1 Specification.

- **Model : QMC-GDVCO10-940113**
- **Waveguide : WR10**
- **Output : UG -387/UM compatible**
- **Bias Connector**
  Gunn Voltage : SMA Female (center pin +VE)
  Varactor : MCX (center pin +VE)
- **Output power : 20 mW / +13.0 dBm**
- **Frequency : 94.0 GHz**
- **Electronic bandwidth : ± 250 MHz**
- **Bias Voltage Vg : + 4.20 v**
- **Bias current Ig : ~ 709 mA**
- **Varactor voltage Vv : 0.5 to +15 v**

Absolute Maximum Vgmax : + 4.5 v (DO NOT EXCEED)

2 Installation.

Observe standard anti-static precautions.

Connect the power supply leads to the various terminals as indicated in Figure 1. To avoid turn-on transients, we recommend that the bias leads be connected to a power supply that has previously been turned on and set to zero voltage.

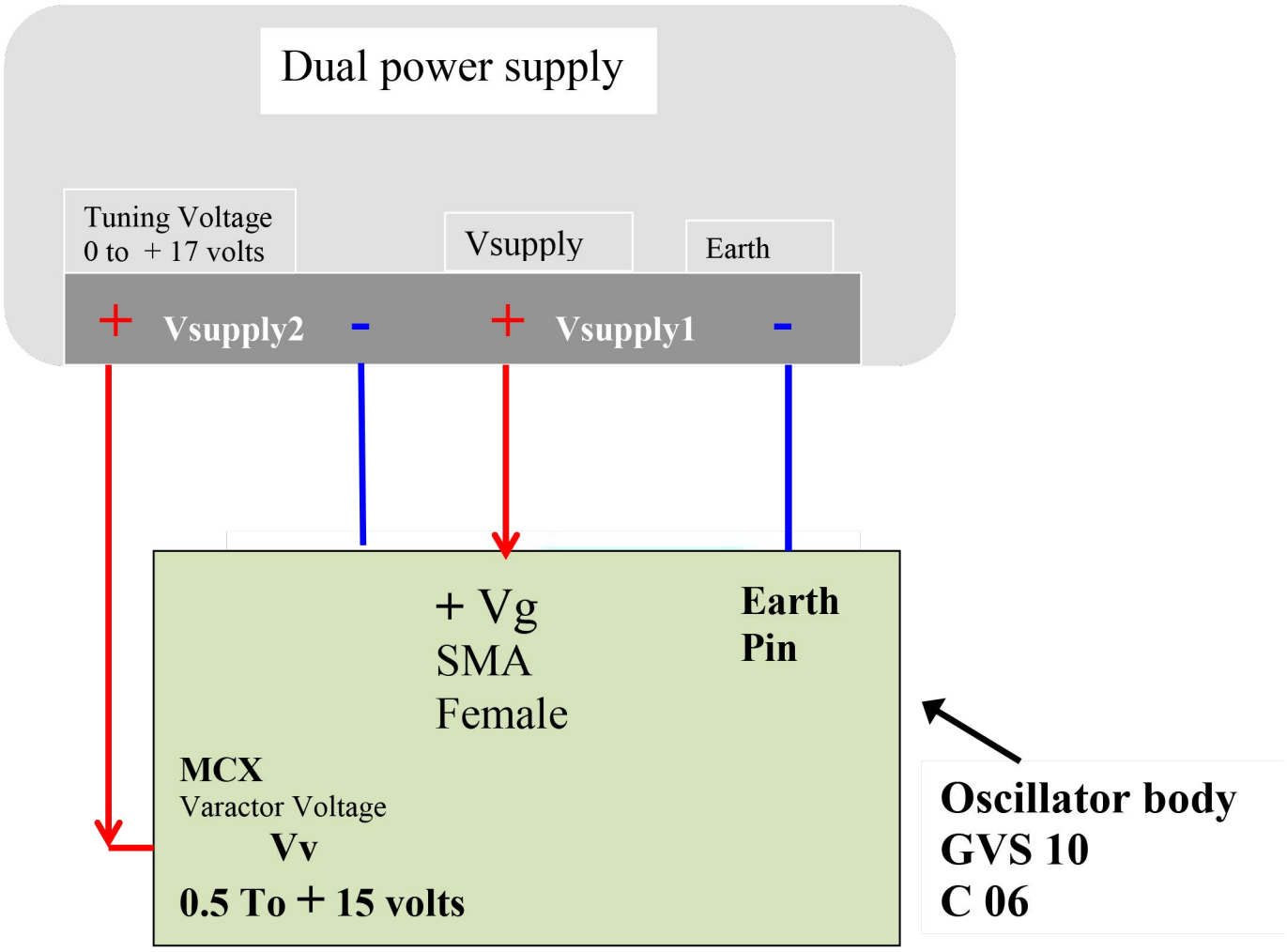
3 Operating Instructions.

To power up the oscillator, firstly apply a small voltage to the varactor **Vv = + 0.5 volt,** then slowly and continuously increase the Gunn supply voltage (Vsupply) to the specified value **Vg**. To power down the oscillator reverse the above process.

A table of results is provided; it indicates the voltage settings required for a specific frequency and power. These voltages should be adjusted slowly and smoothly.
Operation outside the range indicated in the results table is NOT recommended or in any way guaranteed by Osctek.
The oscillator frequency can be adjusted by the application of the voltage to the varactor. If the frequency is varied outside the specified range mode changes may occur. The oscillator may then be returned to its normal operation by powering down and then powering-up the oscillator once again
The power can be optimised by the adjusting the bias voltage Vg.

4 Frequency Stability.

A cooling fan or heatsink is recommended to maintain an optimum operating temperature.
A stable thermal environment will enhance frequency stability.



Note :- The varactor voltage **Vv is with reference to Earth**
There is a finite voltage drop between the power supply voltage Vsupply1 and Vg due to the resistance of the supply leads

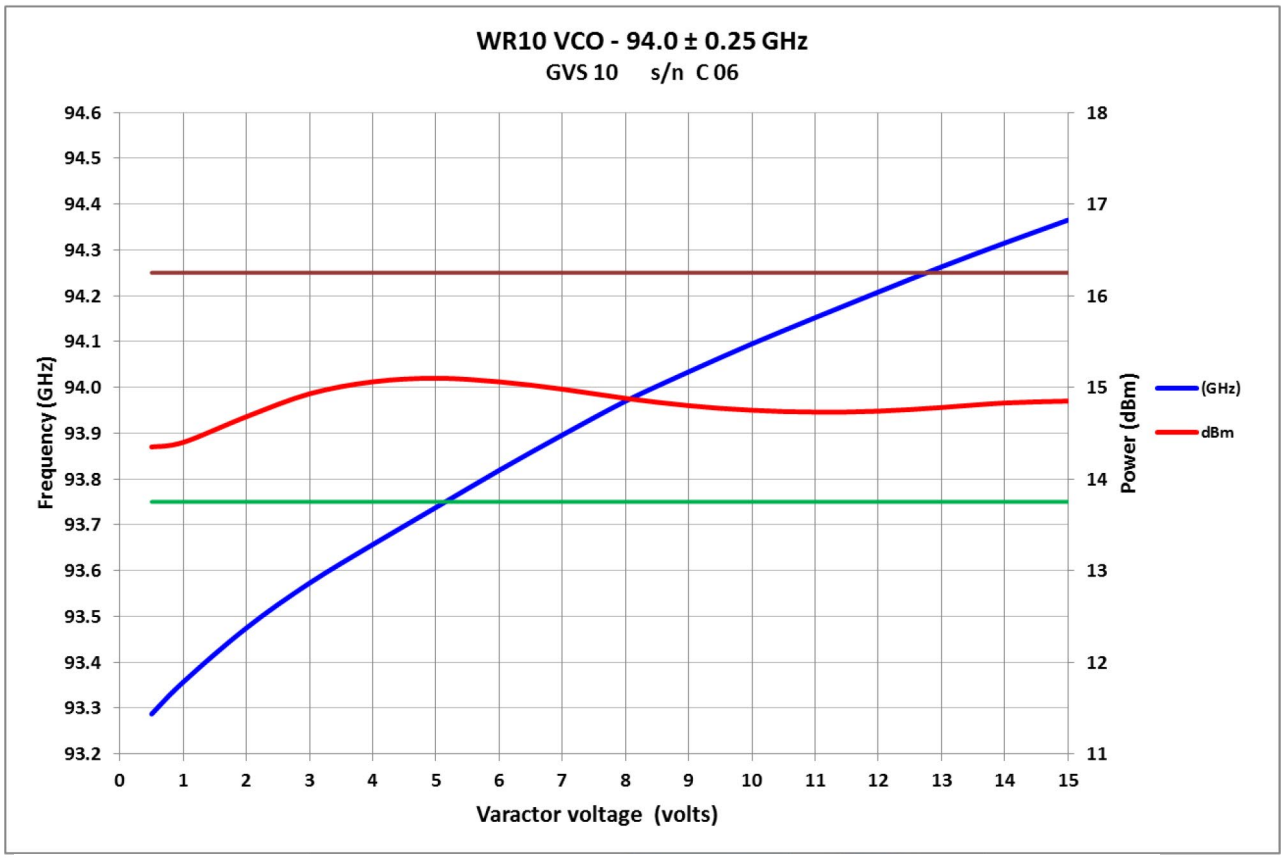
Figure 1

Table of results

s/n C 06

Gunn Voltage Vg = +4.20 v Ig ~ 709 mA, Vgmax = + 4.5 v Temperature +30 ± 3°C

Relative voltage Vv	Frequency	Power	
volts	GHz	mW	dBm
0.5	93.287	27.2	14.35
1	93.357	27.5	14.40
2	93.475	29.4	14.68
3	93.573	31.1	14.93
4	93.657	32.1	15.06
5	93.738	32.4	15.10
6	93.819	32.1	15.06
7	93.896	31.5	14.98
8	93.970	30.8	14.88
9	94.034	30.2	14.80
10	94.095	29.9	14.75
11	94.152	29.7	14.73
12	94.208	29.8	14.74
13	94.263	30.1	14.78
14	94.315	30.4	14.83
15	94.365	30.5	14.85



	+Vg	Current	+Vgmax
s/n	Volts	mA	Volts
C 06	4.2	~ 709	4.5