



TLC003981

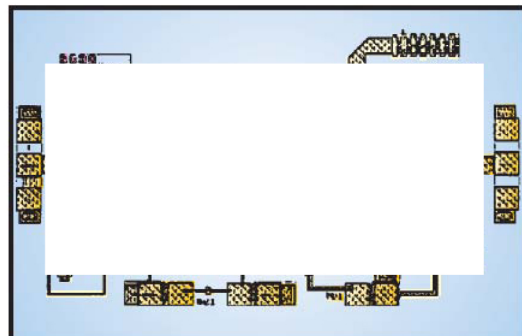
Ka-Band Low Phase Noise Oscillator

Description

The TLC003981 is a general purpose MMIC oscillator with an output buffer amplifier. A 0.25 μ m PHEMT process was chosen to provide 16 dBm of output power at 34.3 GHz and low power consumption. The center frequency is mechanically tunable by plucking airbridges. A port is provided for either an external higher Q resonator or an externally supplied injection locking signal. The versatility of the TLC003981 makes it an excellent candidate for use in radar or communication systems.

Features

- ☐ 30 GHz
- ☐ Tunable f_0
- ☐ $P_O \approx 16$ -18 dBm
- ☐ Phase Noise < -110 dBc/Hz @ 1 MHz (requires external resonator)
- ☐ 100% Tested



Maximum Ratings

Symbol	Parameter	Rating	Units
VG	Negative Supply Voltage	- 2	V
TC	Operating Temperature	- 50 to 130	$^{\circ}$ C
TSTG	Storage Temperature	- 65 to -150	$^{\circ}$ C

Performance Summary

Parameter (@ 25 $^{\circ}$ C)	Min	Typ	Max	Units
Frequency	28	30	38	GHz
P_O	15	16	--	dBm
P_N (@ 1 MHz DRO operation)	--	-110	--	dBc/Hz
DC Power	--	940	1100	mW

Operating Conditions

Frequency input levels = 10 dBm
 $V_{gs-trans} = -1.3$ V $V_{ds-trans} = 5$ V

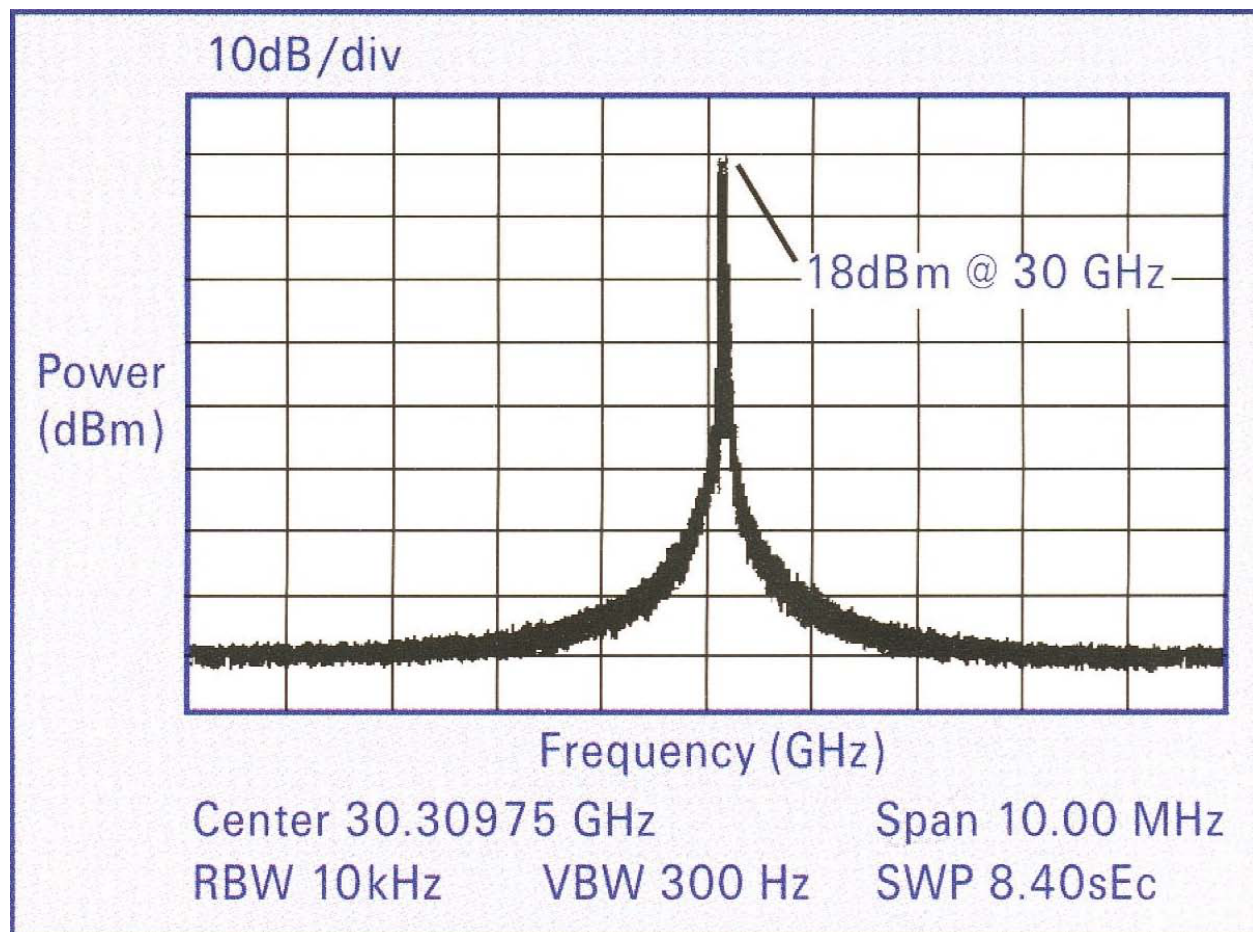
TLC can auto tune chip to maximize performance at customer target frequency and bias.

TLC reserves the right to change performance data and specifications without notice



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