TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 12/12

OCH200

100 TO 200 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C	OCH200
Tuning Voltage Limits	0-20 V
Power Output	+10.0 dBm
Power Output Variation	5.5 dB
Standard Size TO-8H Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency	**100-200 MHz**	**100-200 MHz**	**100-200 MHz**
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	20 V	20 V	20 V
Power Output (Min.)	+10.0 dBm	+9.0 dBm	+9.0 dBm
Power Flatness^ (Max.)	5.5 dB	6.0 dB	6.5 dB
Modulation Sensitivity (Min.–Max.)	2 to 10 MHz/V	2 to 10 MHz/V	2 to 10 MHz/V
Modulation Sensitivity Ratio (Max.)	2.4:1	2.9:1	3.0:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-103 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz
at 100 kHz offset	-125 dBc/Hz	-120 dBc/Hz	-120 dBc/Hz
Frequency Drift (Max.)	—	8 MHz	10 MHz
Harmonics (Max.)	-10.0 dBc	-8.0 dBc	-6.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.) Load VSWR = 1.67:1	0.8 MHz	1.0 MHz	1.0 MHz
Frequency Pushing (Max.) Vdc ± 0.5 V	0.5 MHz/V	1.0 MHz/V	1.0 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	31 mA	35 mA	35 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.

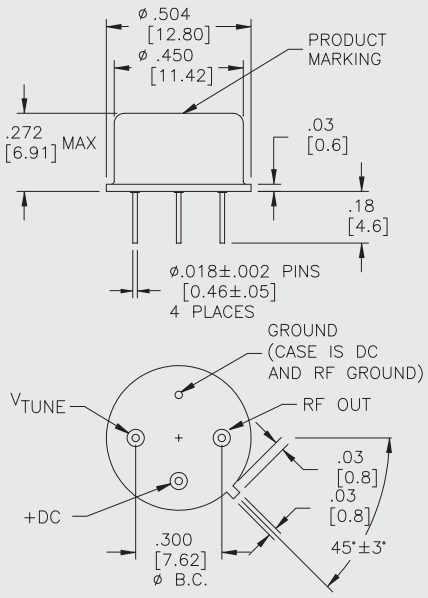
ABSOLUTE MAXIMUM RATINGS

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	+125 °C
Thermal Resistance[1] (θjc)	+40.1 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+34.3 °C

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

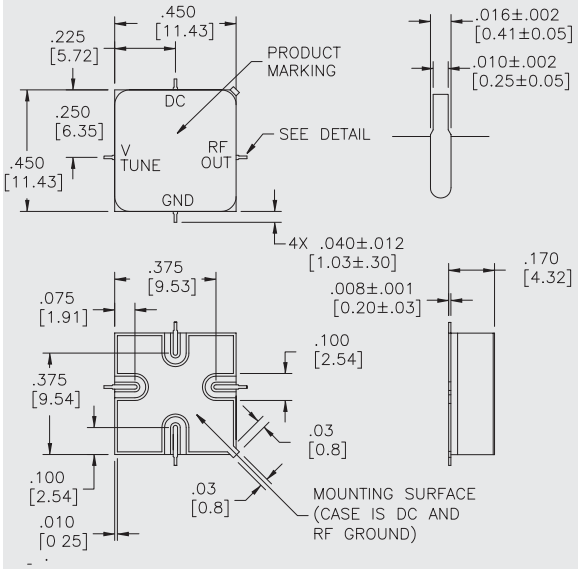
OCH200

TO-8H Package for Oscillators



OS200

SMTO-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

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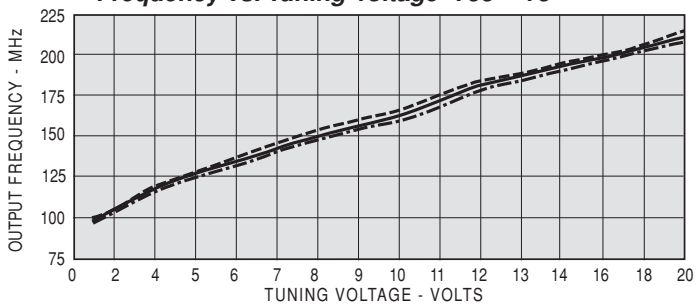
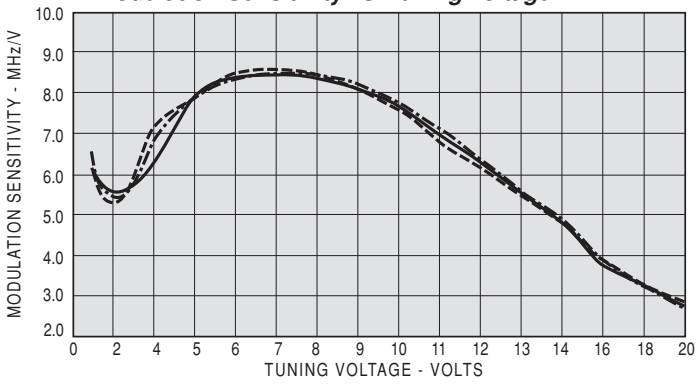
TYPICAL PERFORMANCE

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

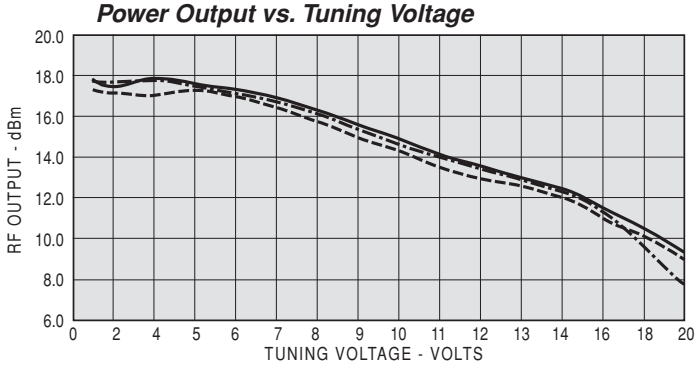
Frequency vs. Tuning Voltage Vcc = 15



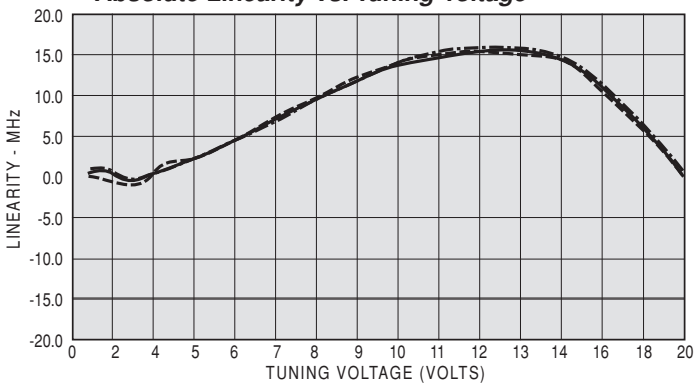
Modulation Sensitivity vs. Tuning Voltage



Power Output vs. Tuning Voltage



Absolute Linearity vs. Tuning Voltage

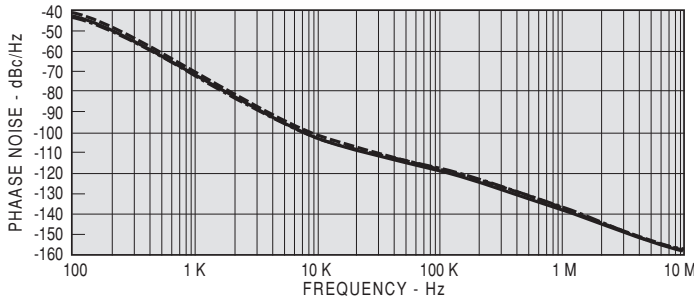


TYPICAL AUTOMATIC TEST DATA

Model: OCH200 Vcc= +15V Vstr mA = 31.423 Vstop mA = 28.962

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	95.05	17.36	0.00	0.00
0.5	98.12	17.62	6.22	0.12
1.0	101.25	17.55	6.18	0.23
1.5	104.14	17.33	5.85	0.17
2.0	106.90	17.12	5.45	-0.09
2.5	109.53	17.08	5.33	-0.41
3.0	112.36	17.40	5.59	-0.60
3.5	115.23	17.74	5.81	-0.68
4.0	118.62	17.71	6.69	-0.31
4.5	122.36	17.58	7.59	0.49
5.0	126.47	17.43	8.11	1.57
5.5	130.63	17.29	8.42	2.79
6.0	134.96	17.15	8.55	4.09
6.5	139.21	17.00	8.62	5.40
7.0	143.59	16.74	8.65	6.76
7.5	147.88	16.38	8.69	8.10
8.0	152.25	15.96	8.62	9.44
8.5	156.46	15.53	8.53	10.71
9.0	160.71	15.08	8.39	11.94
9.5	164.74	14.63	8.16	13.02
10.0	168.71	14.14	7.85	13.97
10.5	172.40	13.67	7.46	14.71
11.0	175.92	13.30	7.12	15.28
11.5	179.35	12.98	6.78	15.69
12.0	182.46	12.66	6.30	15.85
12.5	185.45	12.35	5.91	15.82
13.0	188.19	12.05	5.55	15.62
13.5	190.82	11.76	5.19	15.22
14.0	193.23	11.49	4.88	14.69
14.5	195.54	11.22	4.56	13.97
15.0	197.68	10.97	4.33	13.16
15.5	199.75	10.71	4.09	12.21
16.0	201.66	10.47	3.88	11.18
16.5	203.53	10.22	3.69	10.03
17.0	205.26	9.98	3.50	8.81
17.5	206.95	9.74	3.34	7.48
18.0	208.55	9.49	3.24	6.13
18.5	210.11	9.23	3.08	4.67
19.0	211.56	8.97	2.94	3.17
19.5	213.01	8.67	2.86	1.59
20.0	214.36	8.36	2.74	0.00

Phase Noise at 100 MHz



Phase Noise at 200 MHz