

### Features and Benefits

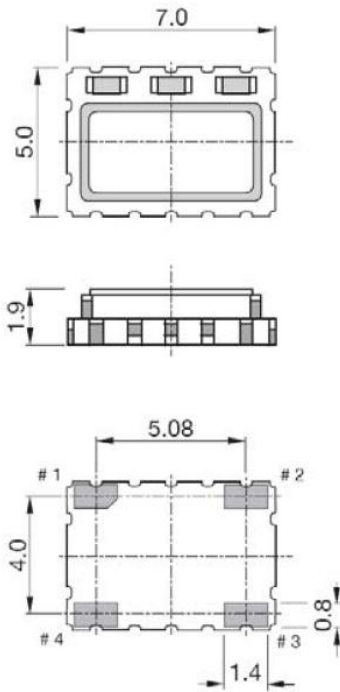
- Better than +/- 300 ppb from -40°C to +85°C
- 51.2MHz low noise CMOS output
- 3.3V supply; 8mA maximum
- Less than -135dBc/Hz @ 1KHz offset
- Less than -150dBc/Hz @ 10KHz offset

### Typical Applications

- Mobile Radio
- GPS Reference
- Beidou Navigation Systems

### Mechanical Drawing & Pin Connections

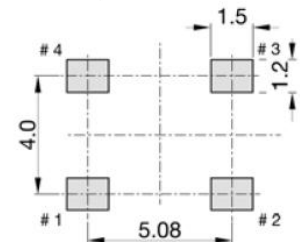
Drawing No: MD150004-1



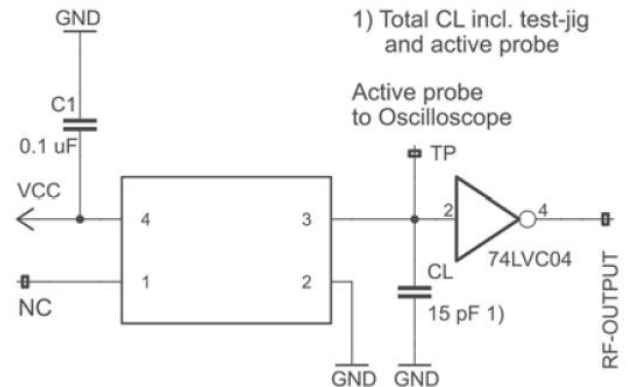
#### Pin function

- # 1 do not connect
- # 2 GND
- # 3 RF output
- # 4 Vdc

#### Solder pattern



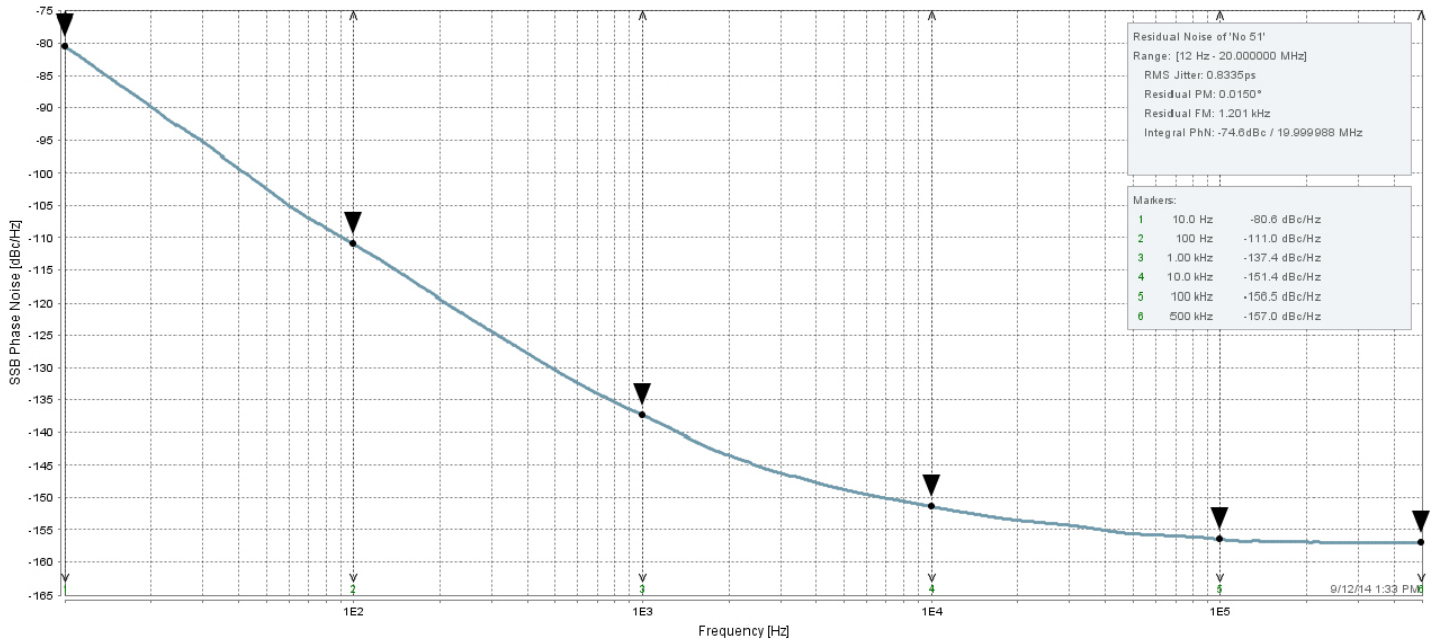
#### Test circuit



## Specifications

| Oscillator Specification        | Sym                   | Condition   | Value               |                          |                     | Unit   | Note |
|---------------------------------|-----------------------|---|---------------------|--------------------------|---------------------|--------|------|
|                                 |                       |   | Min.                | Typ.                     | Max.                |        |      |
| Nominal Frequency               | F <sub>nom</sub>      |   |                     | 51.2000                  |                     | MHz    |      |
| Output Wave Form                |                       |   | CMOS                |                          |                     |        |      |
| Output Voltage Level "1"        |                       |   | 0.9 V <sub>dc</sub> |                          |                     | V      |      |
| Output Voltage Level "0"        |                       |   |                     |                          | 0.1 V <sub>dc</sub> | V      |      |
| Output Load                     |                       |   |                     |                          | 15                  | pF     |      |
| Start Time                      |                       |   |                     |                          | 5.0                 | ms     |      |
| <b>Power Supply</b>             |                       |   |                     |                          |                     |        |      |
| Supply Voltage                  | V <sub>cc</sub>       |   | 3.135               | 3.3                      | 3.465               | V      |      |
| Supply Current                  |                       |   |                     |                          | 8                   | mA     |      |
| <b>Frequency Stability</b>      |                       |   |                     |                          |                     |        |      |
| VS. Temperature                 |                       | -40°C to +85°C (Ref, F <sub>max</sub> +F <sub>min</sub> )/2 |                     |                          | +/-0.3              | ppm    |      |
| Tolerance At 25°C               |                       | Frequency @25°C ,   |                     |                          | +/-0.5              | ppm    |      |
| VS. Supply Voltage              |                       | Supply voltage varied +/-5% at 25°C                         |                     |                          | +/-0.1              | ppm    |      |
| VS. Load Change                 |                       | +/-10% load change  |                     |                          | +/-0.1              | ppm    |      |
| First Year Aging                |                       |   |                     |                          | +/-1.0              | ppm    |      |
| SSB Phase noise (typ.)          |                       | 100 Hz  |                     | -110                     |                     | dBc/Hz |      |
|                                 |                       | 1K Hz   |                     | -135                     |                     |        |      |
|                                 |                       | 10 KHz  |                     | -150                     |                     |        |      |
|                                 |                       | 100 KHz   |                     | -155                     |                     |        |      |
| <b>Environmental Conditions</b> |                       |   |                     |                          |                     |        |      |
| <b>Parameter</b>                | <b>Reference Std.</b> |   |                     | <b>Test Condition</b>    |                     |        |      |
| Operating temperature range     | -40°C to +85°C        |   |                     |                          |                     |        |      |
| Storage temperature range       | -55°C to +105°C       |   |                     |                          |                     |        |      |
| Reflow profiles                 | IPC/JEDEC J-STD-020C  |   |                     | <=260°C over 10 sec. Max |                     |        |      |

**Phase noise @50.0 carrier frequency plot**



**Allan deviation**

