

# OAS6500

# 5000 TO 6500 MHz VOLTAGE CONTROLLED OSCILLATOR

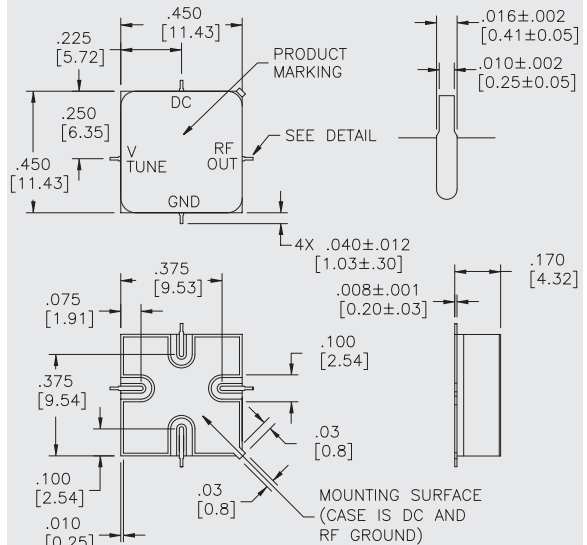
Typical Values @ +25 °C

<b>Tuning Voltage Limits</b> .....	<b>0.7 – 12 V</b>
<b>Power Output</b> .....	<b>+13.0 dBm</b>
<b>Power Output Variation</b> .....	<b>2.0 dB</b>
<b>Standard Size SMTO-8 Package</b>	

## OAS6500

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### SMTO-8 Package for Oscillators



## SPECIFICATIONS\*

Parameter	Guaranteed -55 to +85 °C	
	Typical @ +25°C	5000-6500 MHz
<b>Frequency</b>	5000-6500 MHz	5000-6500 MHz
<b>Tuning Voltage Limits</b>		
Tuning Voltage at low end	0.7 V	0 V
Tuning voltage at high end	12 V	15 V
<b>Power Output (Min.)</b>	+13 dBm	+9 dBm
<b>Power Flatness<sup>^</sup> (Min.)</b>	2.2 dB	3.0 dB
<b>Modulation Sensitivity (Min.–Max.)</b>	80 to 190 MHz/V	70 to 210 MHz/V
<b>Modulation Sensitivity Ratio (Max.)</b>	1.9:1	2.4:1
<b>SSB Phase Noise (Max.)</b>		
at 10 kHz offset	-80 dBc/Hz	-68 dBc/Hz
at 100 kHz offset	-102 dBc/Hz	-98 dBc/Hz
<b>Harmonics (Max.)</b>	-19.0 dBc	-15.0 dBc
<b>Spurious (Max.)</b>	-60.0 dBc	-60.0 dBc
<b>Frequency Pulling (Max.)</b>		
Load VSWR = 1.67:1	0.35 MHz	1.0 MHz
<b>Frequency Pushing (Max.)</b>		
V <sub>dc</sub> ± 0.5 V	8.0 MHz/V	15.0 MHz/V
<b>Bias Voltage (V<sub>dc</sub>)</b>	5.0 V	5.0 V
<b>DC Current (Max.)</b>	94 mA	105 mA

\* Specifications are measured in 50-ohm system at +5 Volts bias unless otherwise specified.  
<sup>^</sup> Power Flatness is defined as power variation over frequency band at any given temperature.

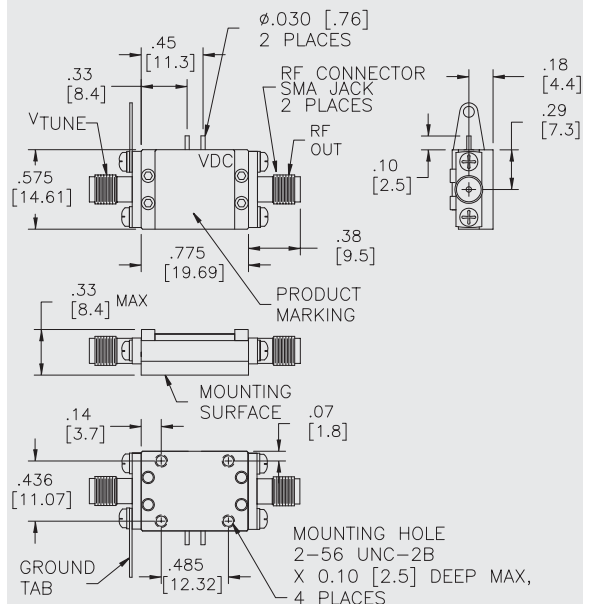
## ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> .....	-62 °C to +125 °C
<b>Maximum Case Temperature</b> .....	125 °C
<b>Maximum DC Voltage</b> .....	+8 V
<b>Maximum Tuning Voltage</b> .....	+20 V
<b>Burn-In Temperature</b> .....	+125 °C
<b>Thermal Resistance<sup>1</sup> (θ<sub>jc</sub>)</b> .....	+53.8 °C/Watt
<b>Junction Temperature Rise Above Case (T<sub>jc</sub>)</b> .....	+8.1 °C

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

## OACP6500

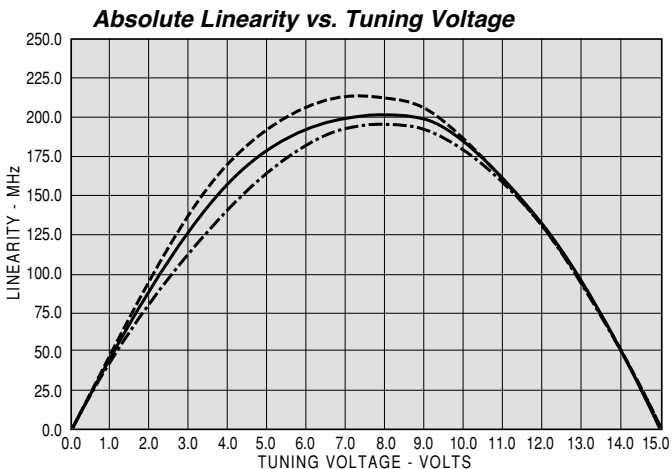
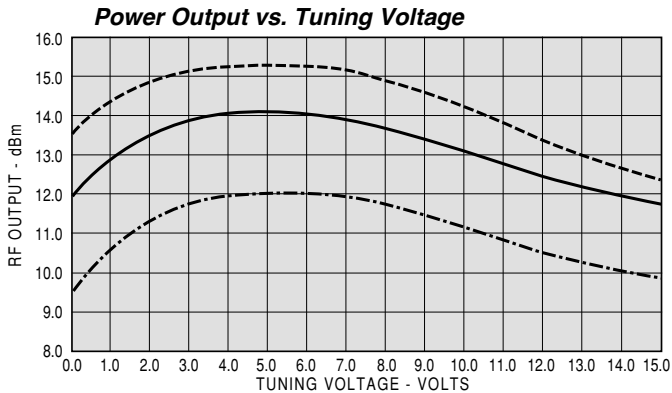
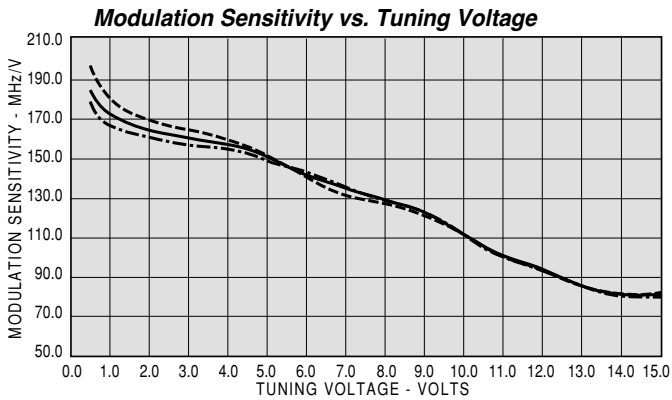
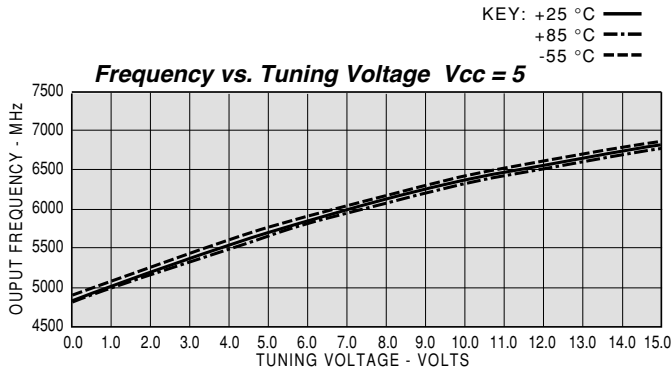
### CougarPak® Package for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	4932.52	11.70		0.00
0.5	5021.32	12.30	178.32	26.79
1.0	5105.35	12.72	169.01	48.90
1.5	5187.29	13.06	165.07	69.02
2.0	5267.65	13.34	161.53	87.43
2.5	5348.80	13.55	159.37	105.17
3.0	5427.40	13.68	157.89	121.77
3.5	5505.43	13.79	156.18	137.59
4.0	5581.57	13.86	153.51	151.96
4.5	5655.94	13.96	149.34	164.31
5.0	5730.56	13.99	146.60	175.55
5.5	5801.12	14.02	141.69	184.09
6.0	5869.37	13.98	137.32	190.45
6.5	5935.92	13.94	133.90	195.11
7.0	6003.50	13.85	131.22	198.55
7.5	6067.35	13.74	128.47	200.51
8.0	6130.06	13.59	126.18	201.33
8.5	6191.15	13.39	122.92	200.52
9.0	6250.32	13.18	119.05	197.80
9.5	6308.94	12.97	114.72	192.79
10.0	6363.91	12.80	110.16	185.62
10.5	6415.97	12.64	104.75	175.78
11.0	6465.53	12.51	99.52	163.33
11.5	6512.39	12.39	94.29	148.29
12.0	6558.21	12.25	89.84	130.60
12.5	6600.89	12.12	85.88	111.39
13.0	6641.94	12.00	82.60	90.55
13.5	6682.02	11.87	80.64	68.74
14.0	6721.38	11.72	79.20	46.20
14.5	6761.58	11.60	78.82	22.89
15.0	6800.58	11.48	78.47	0.00

