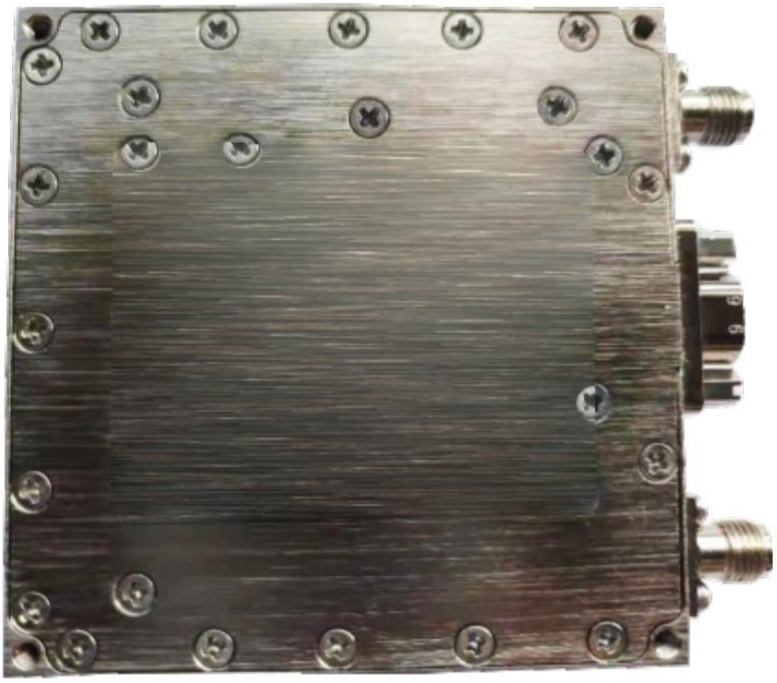
WIDEBAND FAST-SWITCHING FREQUENCY SYNTHESIZER



2.5 to 20 GHz

Fast frequency switching
SPI control
0.1 Hz frequency step
Switching time: ≤10 μs; communication time excluded
65 × 65 × 13 mm package
Weight: ≤160 g

The OTFS40-20 is a wideband fast-switching frequency synthesizer with an output frequency range of 2.5 to 20 GHz. Control interface: SPI. Reference frequency: 100 MHz. The frequency step is 0.1 Hz. Frequency switching time: ≤10 μs; communication time excluded. Output power: ≥5 dBm. Dimensions: 65 × 65 × 13 mm. Weight: ≤160 g. Operating temperature: -40 to +70 °C.

TECHNICAL INFORMATION

OTFS40-20

Property	Value
Output frequency range	2.5-20 GHz
Frequency step	0.1 Hz
Frequency switching time	≤10 µs; communication time excluded
Output power	≥5 dBm
Frequency stability	Tracks the external reference
Spurious level	≤-65 dBc typical; ≤-60 dBc maximum
Harmonic level	≤-5 dBc
Reference frequency	100 MHz
Reference input power	7 ±3 dBm
Reference phase noise	-125 dBc/Hz at 100 Hz offset; -155 dBc/Hz at 1 kHz offset; -165 dBc/Hz at 10 kHz offset; -165 dBc/Hz at 100 kHz offset; -170 dBc/Hz at 1 MHz offset
Supply voltage	+12 V ±0.5 V; maximum +15 V
Supply current	≤1.5 A startup; ≤0.8 A steady state
Control interface	SPI
Operating temperature	-40 to +70 °C
Storage temperature	-55 to +85 °C
Dimensions	65 × 65 × 13 mm
Weight	≤160 g
RF/reference connectors	SMA-K
Power/control connector	J30J-9-ZKP

Specification Notes

The source family table includes a 1 GHz phase-noise point outside both stated output ranges. It is retained separately for traceability and is not an in-range specification: ≤-105 / -120 / -125 / -125 / -125 dBc/Hz at 100 Hz / 1 kHz / 10 kHz / 100 kHz / 1 MHz offsets.

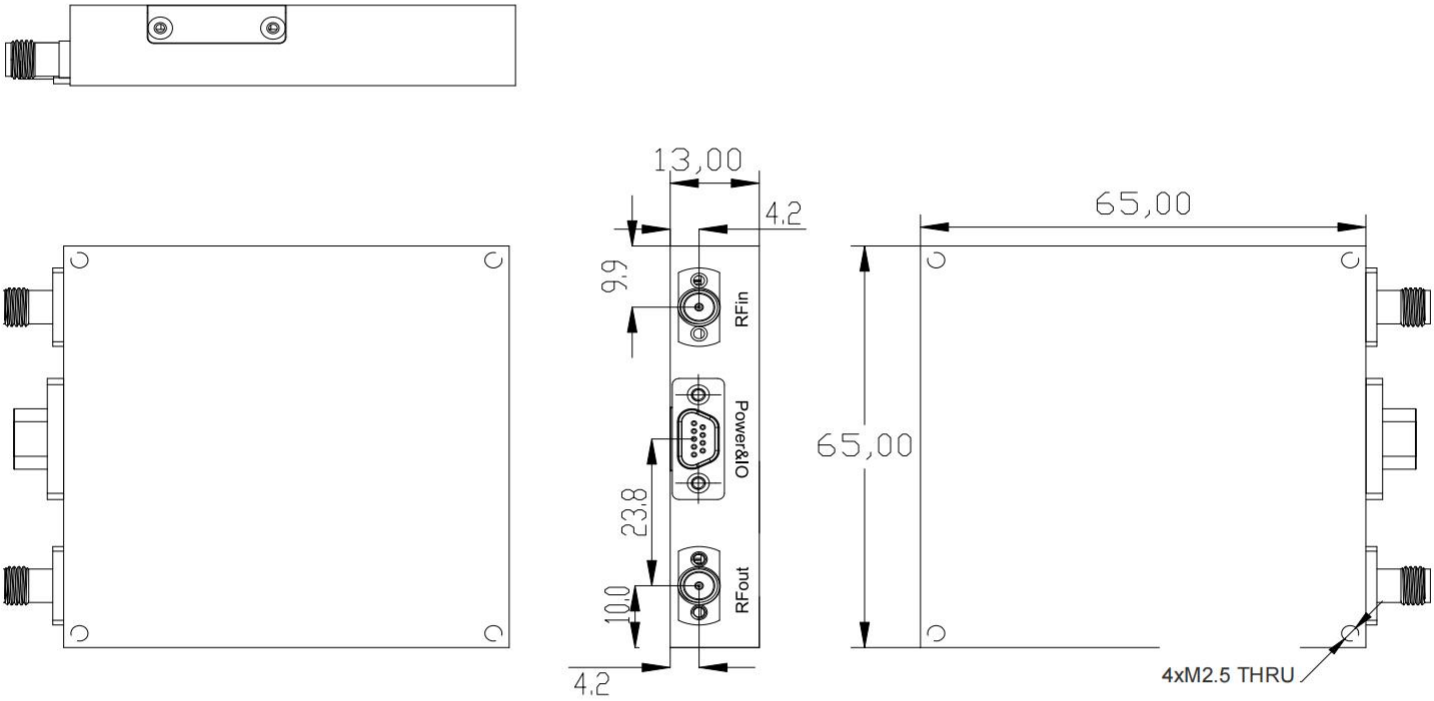
TECHNICAL INFORMATION

OTFS40-20 | Phase Noise (dBc/Hz)

Output Frequency	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz
5 GHz	≤-91	≤-106	≤-111	≤-111	≤-111
10 GHz	≤-85	≤-100	≤-105	≤-105	≤-105
20 GHz	≤-79	≤-94	≤-99	≤-99	≤-99

Column headings specify frequency offset from the carrier. Output frequency is listed in the first column. Values and limit signs follow the source tables.

Mounting Dimensions



Dimensions in mm.

INTERFACES & PIN ASSIGNMENTS

Connector Definitions

Connector	Definition
RF/reference connectors	Removable SMA-K; pin diameter 0.38 mm
Power/control	J30J-9-ZKP

J30J-9-ZKP Pin Assignments

Pin	Definition
1	+12 V supply
2	+12 V supply
3	GND
4	GND
5	LD: lock indication, high when locked
6	MOSI: SPI interface
7	MISO: SPI interface
8	SCK: SPI interface
9	LE: SPI interface