the excellent VCO performance allow for very low phase noise and RMS phase jitter. The 8V97003 offers a very low output-to-output phase skew drift of <math><10^\circ</math> across all operating conditions and frequencies, reducing radio path recalibration occurrences in beamforming applications, such as 5G radio card massive MIMO systems. The output drivers have programmable output power settings and can deliver high single-ended output power up of +12dBm at 8GHz, and +4dBm at 18GHz, when using inductively loaded output terminations (double termination). When the outputs are resistively loaded, the output drivers can deliver a single-ended output power of +9.5dBm at 8GHz, and up to -2.5dBm at 12GHz. The output power can be further increased when using differential outputs and measuring the output power differentially. The 8V97003 relies on a single 3.3V power supply and offers low noise integrated LDOs for excellent power supply noise immunity.

Features

Output frequency range: 171.875.5MHz to 18GHz

Ultra-low phase noise VCO

-60.6dBc (35fs RMS) integrated phase jitter from 20kHz to 100MHz at 6GHz

Figure of Merit: -236dBc/Hz

Input reference frequency: 10MHz to 1GHz (LVPECL, LVDS); 10MHz to 250MHz (LVCMOS)

Fractional-N synthesizer and integer-N synthesizer

32-bit of fractional and modulus resolution

Phase frequency detector (PFD) operation up to 500MHz (Integer mode) or 250MHz (Fractional mode)

Programmable RF output power levels

-40°C to +95°C ambient temperature range; and up to +105°C case temperature

3.3V single power supply operation

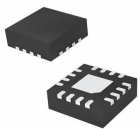
Integrated LDOs for good power supply noise immunity

7 × 7 mm 48-VFQFN package

SPI interface is compatible with 1.8V logic and tolerant to 3.3V

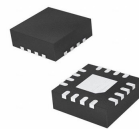
Supported in the Timing Commander™ design tool

Related Products



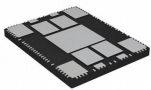
[8V89308ANLGI8](#)

Renesas Technology Corp
32-VFQFN



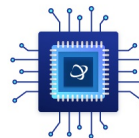
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Renesas Technology Corp
32-VFQFN



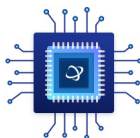
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Renesas Technology Corp
VFQFPN-72



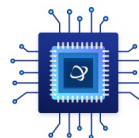
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Renesas Technology Corp



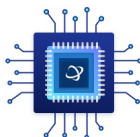
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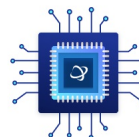
[8V19N491-36BDGI](#)

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[8V19N490BBDGI8](#)

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[8V19N490BBDGI](#)

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