

# Voltage Controlled Oscillator

ROS-ED10314/1

## Typical Performance Data

| V<br>TUNE | TUNE<br>SENS<br>(MHz/V) | FREQUENCY<br>(MHz) |        |        | POWER OUTPUT<br>(dBm) |       |       | HARMONICS (dBc) |       |       | FREQ.<br>PUSH<br>(MHz/V) | FREQ<br>OFFSET<br>(KHz) | PHASE<br>NOISE<br>(dBc/Hz) |
|-----------|-------------------------|--------------------|--------|--------|-----------------------|-------|-------|-----------------|-------|-------|--------------------------|-------------------------|----------------------------|
|           |                         | -55°C              | +25°C  | +85°C  | -55°C                 | +25°C | +85°C | F2              | F3    | F4    |                          |                         |                            |
| 0.1       | 39.43                   | 1370.3             | 1361.7 | 1354.8 | 6.11                  | 7.50  | 5.73  | -29.9           | -21.9 | -41.3 | 1.56                     | 1                       | -75                        |
| 0.3       | 35.02                   | 1375.9             | 1366.4 | 1359.5 | 6.55                  | 7.60  | 5.96  | -29.1           | -22.7 | -41.7 | 1.17                     | 10                      | -100                       |
| 0.4       | 32.93                   | 1380.8             | 1370.7 | 1363.7 | 6.64                  | 7.70  | 6.15  | -28.8           | -23.3 | -41.9 | 0.89                     | 100                     | -122                       |
| 0.5       | 31.30                   | 1384.7             | 1375.0 | 1367.6 | 6.78                  | 7.82  | 6.15  | -28.5           | -24.0 | -42.6 | 0.96                     | 1000                    | -136                       |
| 0.6       | 27.43                   | 1388.4             | 1379.6 | 1371.2 | 6.89                  | 7.97  | 6.21  | -27.9           | -24.7 | -42.6 | 0.67                     |                         |                            |
| 0.8       | 24.93                   | 1391.9             | 1383.0 | 1374.6 | 6.96                  | 7.89  | 6.26  | -27.2           | -25.0 | -42.5 | 0.57                     |                         |                            |
| 0.9       | 24.59                   | 1395.1             | 1386.1 | 1378.1 | 7.00                  | 7.92  | 6.35  | -26.5           | -25.2 | -42.5 | 0.52                     |                         |                            |
| 1.0       | 23.56                   | 1398.3             | 1389.1 | 1382.2 | 7.03                  | 7.95  | 6.25  | -26.2           | -25.7 | -42.8 | 0.48                     |                         |                            |
| 1.1       | 22.88                   | 1401.3             | 1392.1 | 1385.2 | 7.08                  | 7.92  | 6.25  | -25.9           | -26.2 | -42.9 | 0.46                     |                         |                            |
| 1.3       | 22.29                   | 1404.2             | 1394.9 | 1388.0 | 7.09                  | 7.92  | 6.25  | -25.6           | -26.6 | -43.0 | 0.44                     |                         |                            |
| 1.4       | 21.39                   | 1407.0             | 1397.7 | 1390.8 | 7.10                  | 7.91  | 6.21  | -25.3           | -27.0 | -43.3 | 0.42                     |                         |                            |
| 1.5       | 20.89                   | 1409.8             | 1400.3 | 1393.5 | 7.07                  | 7.94  | 6.20  | -25.2           | -27.3 | -43.7 | 0.44                     |                         |                            |
| 1.6       | 20.26                   | 1412.9             | 1402.9 | 1396.1 | 7.11                  | 7.93  | 6.18  | -25.1           | -27.4 | -44.0 | 0.41                     |                         |                            |
| 1.8       | 19.65                   | 1416.4             | 1405.5 | 1398.6 | 7.05                  | 7.94  | 6.16  | -25.0           | -27.7 | -44.3 | 0.41                     |                         |                            |
| 1.9       | 19.75                   | 1419.2             | 1407.9 | 1401.1 | 7.04                  | 7.93  | 6.18  | -24.9           | -28.4 | -44.8 | 0.42                     |                         |                            |
| 2.0       | 19.90                   | 1421.7             | 1410.4 | 1403.6 | 7.00                  | 7.99  | 6.16  | -24.9           | -28.8 | -45.3 | 0.45                     |                         |                            |
| 2.1       | 20.20                   | 1424.1             | 1413.2 | 1406.0 | 6.98                  | 7.95  | 6.16  | -24.6           | -29.5 | -45.6 | 0.57                     |                         |                            |
| 2.3       | 19.70                   | 1426.5             | 1416.3 | 1408.3 | 6.96                  | 7.87  | 6.13  | -24.4           | -29.8 | -46.1 | 0.58                     |                         |                            |
| 2.4       | 18.56                   | 1428.8             | 1418.9 | 1410.6 | 6.94                  | 7.83  | 6.18  | -24.5           | -30.3 | -46.5 | 0.50                     |                         |                            |
| 2.5       | 18.43                   | 1431.1             | 1421.3 | 1412.9 | 6.99                  | 7.77  | 6.14  | -24.2           | -30.8 | -46.6 | 0.50                     |                         |                            |
| 2.6       | 17.97                   | 1433.4             | 1423.6 | 1415.5 | 6.97                  | 7.73  | 6.05  | -24.1           | -31.4 | -46.7 | 0.51                     |                         |                            |
| 2.8       | 17.82                   | 1435.6             | 1425.8 | 1418.5 | 6.75                  | 7.70  | 5.99  | -24.1           | -31.9 | -46.8 | 0.55                     |                         |                            |
| 2.9       | 17.81                   | 1437.8             | 1428.0 | 1421.2 | 6.73                  | 7.67  | 5.90  | -23.9           | -32.7 | -47.5 | 0.57                     |                         |                            |
| 3.0       | 17.71                   | 1440.0             | 1430.3 | 1423.6 | 6.70                  | 7.70  | 5.85  | -24.0           | -33.4 | -47.8 | 0.60                     |                         |                            |
| 3.1       | 17.82                   | 1442.2             | 1432.5 | 1425.9 | 6.67                  | 7.67  | 5.80  | -24.0           | -34.0 | -48.2 | 0.63                     |                         |                            |
| 3.3       | 17.97                   | 1444.5             | 1434.7 | 1428.1 | 6.63                  | 7.65  | 5.74  | -23.9           | -34.5 | -48.6 | 0.66                     |                         |                            |
| 3.4       | 17.89                   | 1446.9             | 1437.0 | 1430.4 | 6.57                  | 7.42  | 5.75  | -24.0           | -35.0 | -48.7 | 0.68                     |                         |                            |
| 3.5       | 18.27                   | 1449.5             | 1439.2 | 1432.7 | 6.50                  | 7.37  | 5.69  | -23.9           | -35.1 | -48.8 | 0.69                     |                         |                            |
| 3.6       | 18.43                   | 1452.7             | 1441.5 | 1435.0 | 6.48                  | 7.34  | 5.44  | -24.0           | -35.4 | -49.2 | 0.68                     |                         |                            |
| 3.8       | 18.86                   | 1455.7             | 1443.8 | 1437.4 | 6.50                  | 7.30  | 5.43  | -24.0           | -35.3 | -49.7 | 0.66                     |                         |                            |
| 3.9       | 20.28                   | 1458.4             | 1446.2 | 1439.7 | 6.46                  | 7.24  | 5.37  | -24.0           | -35.2 | -49.7 | 0.60                     |                         |                            |
| 4.0       | 19.90                   | 1461.0             | 1448.7 | 1442.1 | 6.42                  | 7.18  | 5.31  | -24.2           | -35.1 | -50.5 | 0.56                     |                         |                            |
| 4.1       | 19.30                   | 1463.6             | 1451.8 | 1444.4 | 6.36                  | 7.16  | 5.26  | -24.2           | -34.8 | -50.9 | 0.44                     |                         |                            |
| 4.3       | 20.40                   | 1466.2             | 1454.9 | 1446.7 | 6.36                  | 7.10  | 5.19  | -24.1           | -34.3 | -50.7 | 0.17                     |                         |                            |
| 4.4       | 20.91                   | 1468.8             | 1457.7 | 1449.1 | 6.30                  | 7.10  | 5.15  | -24.0           | -33.9 | -50.8 | 0.02                     |                         |                            |
| 4.5       | 20.70                   | 1471.4             | 1460.3 | 1451.6 | 6.31                  | 7.09  | 5.13  | -23.9           | -33.7 | -50.6 | 0.21                     |                         |                            |
| 4.6       | 20.42                   | 1473.9             | 1462.9 | 1454.4 | 6.26                  | 7.02  | 5.09  | -23.9           | -33.5 | -51.1 | 0.36                     |                         |                            |
| 4.8       | 20.47                   | 1476.4             | 1465.5 | 1457.5 | 6.30                  | 7.04  | 5.11  | -23.7           | -33.3 | -51.0 | 0.55                     |                         |                            |
| 4.9       | 20.24                   | 1478.9             | 1468.0 | 1460.1 | 6.27                  | 6.99  | 5.09  | -23.6           | -33.2 | -51.1 | 0.71                     |                         |                            |
| 5.0       | 19.85                   | 1481.3             | 1470.5 | 1462.6 | 6.29                  | 7.00  | 5.06  | -23.6           | -33.1 | -50.8 | 0.86                     |                         |                            |
| 5.1       | 19.77                   | 1483.7             | 1473.0 | 1465.0 | 6.30                  | 6.96  | 5.10  | -23.5           | -32.9 | -50.8 | 1.00                     |                         |                            |
| 5.3       | 19.25                   | 1486.2             | 1475.5 | 1467.4 | 6.34                  | 7.00  | 5.07  | -23.5           | -32.8 | -50.9 | 1.14                     |                         |                            |
| 5.4       | 18.91                   | 1488.9             | 1477.9 | 1469.8 | 6.80                  | 6.99  | 5.04  | -23.6           | -32.8 | -51.0 | 1.25                     |                         |                            |
| 5.5       | 18.90                   | 1491.6             | 1480.3 | 1472.1 | 7.27                  | 6.98  | 5.07  | -23.6           | -32.9 | -51.1 | 1.36                     |                         |                            |
| 5.6       | 18.80                   | 1494.2             | 1482.6 | 1474.5 | 7.52                  | 6.98  | 5.04  | -23.7           | -32.9 | -51.1 | 1.46                     |                         |                            |
| 5.8       | 19.82                   | 1496.6             | 1485.0 | 1476.8 | 7.54                  | 7.00  | 5.08  | -23.7           | -33.1 | -51.3 | 1.61                     |                         |                            |
| 5.9       | 19.20                   | 1498.9             | 1487.5 | 1479.1 | 7.56                  | 6.97  | 5.07  | -23.7           | -33.4 | -51.6 | 1.86                     |                         |                            |