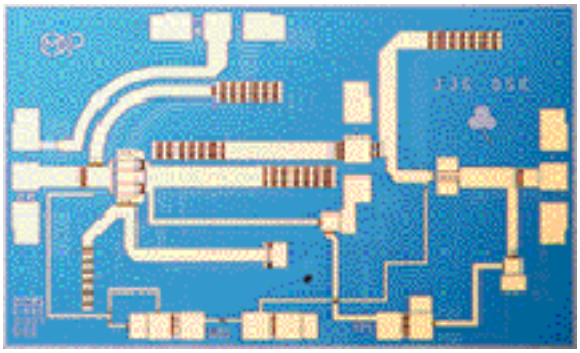
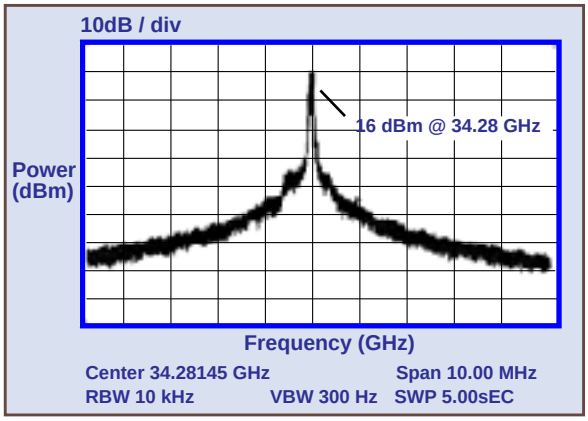
L TO W-BAND MMIC OSCILLATOR & MULTIPLIER

OSC-JG95W33
(TLCO01981 "O" CHIP)

- **2 to 80 GHz OPERATION**
- **MULTIPLIER, VCO, ILO, DRO**
- **P_0 > 16 dBm @ 38 GHz**
- **P_0 > 2 dBm @ 77 GHz**
- **-100 dBc/Hz @ 100 KHz**



Size: 2.17 x 1.3 x 0.1 mm



DESCRIPTION AND APPLICATIONS

The TLC "O" MMIC is a general purpose MMIC oscillator with an output buffer amplifier. A 0.25µm PHEMT process was chosen to provide 16 dBm of output power at 38 GHz and low power consumption.

The center frequency is voltage and mechanically tunable by plucking airbridges. Versatile option allows for higher Q resonator, injection locking, and harmonic multilplication.

The versatility of the OSC-JG95W33 oscillator makes it an excellent candidate for use in radar or communication systems.

ASSEMBLY

Ti/Pt/Au metallization is used for the bond pads and backside which is compatible with eutectic die attach and thermocompression or thermosonic bonding. Either 3 mil Au ribbon or 1 mil Au wire may be used to connect the MMW and DC pads to the system.

Additional DC bypass capacitors (22 pf & 0.1 µf) are recommended.

PERFORMANCE SUMMARY

Parameter (@ 25°C)	Min	Typ	Max
Frequency (GHz)	2	38.5	80
P_0(dB)	15	16	19
P_N (dBc/Hz, @ 1MHz) @ 38GHz	-80	-100	-130
DC Power (mW)	—	840	1000

OPERATING CONDITIONS

Vgs = 0.4 V Vds = 6 V

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