

# OA2CP12001 8000 TO 12000 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

## OA2CP12001

Tuning Voltage Limits	0 to (-12) V
Power Output	+17.0 dBm
Power Output Variation	5.5 dB
Voltage Controlled Oscillator with Voltage Regulator, MMIC amplifiers and Output Filter	
Standard Two-stage CougarPak® SMA Package for Oscillators	

## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	7950-12000 MHz	8000-12000 MHz	8000-12000 MHz
<b>Tuning Voltage Limits</b>			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	-12 V	-12 V	-12 V
<b>Power Output (Min.)</b>	+17.0 dBm	+12.5 dBm	+12.0 dBm
<b>Power Flatness<sup>^</sup> (Max.)</b>	5.5 dB	6.0 dB	6.0 dB
<b>Modulation Sensitivity (Min.-Max.)</b>	280 to 630 MHz/V	200 to 750 MHz/V	200 to 750 MHz/V
<b>Modulation Sensitivity Ratio (Max.)</b>	2.0:1	2.5:1	2.5:1
<b>SSB Phase Noise (Max.)</b>			
at 10 kHz offset	-75 dBc/Hz	-65 dBc/Hz	-65 dBc/Hz
at 100 kHz offset	-100 dBc/Hz	-95 dBc/Hz	-95 dBc/Hz
<b>Frequency Drift (Max.)</b>	-	200 MHz	300 MHz
<b>Fractional/Integer Harmonics (Max.)</b>	-35.0/-40.0 dBc	-25.0/-30.0 dBc	-25.0/-30.0 dBc
<b>Spurious (Max.)</b>	-60.0 dBc	-60.0 dBc	-60.0 dBc
<b>Frequency Pulling (Max.)</b>			
Load VSWR = 1.67:1	0.5 MHz	1.0 MHz	1.0 MHz
<b>Frequency Pushing (Max.)</b>			
Vdc ± 0.5 V	0.1 MHz/V	0.3 MHz/V	0.3 MHz/V
<b>Bias Voltage (Vdc)</b>	15.0 V	15.0 V	15.0 V
<b>DC Current (Max.)</b>	220 mA	250 mA	250 mA

\* Specifications are measured in 50-ohm system at +15 Volts bias unless otherwise specified.

<sup>^</sup> Power Flatness is defined as power variation over frequency band at any given temperature.

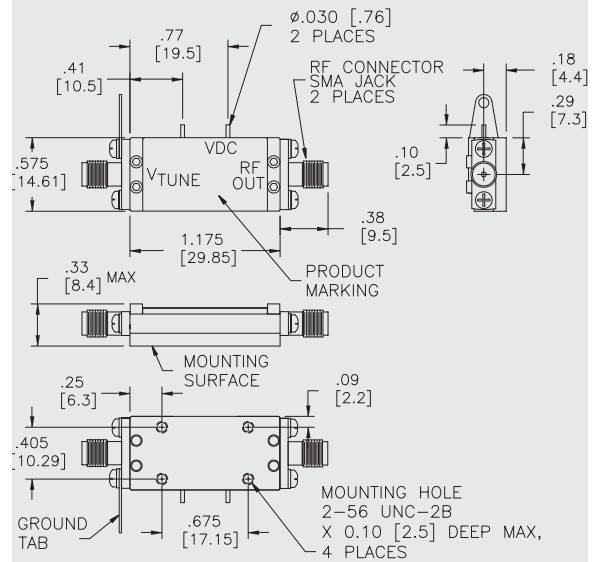
## ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+20 V
Maximum Tuning Voltage	-20 V
Burn-In Temperature	+110 °C
Thermal Resistance <sup>1</sup> (θjc)	+9.4 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+31 °C

<sup>1</sup> Thermal resistance is based on total power dissipation. Ratings based on +25 °C.

## OA2CP12001

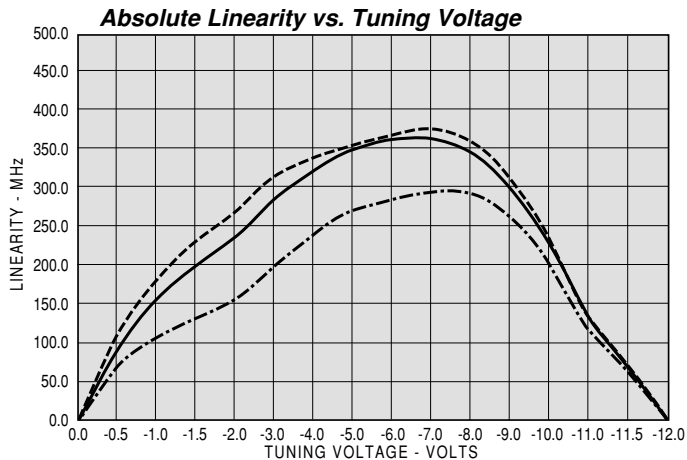
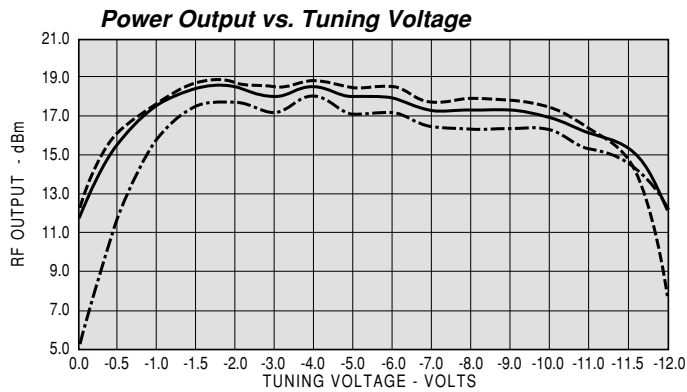
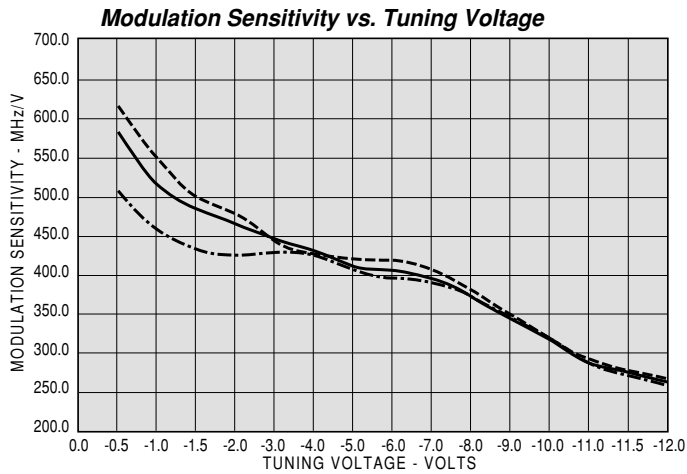
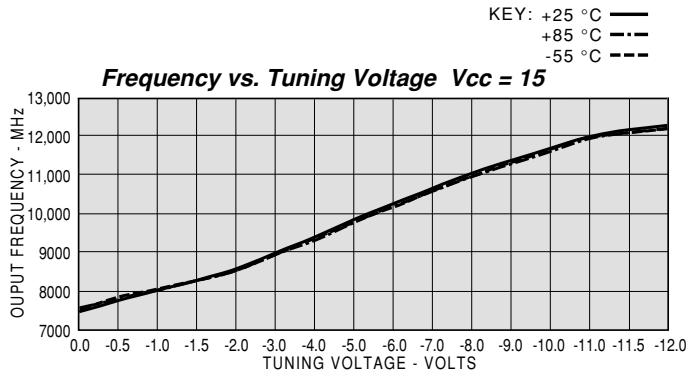
### CougarPak® SMA Package for Oscillators (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

## TYPICAL PERFORMANCE

## TYPICAL AUTOMATIC TEST DATA



TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
-0.01	7482.72	11.78		0.00
-0.50	7774.09	15.54	585.21	93.56
-1.00	8032.45	17.49	519.65	154.40
-1.50	8273.85	18.40	486.22	198.55
-2.00	8506.70	18.47	468.31	233.86
-2.50	8739.39	17.93	456.79	264.17
-3.00	8963.00	18.00	449.25	290.04
-3.50	9183.20	18.25	440.68	311.72
-4.00	9397.14	18.53	430.78	328.35
-4.50	9607.59	18.13	422.72	341.02
-5.01	9817.96	18.00	413.35	349.19
-5.50	10020.63	17.76	407.49	354.26
-6.00	10223.24	17.92	407.29	359.24
-6.50	10423.57	17.71	403.13	362.14
-7.01	10628.31	17.23	397.37	362.18
-7.51	10820.34	17.04	387.01	357.08
-8.01	11006.55	17.31	374.37	345.67
-8.50	11185.34	17.59	359.65	326.96
-9.00	11356.78	17.32	345.12	301.05
-9.51	11526.69	16.97	332.63	268.03
-10.01	11686.20	16.92	318.94	228.84
-10.51	11837.59	16.76	304.72	182.85
-11.01	11981.74	16.16	289.65	129.28
-11.50	12118.40	15.34	275.32	68.74
-12.01	12252.37	12.18	262.57	0.00

Model: OA2CP12001    Vcc= +15V    Vstr mA = 202.77    Vstop mA = 208.22

