

# OC2001 1000 TO 2000 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

Tuning Voltage Limits .....	<b>OC2001</b> 0-20 V
Power Output .....	+10.0 dBm
Power Output Variation .....	5.0 dB
Standard Size TO-8 Package	

## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
<b>Frequency</b>	<b>1000-2000 MHz</b>	<b>1000-2000 MHz</b>	<b>1000-2000 MHz</b>
<b>Tuning Voltage Limits</b>			
Tuning Voltage at low end	1 V	0.5 V	0 V
Tuning voltage at high end	18 V	19 V	20 V
<b>Power Output (Min.)</b>	+10.0 dBm	+8.5 dBm	+8.0 dBm
<b>Power Flatness<sup>^</sup> (Max.)</b>	4.5 dB	5.0 dB	5.5 dB
<b>Modulation Sensitivity (Min.-Max.)</b>	40 to 111 MHz/V	35 to 116 MHz/V	30 to 120 MHz/V
<b>Modulation Sensitivity Ratio (Max.)</b>	2.8:1	2.9:1	3.0:1
<b>SSB Phase Noise (Max.)</b>			
at 10 kHz offset	-82 dBc/Hz	-80 dBc/Hz	-76 dBc/Hz
at 100 kHz offset	-112 dBc/Hz	-100 dBc/Hz	-97 dBc/Hz
<b>Frequency Drift (Max.)</b>	—	50 MHz	120 MHz
<b>Harmonics (Max.)</b>	-10.0 dBc	-9.0 dBc	-8.0 dBc
<b>Spurious (Max.)</b>	-62.0 dBc	-60.0 dBc	-60.0 dBc
<b>Frequency Pulling (Max.)</b>			
Load VSWR = 1.67:1	14.0 MHz	16.0 MHz	20.0 MHz
<b>Frequency Pushing (Max.)</b>			
V <sub>dc</sub> ± 0.5 V	13.0 MHz/V	15.0 MHz/V	18.0 MHz/V
<b>Bias Voltage (V<sub>dc</sub>)</b>	15.0 V	15.0 V	15.0 V
<b>DC Current (Max.)</b>	58 mA	59 mA	60 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.

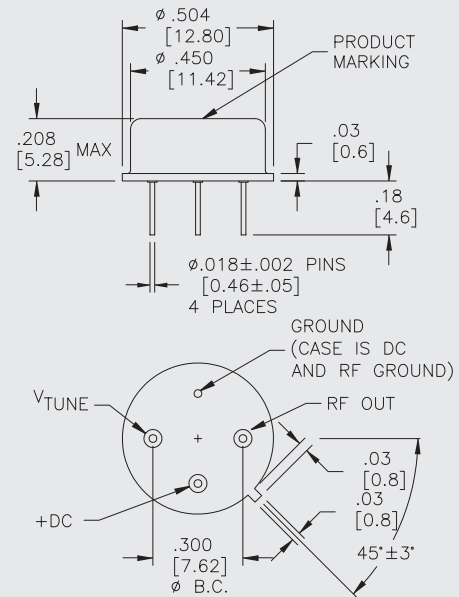
## ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-62 °C to +125 °C
Maximum Case Temperature .....	125 °C
Maximum DC Voltage .....	+17 V
Maximum Tuning Voltage .....	+20 V
Burn-In Temperature .....	+125 °C
Thermal Resistance <sup>1</sup> (θ <sub>jc</sub> ) .....	+40.1 °C/Watt
Junction Temperature Rise Above Case (T <sub>jc</sub> ) .....	+34.3 °C

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

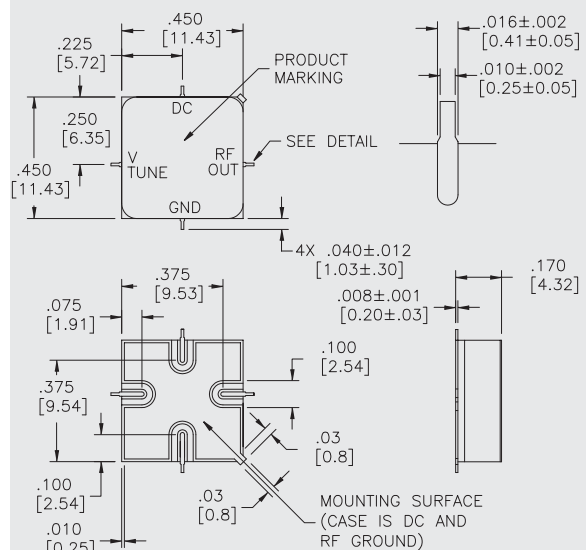
## OC2001

### TO-8 Package for Oscillators



## OS2001

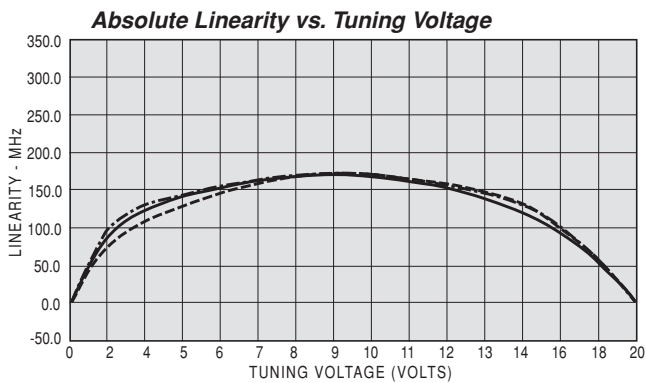
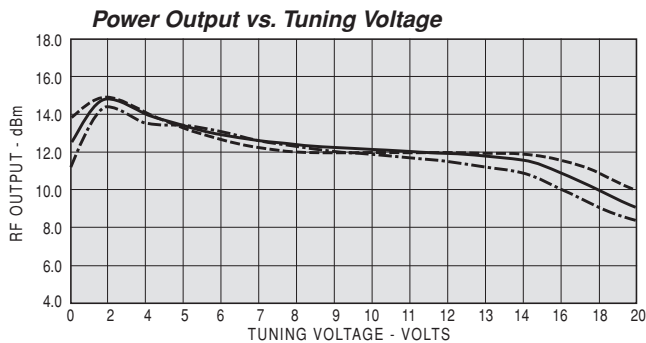
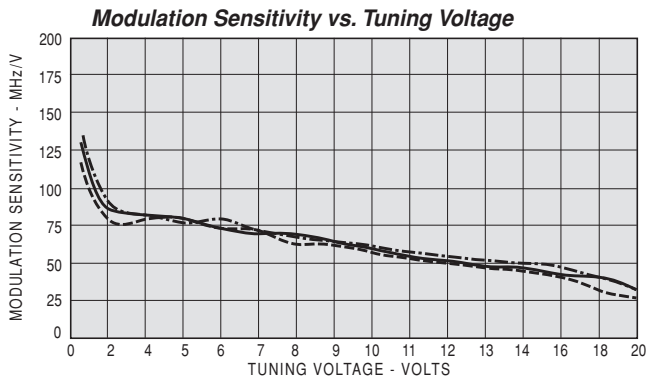
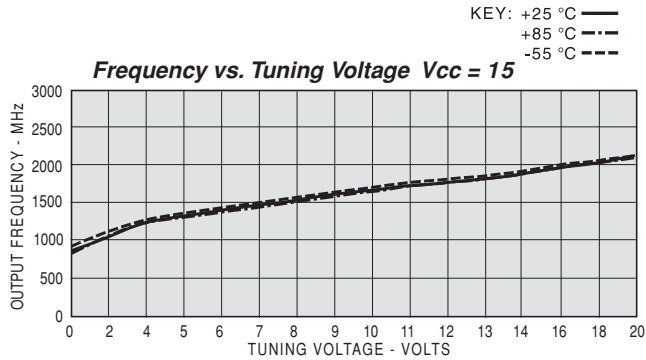
### SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: OC2001      Vcc= +15V      Vstr mA = 54.198      Vstop mA = 54.184

TUNING VOLTAGE	FREQ.	POWER	MODULATION SENSITIVITY	LINEARITY
V	MHz	dBm	MHz/V	MHz
0.0	876.22	12.42	0.00	0.00
1.0	996.25	14.62	109.34	58.57
2.0	1086.98	14.70	86.38	87.72
3.0	1167.14	14.42	78.82	106.39
4.0	1246.80	13.89	80.30	124.51
5.0	1326.57	13.28	79.01	142.76
6.0	1401.63	12.81	73.66	156.33
7.0	1470.93	12.55	67.85	164.10
8.0	1536.72	12.43	65.48	168.36
9.0	1600.35	12.30	62.64	170.50
10.0	1658.99	12.23	57.43	167.62
11.0	1712.86	12.17	53.57	160.72
12.0	1764.45	12.06	50.93	150.82
13.0	1813.79	11.90	48.71	138.62
14.0	1860.93	11.68	46.70	124.28
15.0	1906.60	11.40	45.24	108.42
16.0	1950.91	11.04	44.08	91.29
17.0	1993.88	10.62	42.50	72.67
18.0	2034.56	10.15	39.94	51.78
19.0	2072.09	9.67	36.63	27.86
20.0	2105.77	9.22	32.64	0.00

