TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

OC2000 1350 TO 2000 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C	OC2000
Tuning Voltage Limits	0-15 V
Power Output	+10.0 dBm
Power Output Variation	3.6 dB
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency	**1300-2000 MHz**	**1350-2000 MHz**	**1350-2000 MHz**
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+10.0 dBm	+8.0 dBm	+7.5 dBm
Power Flatness^ (Max.)	3.6 dB	5.0 dB	5.5 dB
Modulation Sensitivity (Min.–Max.)	40 to 75 MHz/V	35 to 90 MHz/V	30 to 90 MHz/V
Modulation Sensitivity Ratio (Max.)	1.8:1	2.3:1	2.5:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-78 dBc/Hz	-70 dBc/Hz	-70 dBc/Hz
at 100 kHz offset	-107 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz
Frequency Drift (Max.)	—	50 MHz	100 MHz
Harmonics (Max.)	-12.0 dBc	-10.0 dBc	-10.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	10.0 MHz	15.0 MHz	15.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	5.0 MHz/V	10.0 MHz/V	10.0 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	55 mA	60 mA	65 mA

* Specifications are measured in 50-ohm system at +15 Volts bias unless otherwise specified.
^ Power Flatness is defined as power variation over frequency band at any given temperature.

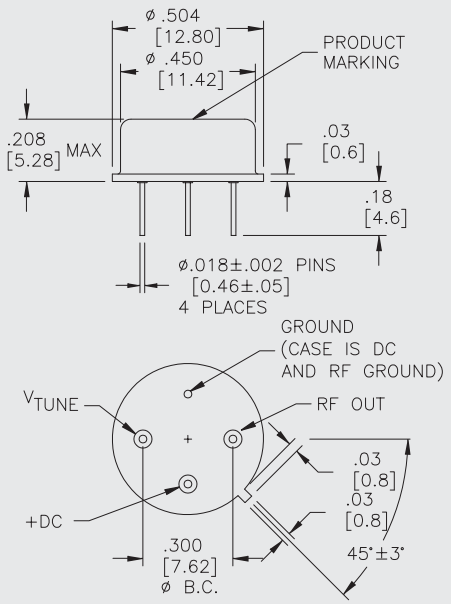
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	125 °C
Maximum DC Voltage	+17 V
Maximum Tuning Voltage	+20 V
Burn-In Temperature	+100 °C
Thermal Resistance[1] (θjc)	+58.0 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+47.9 °C

[1] Thermal resistance is based on total power dissipation. Ratings based on +25 °C.

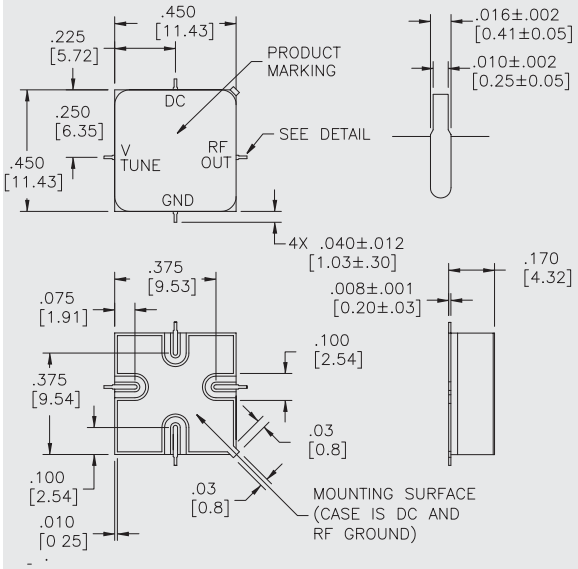
OC2000

TO-8 Package for Oscillators



OS2000

SMTO-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

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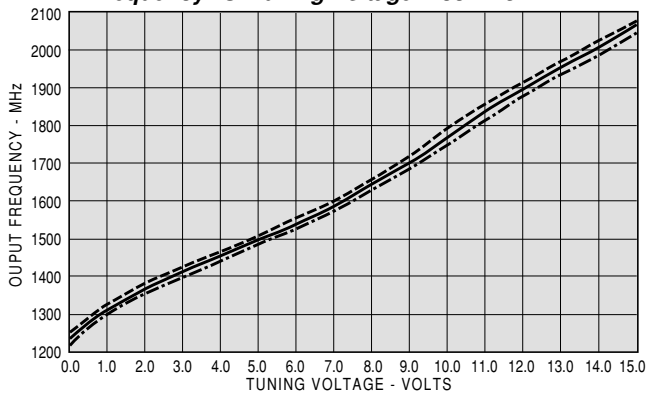
OC2000

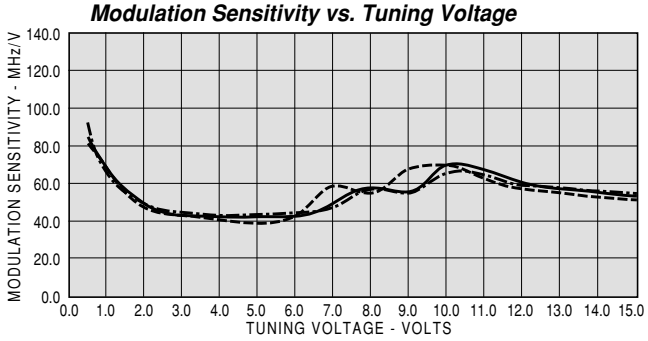
TYPICAL PERFORMANCE

KEY: +25 °C ——
+85 °C –·–
-55 °C – – –

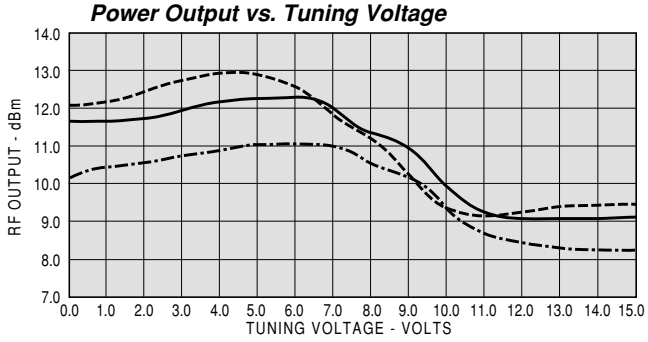
Frequency vs. Tuning Voltage Vcc = 15



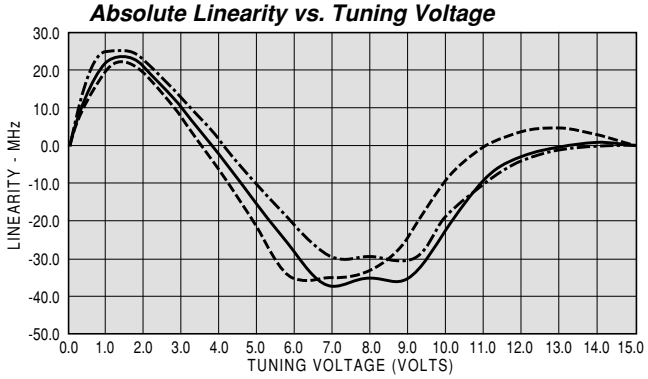
Modulation Sensitivity vs. Tuning Voltage



Power Output vs. Tuning Voltage



Absolute Linearity vs. Tuning Voltage

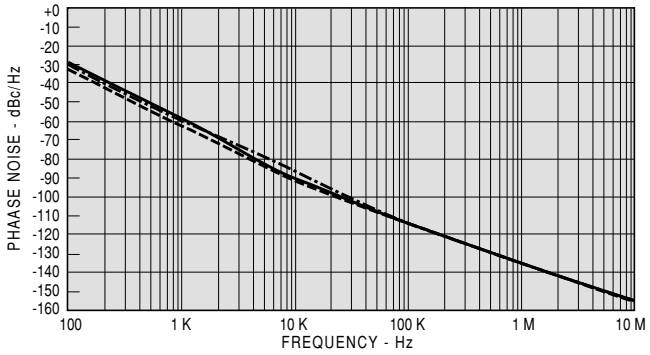


TYPICAL AUTOMATIC TEST DATA

Model: OC2000 Vcc= +15V Vstr mA = 54.02 Vstop mA = 51.68

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	1235.81	11.66	0.00	0.00
0.5	1277.80	11.72	84.41	14.52
1.0	1312.96	11.65	68.86	21.49
1.5	1342.39	11.62	59.27	23.51
2.0	1367.18	11.71	49.90	20.87
2.5	1389.67	11.83	45.29	15.94
3.0	1411.85	11.96	43.44	9.93
3.5	1432.97	12.07	42.60	3.68
4.0	1453.93	12.17	42.22	-2.77
4.5	1474.92	12.24	42.18	-9.25
5.0	1495.85	12.29	42.22	-15.69
5.5	1517.42	12.31	42.23	-22.32
6.0	1538.46	12.29	42.31	-28.74
6.5	1560.15	12.20	43.65	-34.49
7.0	1584.79	11.97	49.44	-37.36
7.5	1613.79	11.62	56.90	-36.51
8.0	1642.62	11.35	57.98	-35.13
8.5	1669.10	11.21	53.28	-36.09
9.0	1696.90	10.94	55.95	-35.72
9.5	1730.55	10.44	65.94	-30.25
10.0	1765.24	9.93	69.98	-22.93
10.5	1800.01	9.51	69.95	-15.60
11.0	1833.45	9.24	67.19	-9.64
11.5	1864.92	9.11	63.38	-5.59
12.0	1895.61	9.07	60.23	-3.03
12.5	1924.77	9.06	58.63	-1.33
13.0	1953.29	9.07	57.45	-0.22
13.5	1981.45	9.07	56.47	0.41
14.0	2009.82	9.07	55.64	0.63
14.5	2037.33	9.06	55.32	0.68
15.0	2064.07	9.10	53.83	0.00

Phase Noise at 1.35 GHz



Phase Noise at 2.0 GHz