

# OC1850 1250 TO 1850 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

Tuning Voltage Limits .....	<b>OC1850</b>
Power Output .....	<b>0-15 V</b>
Power Output Variation .....	<b>+11.5 dBm</b>
Standard Size TO-8 Package	<b>4.0 dB</b>

## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
<b>Frequency</b>	<b>1250-1850 MHz</b>	<b>1250-1850 MHz</b>	<b>1250-1850 MHz</b>
<b>Tuning Voltage Limits</b>			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
<b>Power Output (Min.)</b>	+11.5 dBm	+8.5 dBm	+8.0 dBm
<b>Power Flatness<sup>^</sup> (Max.)</b>	3.0 dB	4.5 dB	4.5 dB
<b>Modulation Sensitivity (Min.-Max.)</b>	40 to 70 MHz/V	35 to 75 MHz/V	35 to 75 MHz/V
<b>Modulation Sensitivity Ratio (Max.)</b>	1.5:1	1.75:1	1.75:1
<b>SSB Phase Noise (Max.)</b>			
at 10 kHz offset	-78 dBc/Hz	-75 dBc/Hz	-75 dBc/Hz
at 100 kHz offset	-107 dBc/Hz	-105 dBc/Hz	-103 dBc/Hz
<b>Frequency Drift (Max.)</b>	—	40 MHz	50 MHz
<b>Harmonics (Max.)</b>	-16.0 dBc	-10.0 dBc	-10.0 dBc
<b>Spurious (Max.)</b>	-60.0 dBc	-60.0 dBc	-60.0 dBc
<b>Frequency Pulling (Max.)</b>			
Load VSWR = 1.67:1	8.0 MHz	10.0 MHz	10.0 MHz
<b>Frequency Pushing (Max.)</b>			
Vdc ± 0.5 V	4.0 MHz/V	8.0 MHz/V	8.0 MHz/V
<b>Bias Voltage (Vdc)</b>	15.0 V	15.0 V	15.0 V
<b>DC Current (Max.)</b>	57 mA	60 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.

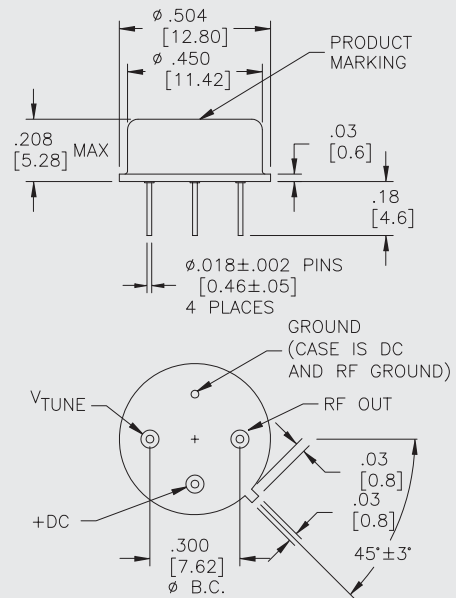
## ABSOLUTE MAXIMUM RATINGS

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

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

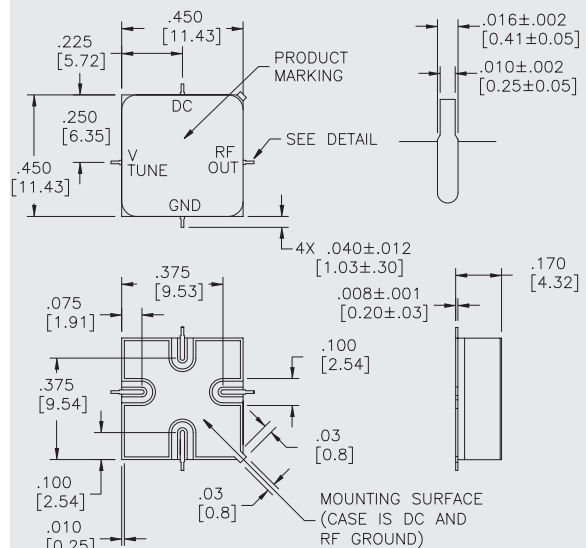
### OC1850

#### TO-8 Package for Oscillators



### OS1850

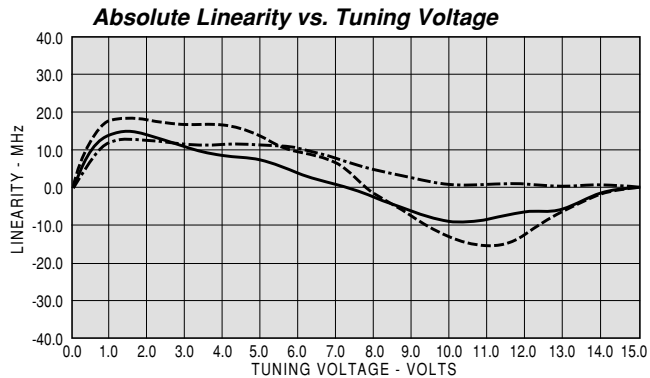
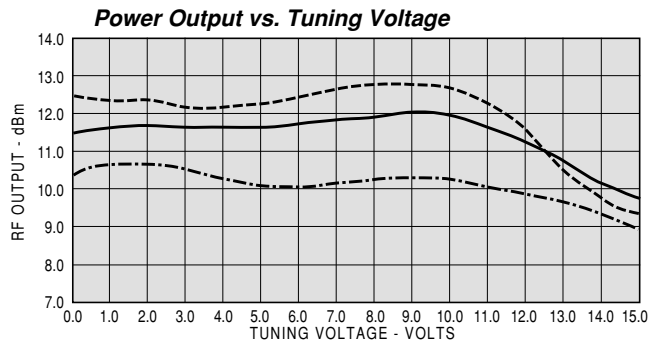
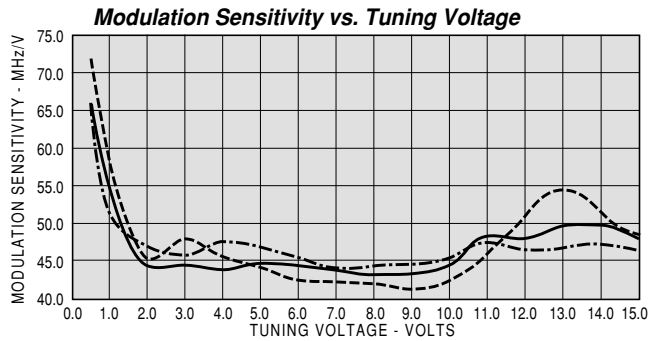
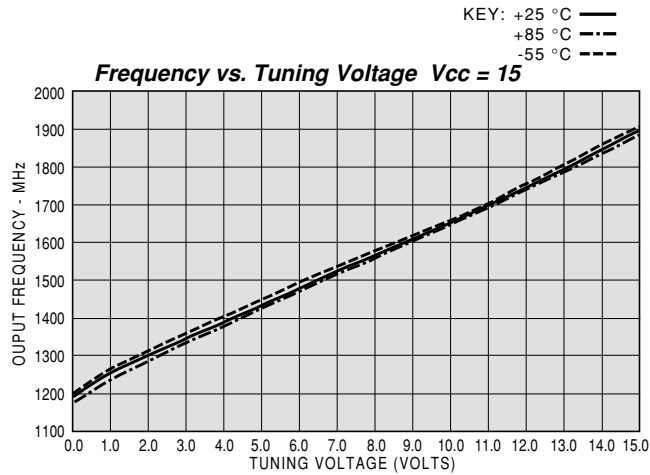
#### SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: OC1850      Vcc= +15V      Vstr mA = 55.48      Vstop mA = 54.42

TUNING VOLTAGE	FREQ.	POWER	MODULATION SENSITIVITY	LINEARITY
V	MHz	dBm	MHz/V	MHz
0.0	1193.77	11.49	0.00	0.00
0.5	1226.81	11.61	65.57	9.52
1.0	1254.57	11.62	55.36	13.86
1.5	1278.96	11.65	48.60	14.82
2.0	1300.68	11.68	44.36	13.68
2.5	1322.87	11.67	44.28	12.47
3.0	1345.15	11.64	44.47	11.36
3.5	1366.72	11.63	43.13	9.59
4.0	1388.82	11.61	43.84	8.15
4.5	1411.19	11.60	44.64	7.12
5.0	1433.59	11.62	44.59	6.07
5.5	1455.30	11.66	44.48	4.99
6.0	1477.51	11.71	44.34	3.81
6.5	1499.58	11.76	44.02	2.47
7.0	1521.40	11.82	43.56	0.91
7.5	1543.20	11.88	43.27	-0.81
8.0	1564.73	11.93	43.06	-2.63
8.5	1585.76	11.97	42.97	-4.45
9.0	1607.43	12.01	43.09	-6.26
9.5	1629.16	12.01	43.45	-7.88
10.0	1651.47	11.97	44.44	-9.01
10.5	1674.48	11.85	46.02	-9.34
11.0	1698.75	11.64	48.16	-8.60
11.5	1723.39	11.39	49.18	-7.36
12.0	1746.78	11.23	47.90	-6.76
12.5	1770.15	11.09	46.54	-6.84
13.0	1795.03	10.76	49.77	-5.30
13.5	1820.78	10.41	51.16	-3.04
14.0	1845.60	10.15	49.57	-1.60
14.5	1870.07	9.91	48.66	-0.61
15.0	1894.09	9.71	47.91	0.00

