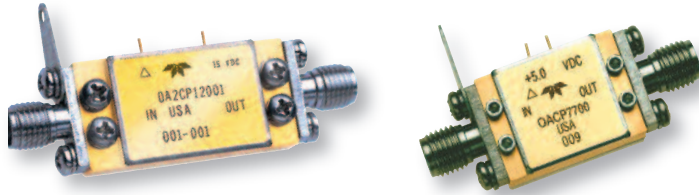




Microwave Voltage Controlled Oscillators
Typical Specifications—50 Ω System



OSCILLATORS, Voltage Controlled

Model	Frequency Range MHz	Tuning Voltage Range Volts	Power Output dBm	Power Output Variation ±dB	Modulation Sensitivity Min.-Max. MHz/V	Phase Noise Offset at 10kHz/100kHz dBc/Hz	Harmonic Suppression dBc	Pushing MHz/V	Pulling @1.67:1 VSWR MHz	DC Bias	
										Voltage Volts	Current mA
Oscillator available in TO-8, SMT0-8 or CougarPak®											
OC150	85-150	0-20	10.0	2.0	2-8	-100/-120	-8	2.0	2.0	15.0	35
OC200	100-200	0-20	10.0	3.0	2-10	-103/-117	-10	0.5	1.0	15.0	35
OC300	150-300	0-20	10.0	2.0	5-20	-95/-115	-8	2.0	2.0	15.0	35
OC321	260-320	0-5	10.0	2.0	10-20	-92/-115	-12	5.0	5.0	5.0	18
OC400	200-400	0-20	10.0	2.0	10-30	-90/-105	-10	3.0	5.0	15.0	35
OC500	300-500	0-20	10.0	2.0	10-30	-90/-105	-10	3.0	5.0	15.0	35
OC551	450-550	0-5	0.0	3.0	15-40	-92/-115	-12	6.0	10.0	5.0	18
OC600	300-600	0-20	10.0	2.0	10-30	-90/-105	-10	5.0	12.0	15.0	35
OC700	500-700	0-20	10.0	2.0	15-45	-90/-105	-10	5.0	15.0	15.0	35
OC800	400-800	0-20	10.0	2.0	15-45	-90/-105	-10	5.0	25.0	15.0	35
OC910	700-900	0-5	0.0	3.0	25-85	-85/-108	-12	8.0	10.0	5.0	18
OC1000	500-1000	0-20	10.0	2.0	15-55	-90/-105	-10	5.0	25.0	15.0	35
OC1200	800-1200	0-20	10.0	2.0	30-100	-80/-100	-10	10.0	25.0	15.0	35
OC1500	500-1500	0-(-20)	5.0	3.0	40-125	-85/-107	-12	25.0	50.0	5.0	35
OC1510	1200-1500	0-5	0.0	3.0	60-200	-82/-112	-12	6.0	10.0	5.0	18
OC1600	800-1600	0-20	13.0	3.0	15-100	-90/-110	-12	5.0	20.0	15.0	60
OC1610	1400-1600	0-5	0.0	3.0	60-175	-80/-110	-12	6.0	10.0	5.0	18
OC1810	1600-1800	0-5	0.0	3.0	60-165	-85/-108	-12	8.0	10.0	5.0	18
OC1850	1250-1850	0-15	11.5	3.0	40-70	-78/-107	-16	4.0	8.0	15.0	57
OC2000	1350-2000	0-15	10.0	3.6	40-75	-78/-107	-12	5.0	10.0	15.0	55
OC2001	1000-2000	0-18	10.0	4.5	40-111	-82/-112	-10	13.0	14.0	15.0	58
OC2560	1360-2560	0-17.5	10.5	5.9	51-123	-82/-106	-10	4.0	30.0	15.0	54
OC2800	1900-2800	0-13.5	10.0	1.5	50-120	-73/-101	-12	15.0	32.0	15.0	58
OC3400	2700-3400	0-15	10.0	2.0	75-115	-80/-105	-12	25.0	35.0	15.0	60
OC4002	2000-4000	0-20	11.0	3.0	43-267	-85/-106	-15	8.0	32.0	15.0	60
OC4500	3200-4500	0-15	12.0	2.0	120-310	-80/-102	-19	17.0	47.0	15.0	57
Oscillator available in TO-8B, SMT0-8B or CougarPak®											
OR2001	1400-2100	0-15	10.0	2.0	40-70	-92/-118	-10	5.0	10.0	(-5.0)	65
OR2600	1900-2600	0-15	10.0	2.0	40-70	-92/-118	-10	5.0	10.0	(-5.0)	65
OR3700	3100-3800	0-15	5.0	2.0	50-150	-89/-110	-10	20.0	20.0	(-5.0)	70
OR4400	3500-4400	0-15	5.0	2.0	50-150	-89/-110	-10	20.0	20.0	(-5.0)	70

Current data sheets available on website.



Microwave Voltage Controlled Oscillators
Typical Specifications—50 Ω System

Model	Frequency Range MHz	Tuning Voltage Range	Power Output	Power Output Variation	Modulation Sensitivity Min.-Max.	Phase Noise	Harmonic Suppression	Pushing	Pulling	DC Bias	
		Volts	dBm	±dB	MHz/V	Offset at 10kHz/100kHz dBc/Hz	dBc	MHz/V	@1.67:1 VSWR MHz	Voltage Volts	Current mA
Oscillator available in SMT0-8 or CougarPak®											
OS5100	4300-5100	0-15	1.0	1.5	50-85	-85/-108	-12	10.0	13.0	5.0	25
OS6100	4700-6100	0-15	0	2.0	70-150	-80/-102	-12	10.0	15.0	5.0	26
OS6500	5000-6500	0-15	1.0	2.0	80-160	-80/-102	-17	15.0	15.0	5.0	26
OS6700	5400-6700	0-15	0	2.0	80-180	-75/-100	-17	10.0	20.0	5.0	25
OS7700	5700-7700	0-15	2.0	2.0	70-250	-75/-100	-17	10.0	20.0	5.0	25
OS8600	6500-8600	0-15	1.0	2.0	90-250	-70/-95	-20	10.0	40.0	5.0	25
OS8900	6900-8900	0-15	1.0	2.0	100-270	-70/-95	-25	21.0	47.0	5.0	24

Model	Frequency Range MHz	Tuning Voltage Range	Power Output	Power Output Variation	Modulation Sensitivity Min.-Max.	Phase Noise	Harmonic Suppression	Pushing	Pulling	DC Bias	
		Volts	dBm	±dB	MHz/V	Offset at 10kHz/100kHz dBc/Hz	dBc	MHz/V	@1.67:1 VSWR MHz	Voltage Volts	Current mA
Oscillator with internal MMIC amplifier available in SMT0-8 or CougarPak®											
OAS5100	4300-5100	0-15	13.0	2.0	50-85	-84/-108	-22	10.0	0.1	5.0	94
OAS6100	4700-6100	0-15	10.0	2.0	70-150	-80/-102	-25	10.0	0.3	5.0	95
OAS6500	5000-6500	0-15	13.0	2.0	80-160	-80/-102	-25	8.0	0.35	5.0	94
OAS6700	5300-6700	0-15	10.0	2.0	80-180	-75/-100	-30	10.0	0.5	5.0	95
OAS7700	5700-7700	0-15	13.0	2.5	70-250	-75/-100	-28	10.0	0.5	5.0	95
OAS8600	6500-8600	0-15	10.0	2.0	90-250	-70/-95	-30	10.0	0.5	5.0	95
OAS8900	6900-8900	0-15	10.0	2.0	100-270	-70/-95	-30	21.0	0.5	5.0	95

Model	Frequency Range MHz	Tuning Voltage Range	Output Power	Output Power Variation	Modulation Sensitivity Min.-Max.	Phase Noise	Fractional/Integer Harmonic Suppression	Pushing	Pulling	Settling Time PTD@1us ref. to 1 sec. ±MHz	DC Bias	
		Volts	dBm	±dB	MHz/V	Offset at 10kHz/100kHz dBc/Hz	dBc	MHz/V	@1.67:1 VSWR MHz		Voltage Volts	Current mA
Oscillator, Amp, Filter and Voltage Regulator in 2- and 3-Stage CougarPak®												
OA2CP1001	500-1000	0-(-12)	15.0	2.0	30-60	-75/-105	NA/-15	0.3	1.0	1.0	15.0	250
OA2CP1450	850-1450	0-(-12)	15.0	2.0	60-100	-75/-105	NA/-15	0.3	2.0	1.0	15.0	250
OA2CP2001	1000-2000	0-(-15)	15.0	2.0	50-150	-70/-100	NA/-15	0.3	2.0	1.0	15.0	250
OA2CP4001	2000-4000	0-(-12)	15.0	2.0	100-350	-65/-95	NA/-15	0.3	3.0	2.0	15.0	250
OA2CP6001	4000-6000	0-(-12)	15.0	2.0	75-225	-65/-95	NA/-25	0.3	3.0	2.0	15.0	250
OA2CP9001	6000-9000	0-(-12)	15.0	2.0	75-400	-65/-95	NA/-30	0.3	3.0	2.0	15.0	250
OA2CP11001	8000-11000	0-(-12)	15.0	2.0	200-400	-70/-100	-25/-30	0.3	3.0	3.0	15.0	250
OA2CP12001	8000-12000	0-(-12)	17.0	5.5	280-630	-75/-100	-35/-40	0.1	0.5	3.0	15.0	220
OA2CP12500	9000-12500	0-(-12)	15.0	2.0	150-450	-65/-95	-25/-30	0.3	3.0	3.0	15.0	250
OA3CP18001	12000-18000	0-(-12)	15.0	2.0	150-750	-55/-85	-15/-30	0.3	3.0	4.0	15.0	350

Current data sheets available on website.

OC200

100 TO 200 MHz VOLTAGE CONTROLLED OSCILLATOR

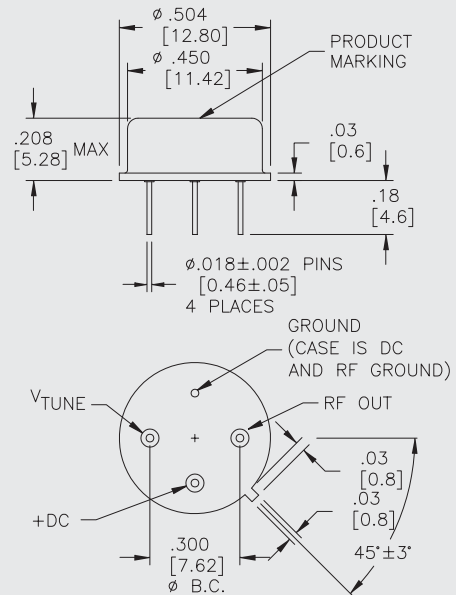
Typical Values @ +25 °C

Tuning Voltage Limits	0-20 V
Power Output	+10.0 dBm
Power Output Variation	4.0 dB
Standard Size TO-8 Package	

OC200

OC200

TO-8 Package for Oscillators

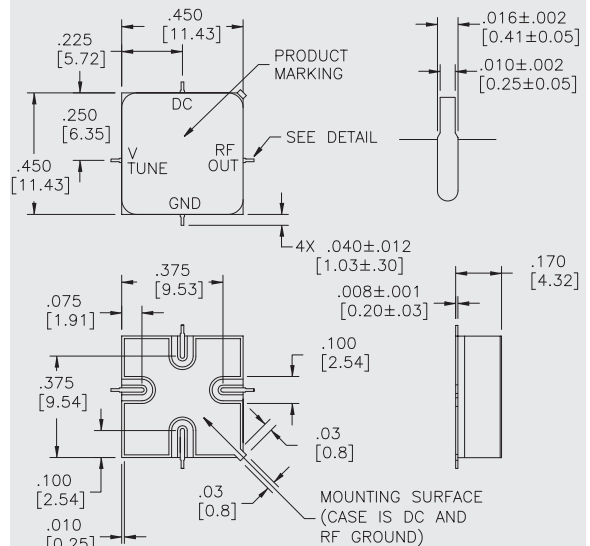


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-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.)	4.0 dB	4.5 dB	4.8 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	-117 dBc/Hz	-115 dBc/Hz	-115 dBc/Hz
Frequency Drift (Max.)	—	8 MHz	10 MHz
Harmonics (Max.)	-10.0 dBc	-9.0 dBc	-8.0 dBc
Spurious (Max.)	-70.0 dBc	-70.0 dBc	-70.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	0.8 MHz	1.0 MHz	1.0 MHz
Frequency Pushing (Max.)			
V _{dc} ± 0.5 V	0.5 MHz/V	1.0 MHz/V	1.0 MHz/V
Bias Voltage (V_{dc})	15.0 V	15.0 V	15.0 V
DC Current (Max.)	31 mA	35 mA	35 mA

OS200

SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

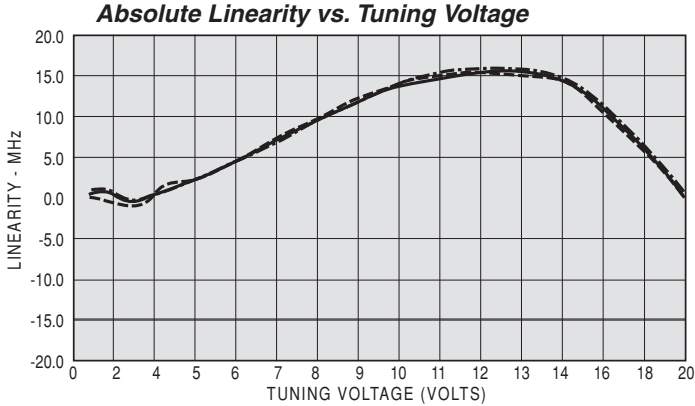
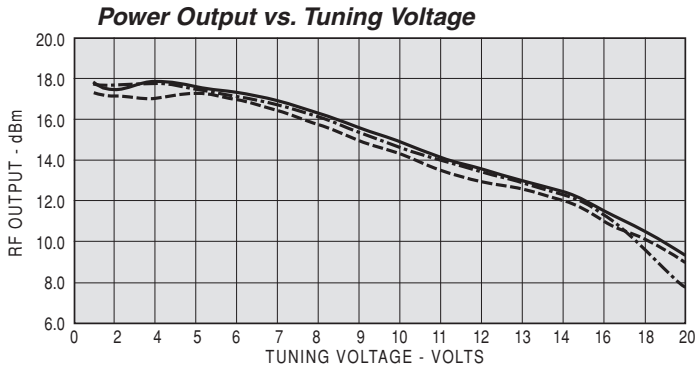
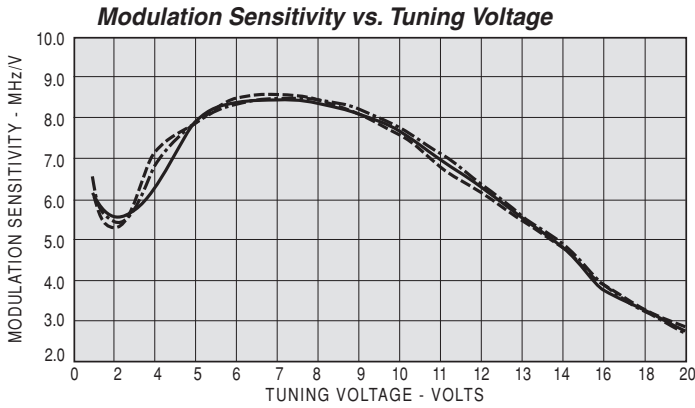
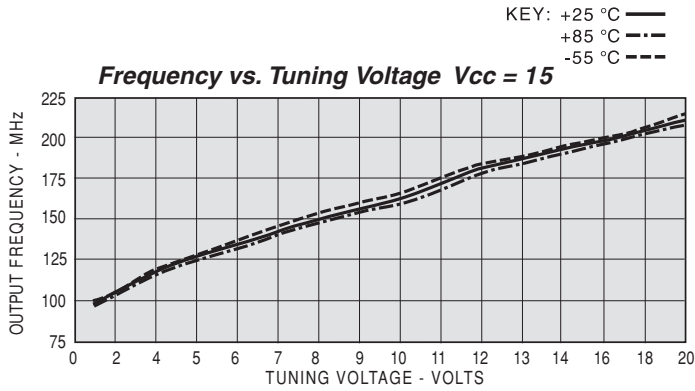
ABSOLUTE MAXIMUM RATINGS

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 (θ _{jc})	+40.1 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+34.3 °C

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

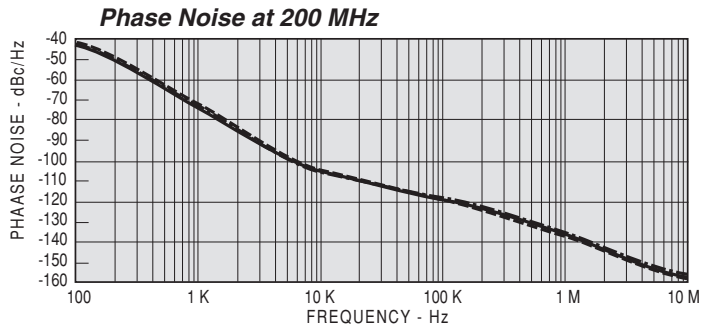
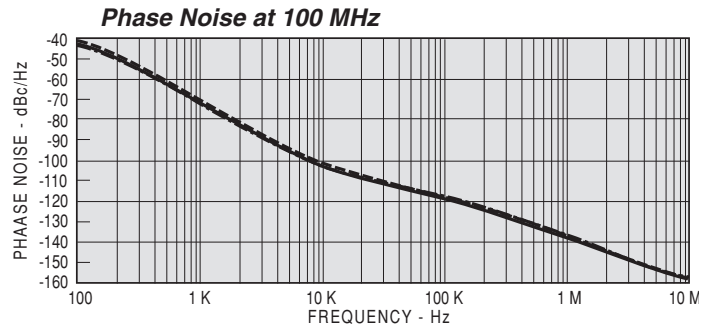
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OC200 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



OC1850 1250 TO 1850 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

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

SPECIFICATIONS*

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

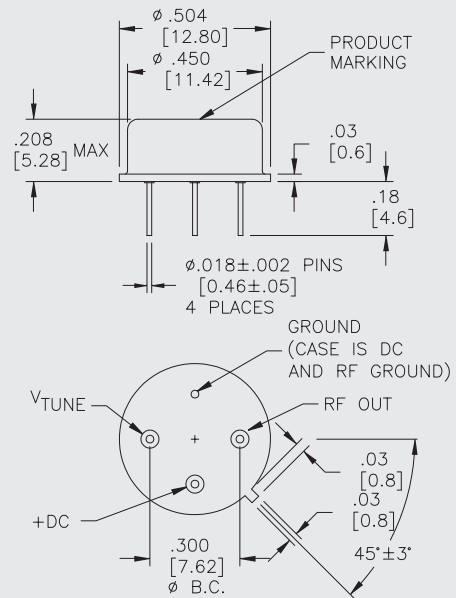
ABSOLUTE MAXIMUM RATINGS

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 Resistance¹ (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.

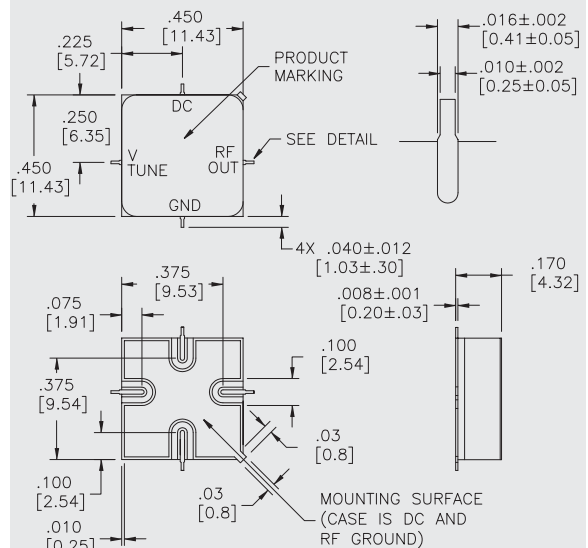
OC1850

TO-8 Package for Oscillators



OS1850

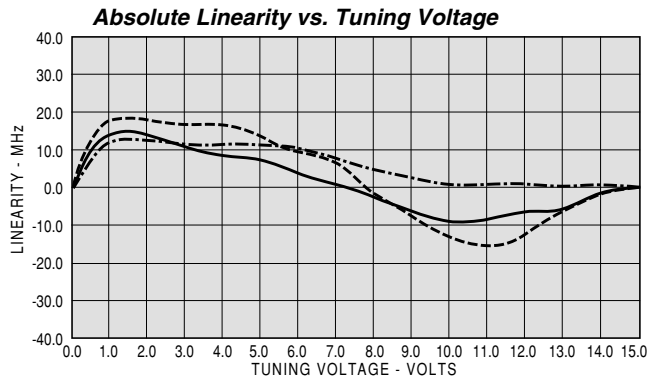
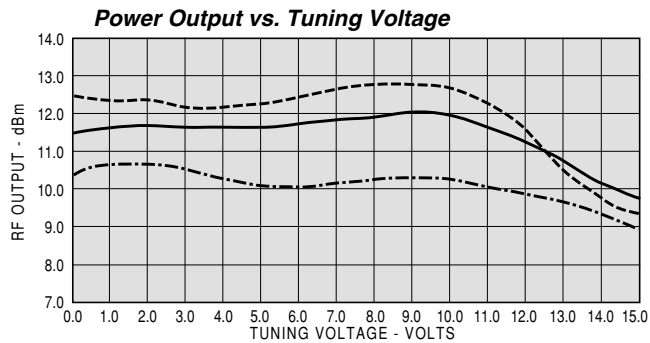
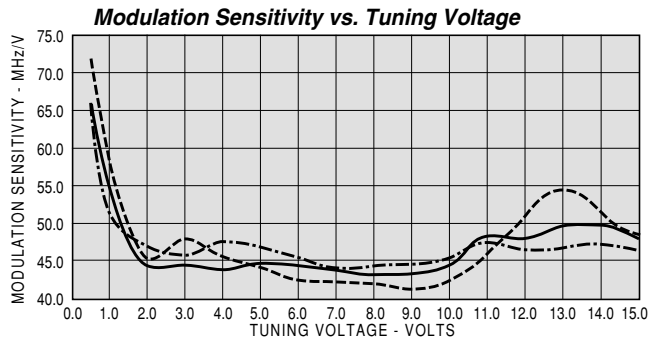
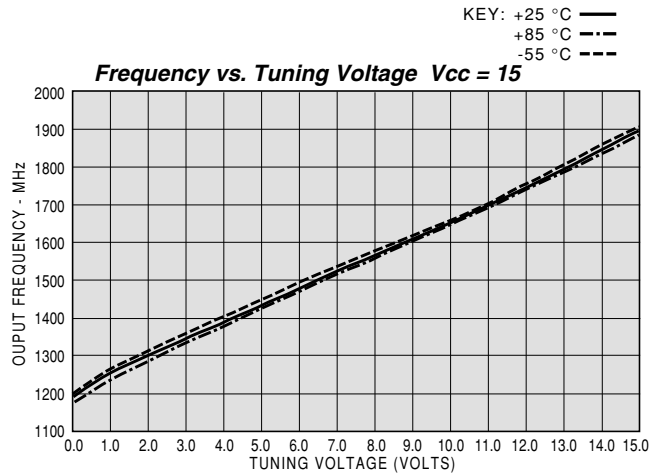
SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

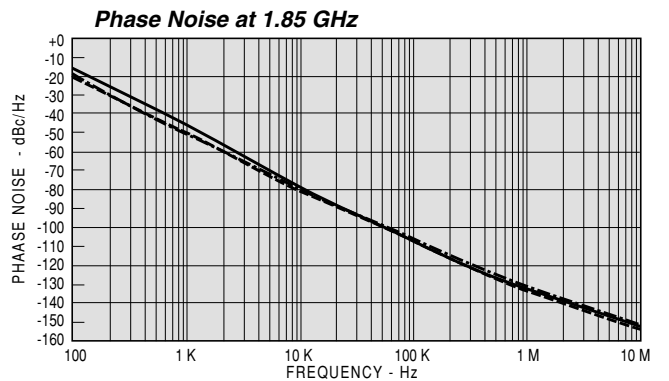
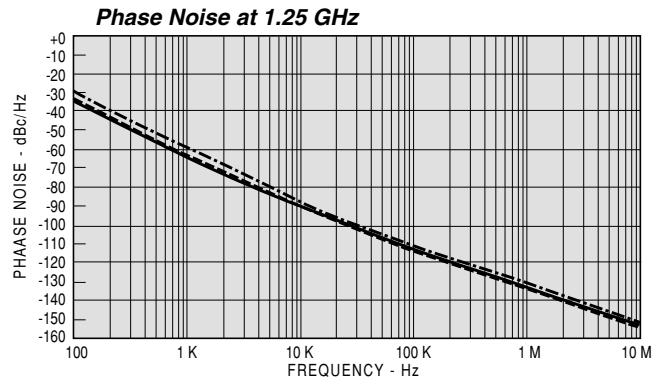
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



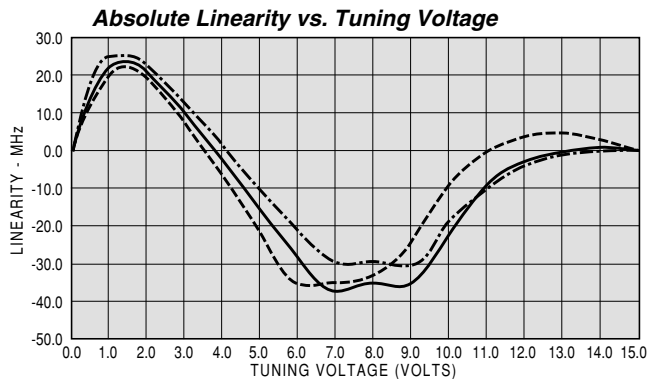
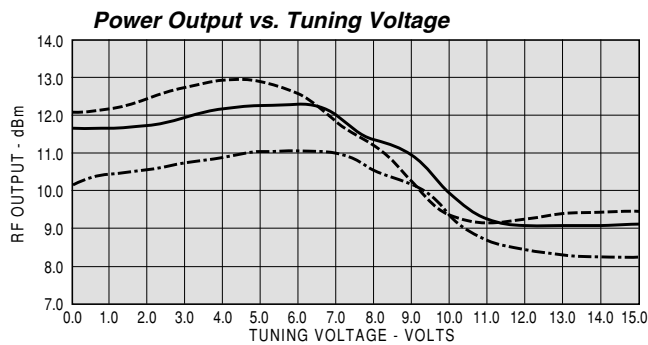
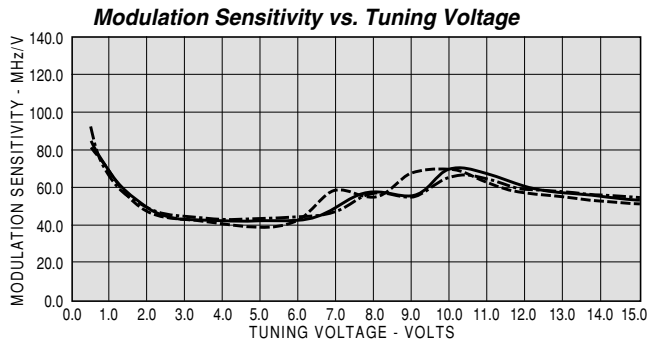
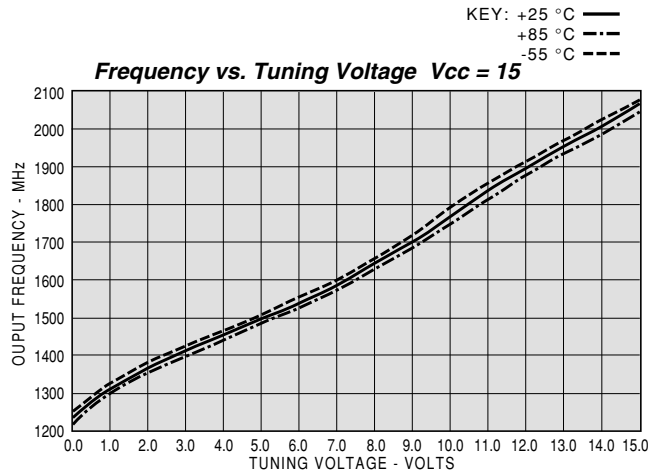
Model: OC1850 Vcc= +15V Vstr mA = 55.48 Vstop mA = 54.42

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



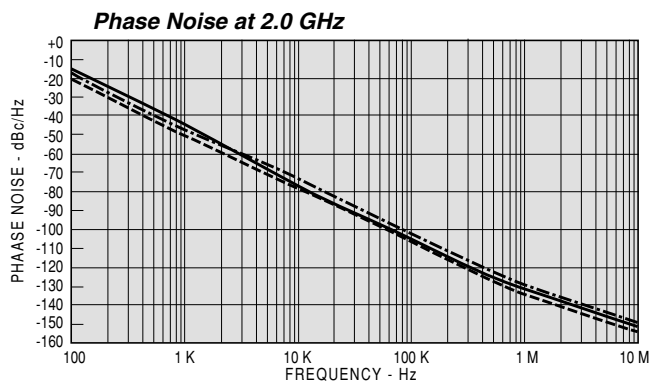
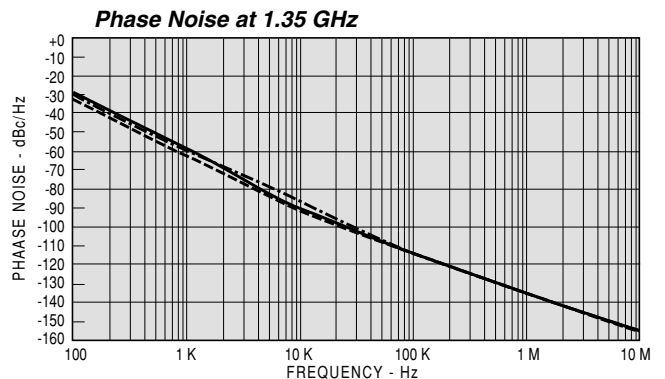
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OC2000 Vcc= +15V Vstr mA = 54.02 Vstop mA = 51.68

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	1235.81	11.66	0.00	0.00
0.5	1277.80	11.72	84.41	14.52
1.0	1312.96	11.65	68.86	21.49
1.5	1342.39	11.62	59.27	23.51
2.0	1367.18	11.71	49.90	20.87
2.5	1389.67	11.83	45.29	15.94
3.0	1411.85	11.96	43.44	9.93
3.5	1432.97	12.07	42.60	3.68
4.0	1453.93	12.17	42.22	-2.77
4.5	1474.92	12.24	42.18	-9.25
5.0	1495.85	12.29	42.22	-15.69
5.5	1517.42	12.31	42.23	-22.32
6.0	1538.46	12.29	42.31	-28.74
6.5	1560.15	12.20	43.65	-34.49
7.0	1584.79	11.97	49.44	-37.36
7.5	1613.79	11.62	56.90	-36.51
8.0	1642.62	11.35	57.98	-35.13
8.5	1669.10	11.21	53.28	-36.09
9.0	1696.90	10.94	55.95	-35.72
9.5	1730.55	10.44	65.94	-30.25
10.0	1765.24	9.93	69.98	-22.93
10.5	1800.01	9.51	69.95	-15.60
11.0	1833.45	9.24	67.19	-9.64
11.5	1864.92	9.11	63.38	-5.59
12.0	1895.61	9.07	60.23	-3.03
12.5	1924.77	9.06	58.63	-1.33
13.0	1953.29	9.07	57.45	-0.22
13.5	1981.45	9.07	56.47	0.41
14.0	2009.82	9.07	55.64	0.63
14.5	2037.33	9.06	55.32	0.68
15.0	2064.07	9.10	53.83	0.00



OC2001

1000 TO 2000 MHz VOLTAGE CONTROLLED OSCILLATOR

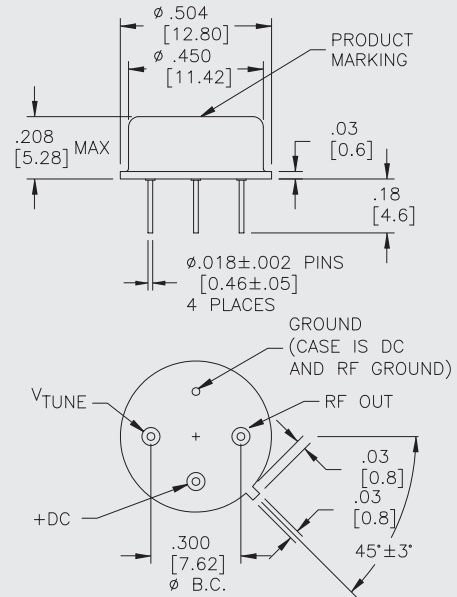
Typical Values @ +25 °C

Tuning Voltage Limits	0-20 V
Power Output	+10.0 dBm
Power Output Variation	5.0 dB
Standard Size TO-8 Package	

OC2001

OC2001

TO-8 Package for Oscillators

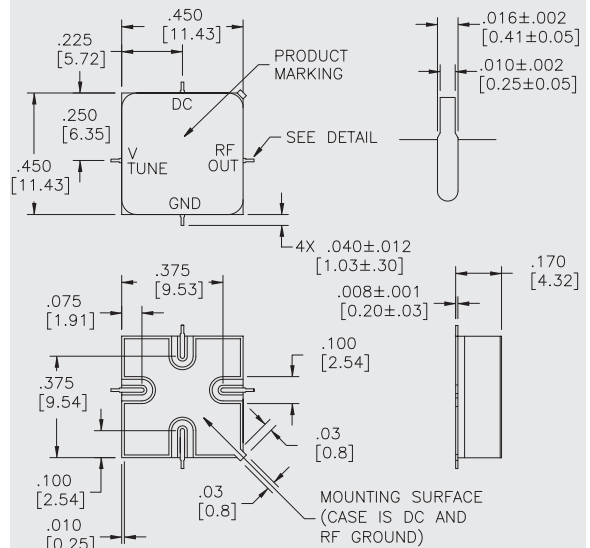


SPECIFICATIONS*

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

OS2001

SMT0-8 for Oscillators



ABSOLUTE MAXIMUM RATINGS

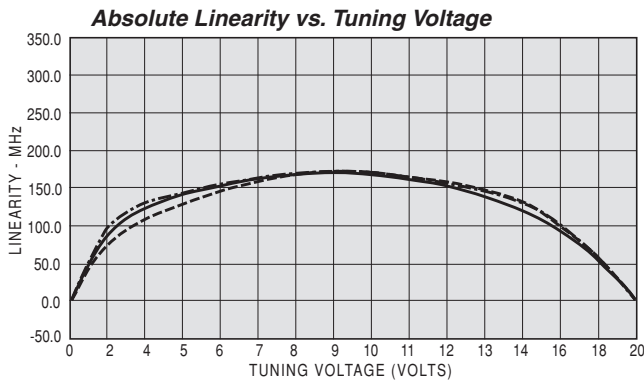
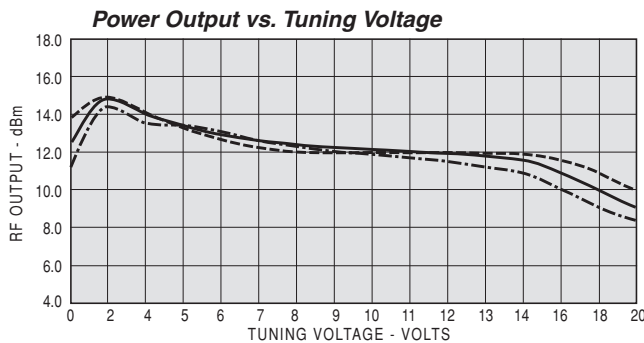
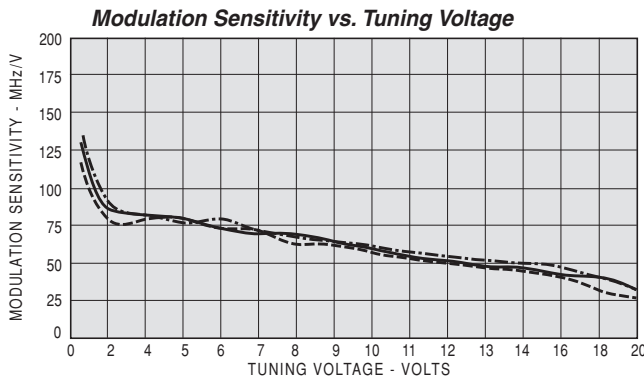
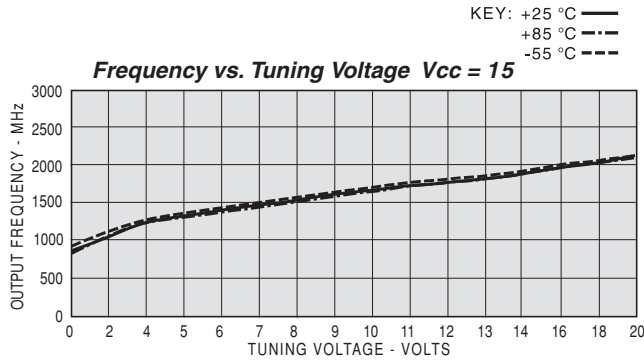
Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	125 °C
Maximum DC Voltage	+17 V
Maximum Tuning Voltage	+20 V
Burn-In Temperature	+125 °C
Thermal Resistance¹ (θ_{jc})	+40.1 °C/Watt
Junction Temperature Rise Above Case (T_{jc})	+34.3 °C

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

DIMENSIONS ARE IN INCHES [MILLIMETERS]

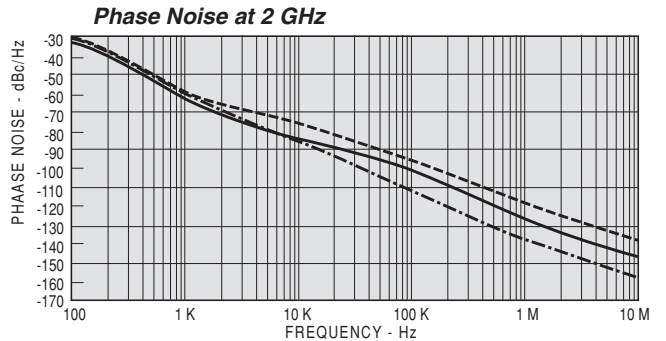
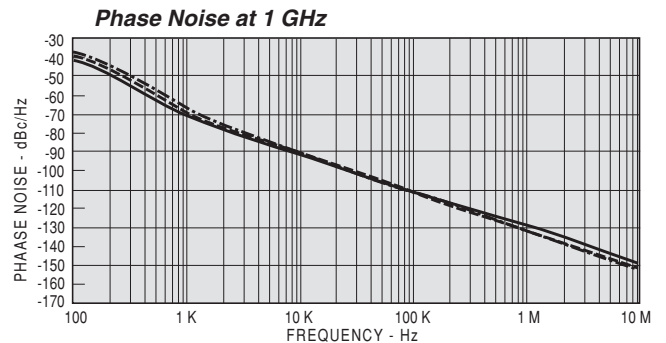
TYPICAL PERFORMANCE

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



OC2560 1360 TO 2560 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C	OC2560
Tuning Voltage Limits	0-20 V
Power Output	+10.5 dBm
Power Output Variation	5.9 dB
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	1360-2560 MHz	1360-2560 MHz	1360-2560 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0.6 V	0.5 V	0 V
Tuning voltage at high end	17.5 V	19 V	20 V
Power Output (Min.)	+10.5 dBm	+10.0 dBm	+9.5 dBm
Power Flatness[^] (Max.)	5.9 dB	6.2 dB	6.5 dB
Modulation Sensitivity (Min.-Max.)	51 to 123 MHz/V	50 to 130 MHz/V	45 to 140 MHz/V
Modulation Sensitivity Ratio (Max.)	2.4:1	2.6:1	3.1:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-82.0 dBc/Hz	-78.0 dBc/Hz	-75.0 dBc/Hz
at 100 kHz offset	-106.0 dBc/Hz	-105.0 dBc/Hz	-104.0 dBc/Hz
Frequency Drift (Max.)	—	40 MHz	100 MHz
Harmonics (Max.)	-10.0 dBc	-8.0 dBc	-7.0 dBc
Spurious (Max.)	-62.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	29.0 MHz	31.0 MHz	34.0 MHz
Frequency Pushing (Max.)			
V _{dc} ± 0.5 V	4.0 MHz/V	5.0 MHz/V	7.0 MHz/V
Bias Voltage (V_{dc})	15.0 V	15.0 V	15.0 V
DC Current (Max.)	54 mA	58 mA	60 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.

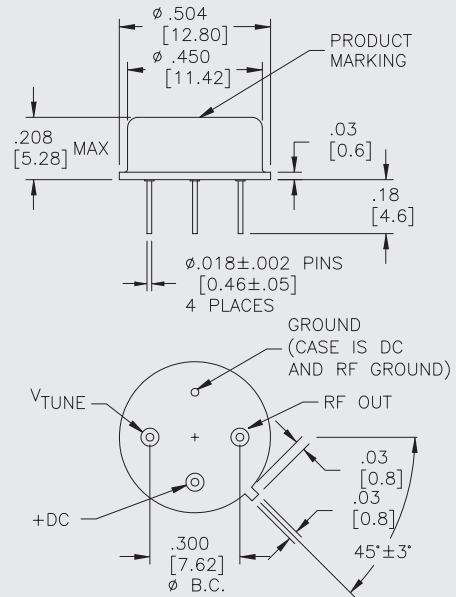
ABSOLUTE MAXIMUM RATINGS

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 (θ _{jc})	+40.1 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+34.3 °C

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

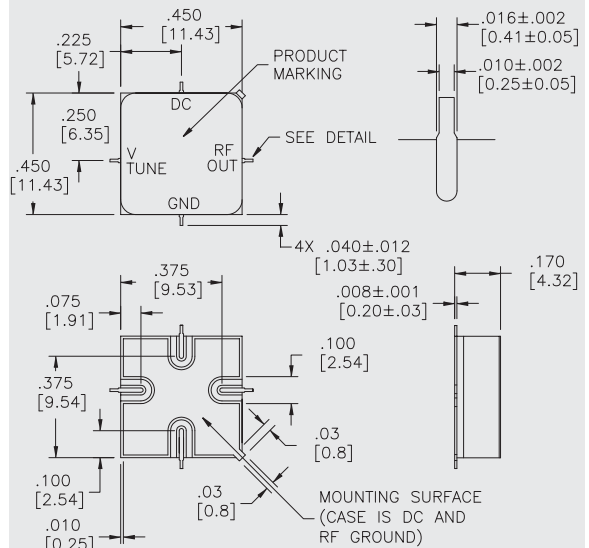
OC2560

TO-8 Package for Oscillators



OS2560

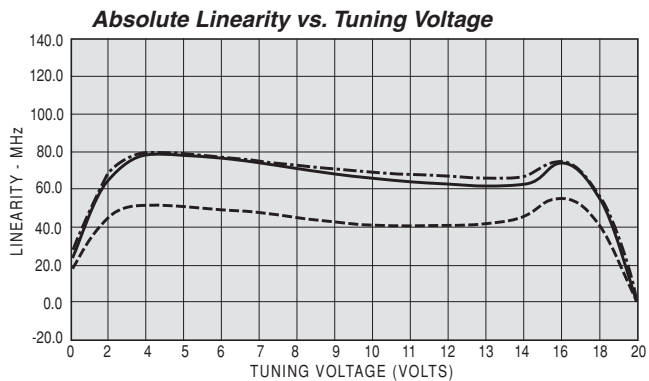
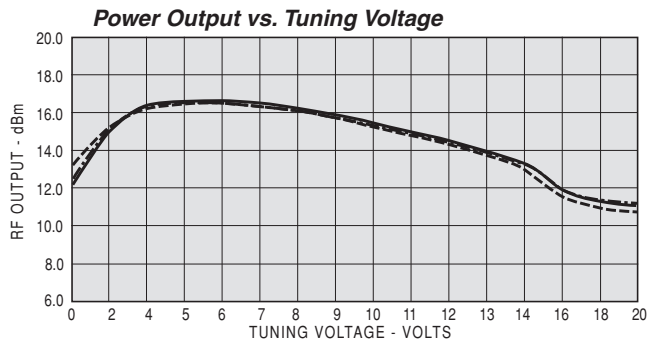
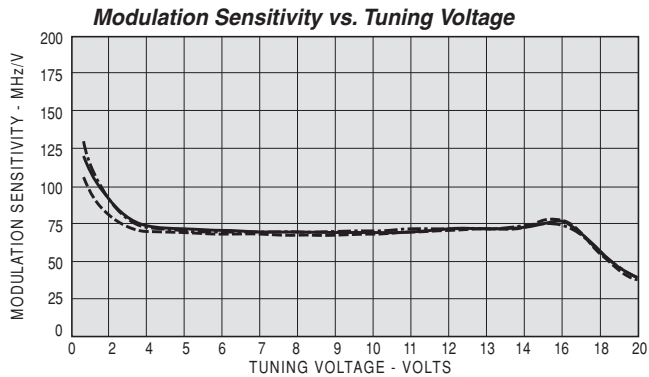
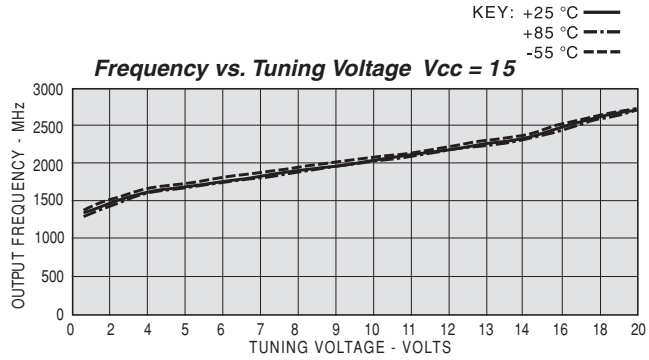
SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

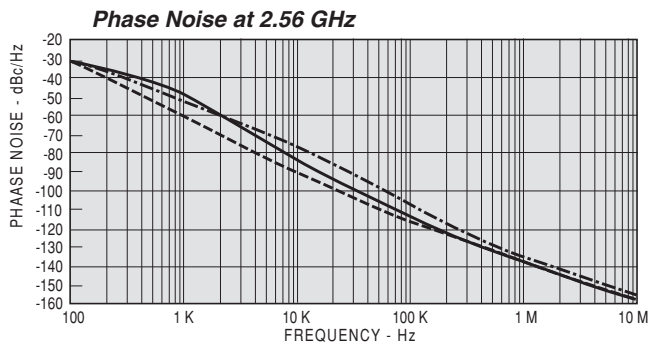
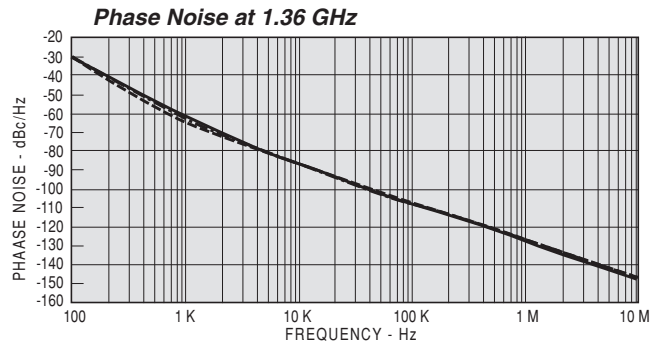
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OC2560 Vcc= +15V Vstr mA = 40.211 Vstop mA = 40.789

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	1259.04	10.46	0.00	0.00
0.5	1318.89	12.34	121.17	24.24
1.0	1372.72	13.47	106.44	41.61
1.5	1420.34	14.32	96.26	53.56
2.0	1465.37	14.97	88.93	62.09
2.5	1506.14	15.46	82.58	67.27
3.0	1545.92	15.85	78.60	70.56
3.5	1583.06	16.12	75.19	72.09
4.0	1619.93	16.29	72.76	72.43
4.5	1655.06	16.41	71.23	72.00
5.0	1690.45	16.47	69.80	70.84
5.5	1724.62	16.48	69.25	69.44
6.0	1759.43	16.49	68.73	67.73
6.5	1793.32	16.43	68.63	66.02
7.0	1828.18	16.31	68.83	64.37
7.5	1861.90	16.17	68.30	62.49
8.0	1896.48	15.99	68.22	60.53
8.5	1930.46	15.79	68.87	58.94
9.0	1965.41	15.59	69.02	57.38
9.5	1999.78	15.36	69.58	56.14
10.0	2035.29	15.12	70.16	55.16
10.5	2070.02	14.89	70.24	54.25
11.0	2105.08	14.63	70.98	53.70
11.5	2141.09	14.37	71.12	53.20
12.0	2176.37	14.10	71.56	52.94
12.5	2212.79	13.81	71.85	52.82
13.0	2248.68	13.49	72.64	53.09
13.5	2286.16	13.11	74.00	54.05
14.0	2323.75	12.69	76.14	56.05
14.5	2363.99	12.22	79.43	59.76
15.0	2404.66	11.80	82.34	64.82
15.5	2445.64	11.45	80.87	69.27
16.0	2483.33	11.20	76.57	71.47
16.5	2519.36	11.01	71.05	70.94
17.0	2551.61	10.86	65.29	67.58
17.5	2582.13	10.75	60.30	61.61
18.0	2609.47	10.67	55.29	53.30
18.5	2635.32	10.60	51.06	42.66
19.0	2658.62	10.55	47.21	30.38
19.5	2680.63	10.50	43.39	15.81
20.0	2700.37	10.46	40.03	0.00



OC2800 1900 TO 2800 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C	OC2800
Tuning Voltage Limits	1.5 - 13.5 V
Power Output	+10.0 dBm
Power Output Variation	1.5 dB
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	1900-2800 MHz	1900-2800 MHz	1900-2800 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	1.5 V	1.0 V	0 V
Tuning voltage at high end	13.5 V	14.5 V	15 V
Power Output (Min.)	+10.0 dBm	+9.0 dBm	+8.0 dBm
Power Flatness[^] (Max.)	1.5 dB	1.9 dB	2.2 dB
Modulation Sensitivity (Min.-Max.)	50 to 120 MHz/V	45 to 150 MHz/V	40 to 155 MHz/V
Modulation Sensitivity Ratio (Max.)	2.4:1	2.6:1	2.8:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-73 dBc/Hz	-72 dBc/Hz	-71 dBc/Hz
at 100 kHz offset	-101 dBc/Hz	-99 dBc/Hz	-98 dBc/Hz
Frequency Drift (Max.)	—	45 MHz	80 MHz
Harmonics (Max.)	-12.0 dBc	-10.0 dBc	-10.0 dBc
Spurious (Max.)	-62.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	32.0 MHz	35.0 MHz	40.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	15.0 MHz/V	22.0 MHz/V	25.0 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	58 mA	59 mA	60 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.

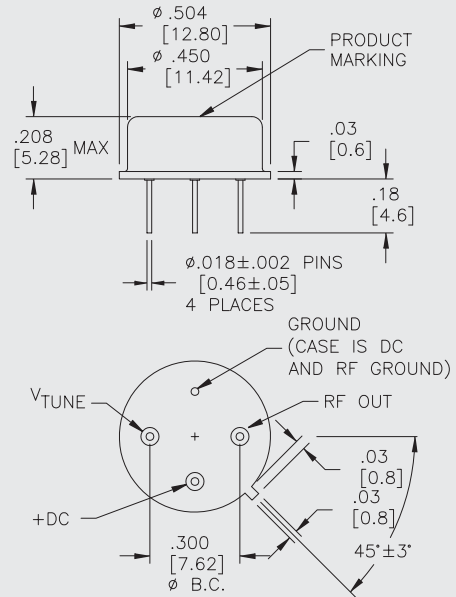
ABSOLUTE MAXIMUM RATINGS

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.

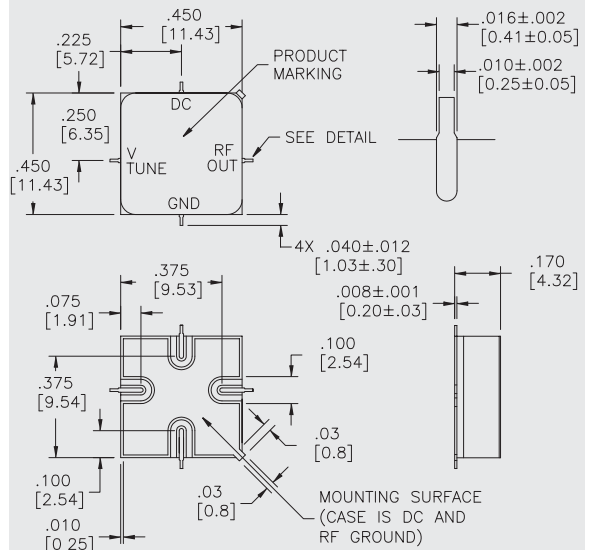
OC2800

TO-8 Package for Oscillators



OS2800

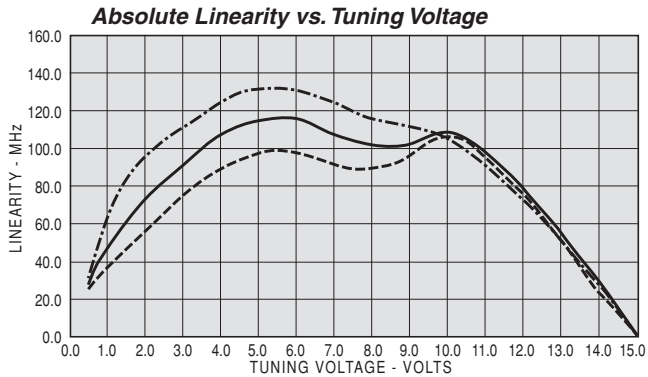
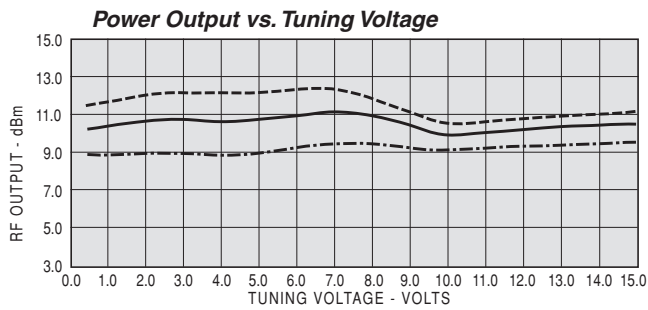
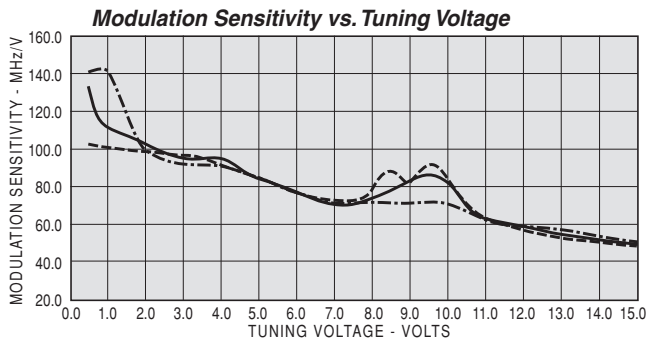
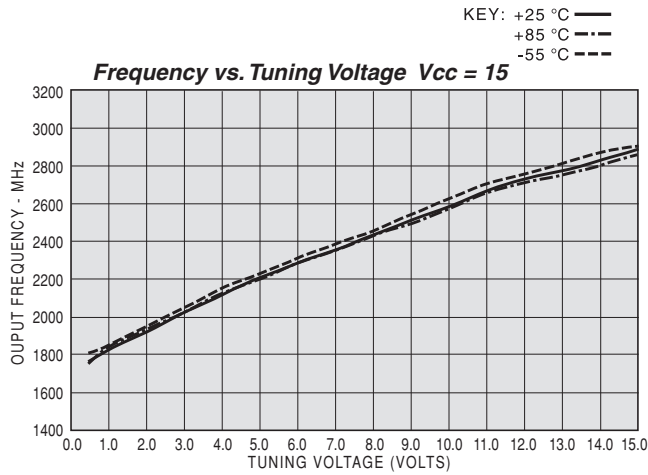
SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

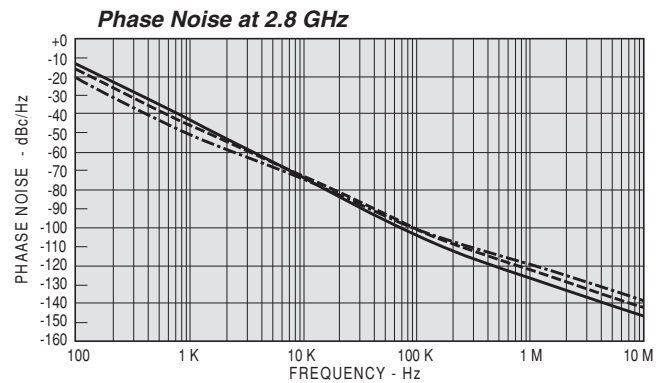
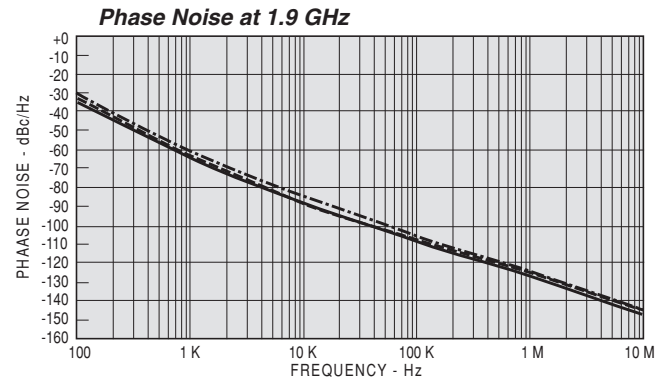
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OC2800 Vcc= +15V Vstr mA = 60.073 Vstop mA = 58.680

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	1705.83	10.34	0.00	0.00
1.0	1828.99	10.47	114.18	43.37
1.5	1884.04	10.57	111.33	58.97
2.0	1936.99	10.69	104.57	71.52
2.5	1986.53	10.77	100.32	81.67
3.0	2035.14	10.78	96.07	89.91
3.5	2083.29	10.72	97.48	98.65
4.0	2131.65	10.70	95.46	106.60
4.5	2174.76	10.77	87.39	110.35
5.0	2217.23	10.83	83.70	112.34
5.5	2257.43	10.90	81.45	113.17
6.0	2297.10	11.00	78.36	112.45
6.5	2332.62	11.14	71.95	108.58
7.0	2368.82	11.16	71.47	104.38
7.5	2406.19	11.03	75.70	102.36
8.0	2446.27	10.81	79.05	101.99
8.5	2487.55	10.51	83.68	103.92
9.0	2535.34	10.14	94.36	111.30
9.5	2578.18	9.96	86.73	114.73
10.0	2616.24	9.95	75.18	112.40
10.5	2648.75	10.04	65.81	105.50
11.0	2678.74	10.14	60.70	96.07
11.5	2710.21	10.18	62.13	87.14
12.0	2739.58	10.25	59.52	77.14
12.5	2768.52	10.32	57.14	65.67
13.0	2796.06	10.37	55.74	53.80
13.5	2823.73	10.41	54.69	41.10
14.0	2850.14	10.43	53.47	28.10
14.5	2876.69	10.46	52.41	14.24
15.0	2901.86	10.48	50.96	0.00



OC4002

2000 TO 4000 MHz VOLTAGE CONTROLLED OSCILLATOR

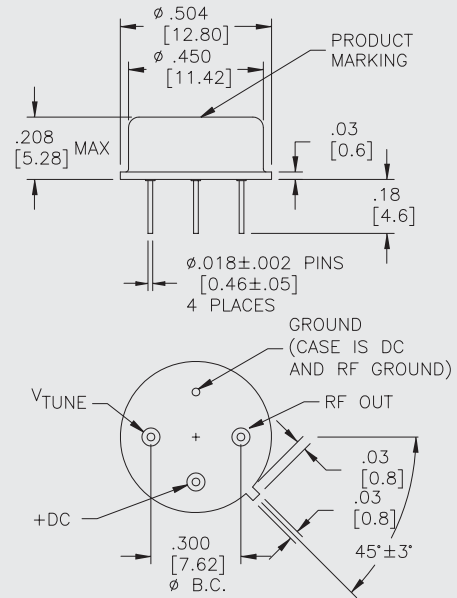
Typical Values @ +25 °C

Tuning Voltage Limits	0-20 V
Power Output	+11.5 dBm
Power Output Variation	4.0 dB
Standard Size TO-8 Package	

OC4002

OC4002

TO-8 Package for Oscillators

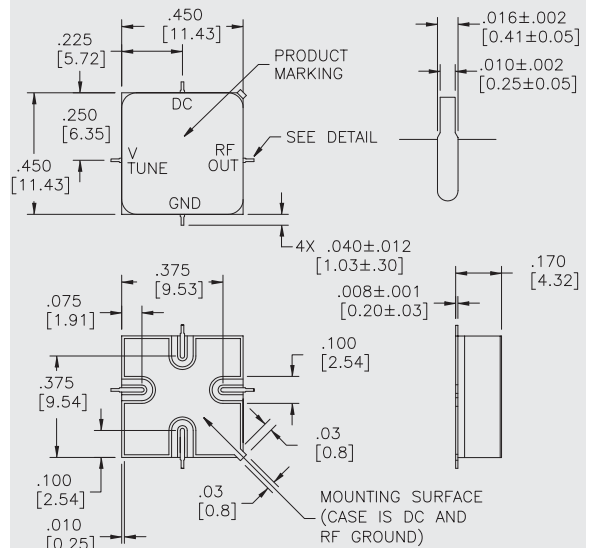


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	2000-4000 MHz	2000-4000 MHz	2000-4000 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.)	+11.5 dBm	+11.0 dBm	+10.5 dBm
Power Flatness¹ (Max.)	4.0 dB	4.6 dB	4.8 dB
Modulation Sensitivity (Min.-Max.)	43 to 267 MHz/V	43 to 270 MHz/V	43 to 270 MHz/V
Modulation Sensitivity Ratio (Max.)	6.0:1	6.0:1	6.0:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-87 dBc/Hz	-85 dBc/Hz	-85dBc/Hz
at 100 kHz offset	-106 dBc/Hz	-106dBc/Hz	-106dBc/Hz
Frequency Drift (Max.)	—	40 MHz	70 MHz
Harmonics (Max.)	-15.0 dBc	-14.0 dBc	-12.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	32 MHz	35 MHz	40 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	8 MHz/V	10 MHz/V	12 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	54 mA	55 mA	60 mA

OS4002

SMT0-8 for Oscillators



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 (θ _{jc})	+40.1 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+34.3 °C

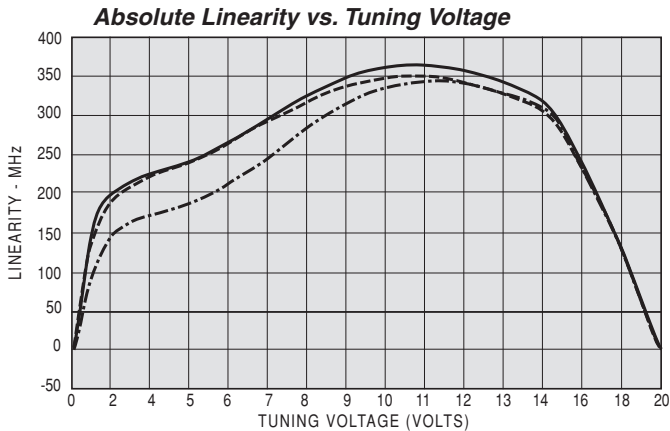
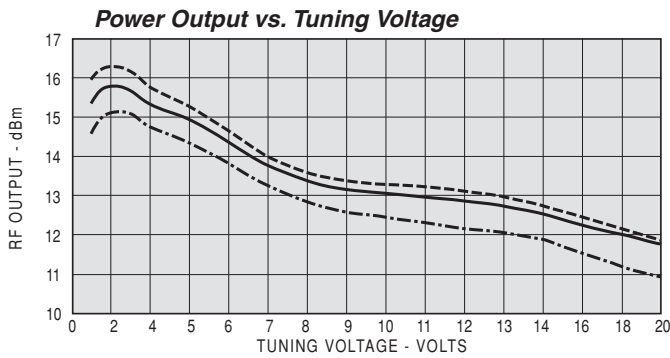
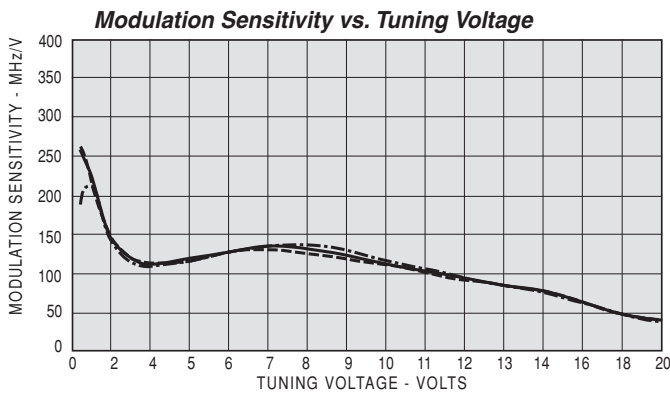
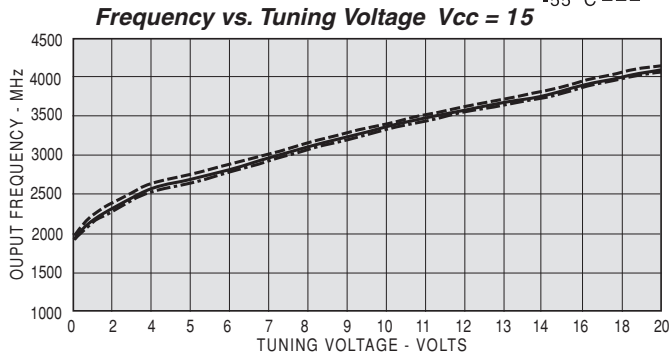
¹ Thermal resistance is based on total power dissipation. Ratings based on +25 °C.

DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

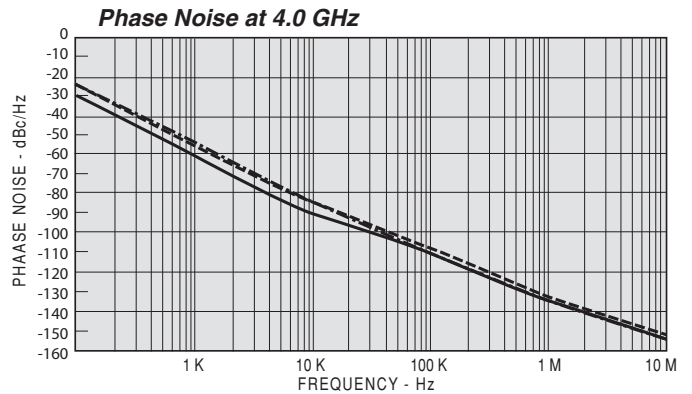
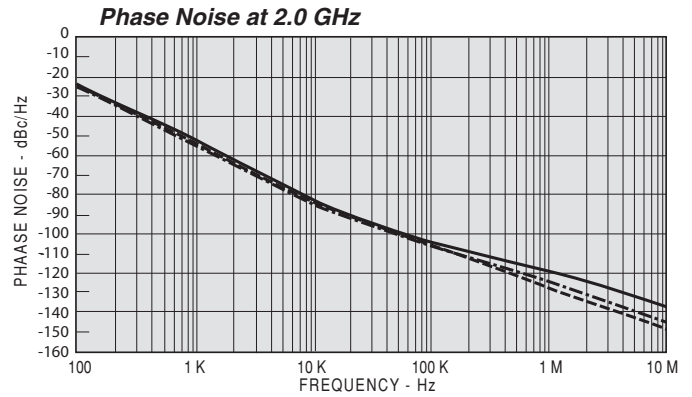
TYPICAL AUTOMATIC TEST DATA

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



Model: OC4002 Vcc= +15V Vstr mA = 45.923 Vstop mA = 46.512

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	1,902.61	11.4	0	0
1.0	2,144.50	15.16	231.91	131.06
2.0	2,311.83	15.63	152.44	187.48
3.0	2,442.95	15.58	126.71	207.79
4.0	2,565.02	15.29	121.91	218.98
5.0	2,693.03	14.89	130.76	236.17
6.0	2,829.21	14.4	137.8	261.49
7.0	2,970.45	13.85	142.04	291.89
8.0	3,110.06	13.49	138.06	320.63
9.0	3,241.49	13.3	129.07	341.22
10.0	3,363.16	13.23	119.25	352.06
11.0	3,474.15	13.16	110.22	353.57
12.0	3,578.65	13.02	102.72	347.25
13.0	3,675.34	12.85	94.24	333.07
14.0	3,763.84	12.68	86.74	310.77
15.0	3,843.60	12.47	76.81	279.6
16.0	3,912.69	12.41	66.86	237.95
17.0	3,973.58	12.34	58.99	187.9
18.0	4,027.39	12.26	52.04	130.82
19.0	4,075.26	12.16	46.55	67.92
20.0	4,118.21	12.03	41.83	0



OC4500 3200 TO 4500 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

Tuning Voltage Limits	0-15 V
Power Output	+12.0 dBm
Power Output Variation	2.0 dB
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	3100-4600 MHz	3200-4500 MHz	3200-4500 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+12.0 dBm	+10.0 dBm	+9.5 dBm
Power Flatness[^] (Max.)	2.0 dB	2.5 dB	3.0 dB
Modulation Sensitivity (Min.-Max.)	120 to 310 MHz/V	100 to 350 MHz/V	100 to 350 MHz/V
Modulation Sensitivity Ratio (Max.)	2.5:1	2.8:1	2.8:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-80 dBc/Hz	-70 dBc/Hz	-68 dBc/Hz
at 100 kHz offset	-102 dBc/Hz	-100 dBc/Hz	-98 dBc/Hz
Frequency Drift (Max.)	—	100 MHz	150 MHz
Harmonics (Max.)	-19.0 dBc	-12.0 dBc	-10.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	47.0 MHz	50.0 MHz	55.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	17.0 MHz/V	20.0 MHz/V	20.0 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	57 mA	60 mA	65 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.

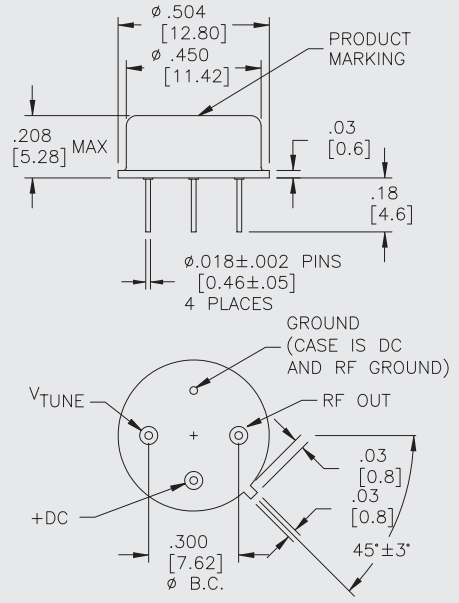
ABSOLUTE MAXIMUM RATINGS

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 Resistance¹ (θjc)	+41.6 °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.

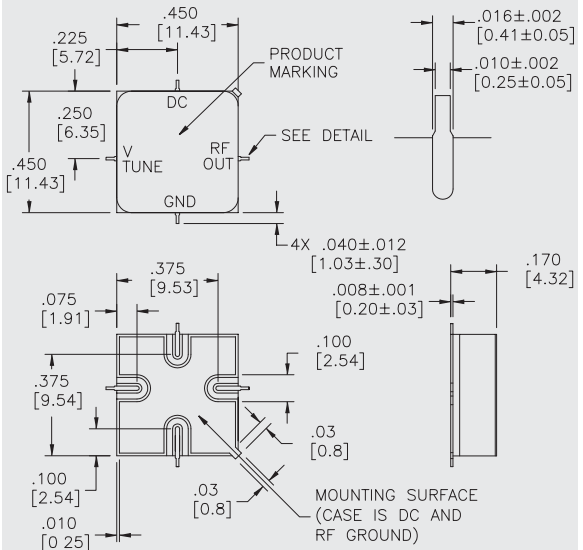
OC4500

TO-8 Package for Oscillators



OS4500

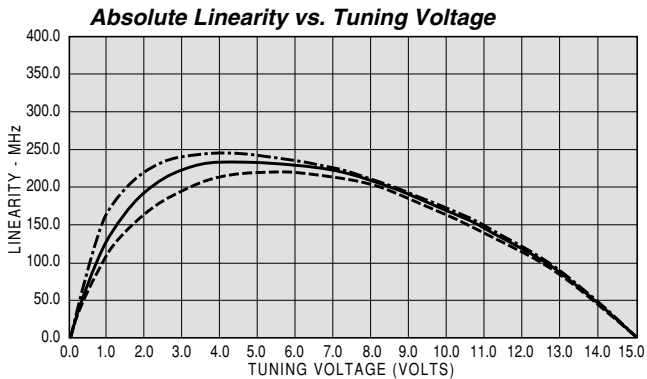
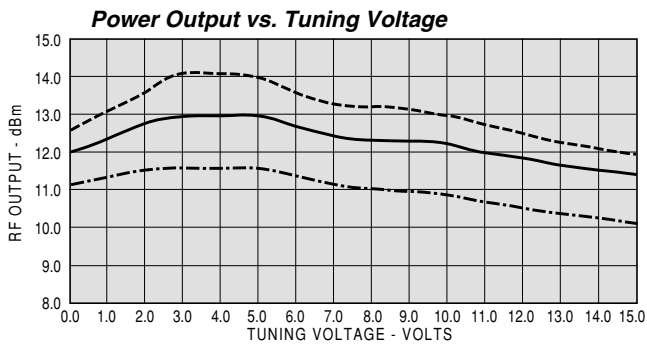
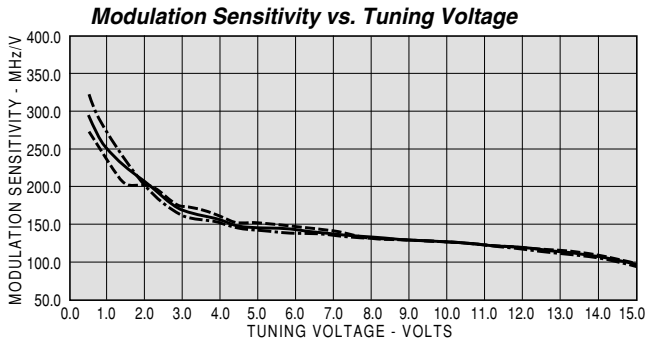
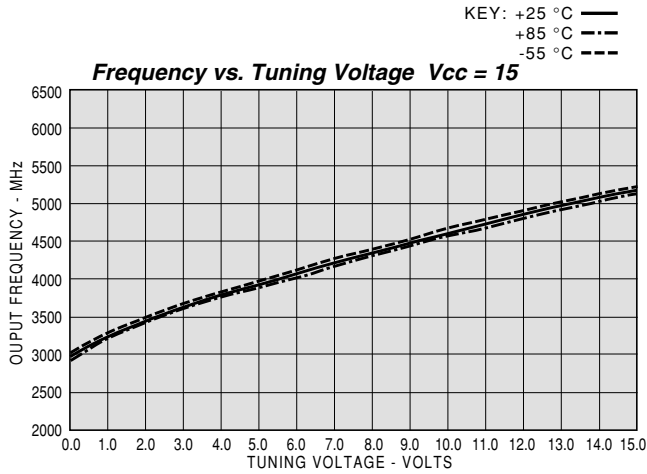
SMT0-8 for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

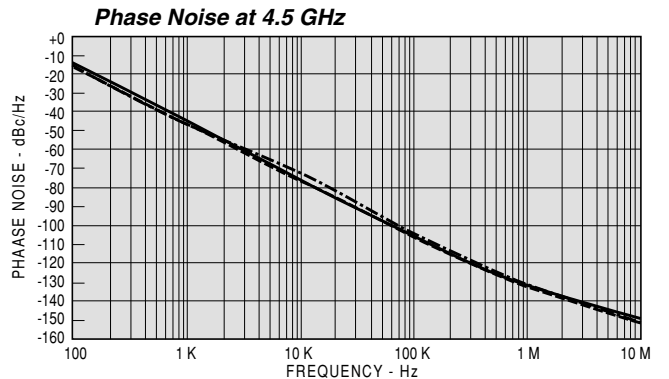
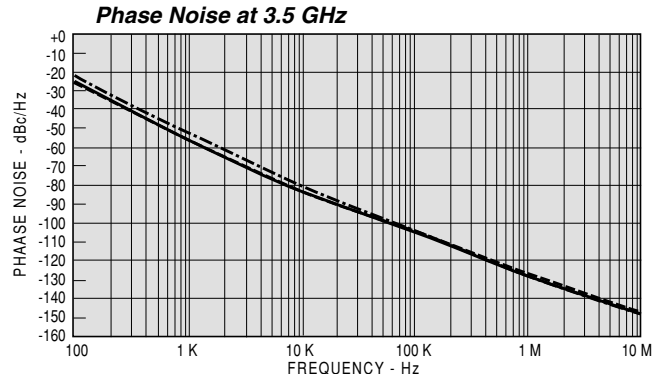
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OC4500 Vcc= +15V Vstr mA = 54.94 Vstop mA = 52.60

TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	2957.43	12.00	0.00	0.00
0.5	3103.96	12.10	294.56	72.95
1.0	3233.88	12.32	254.36	127.32
1.5	3341.92	12.59	217.66	161.95
2.0	3444.61	12.74	206.62	191.13
2.5	3537.97	12.83	188.05	211.06
3.0	3624.73	12.97	169.94	222.30
3.5	3704.86	12.99	161.68	229.13
4.0	3782.13	12.96	155.67	232.98
4.5	3855.56	13.01	147.57	232.81
5.0	3927.69	12.97	145.42	231.57
5.5	4001.71	12.85	145.08	230.13
6.0	4073.31	12.69	143.84	228.10
6.5	4143.92	12.54	142.08	225.20
7.0	4213.40	12.42	139.52	221.02
7.5	4282.85	12.33	136.17	215.04
8.0	4349.32	12.31	133.74	208.00
8.5	4414.60	12.29	131.34	199.76
9.0	4478.98	12.29	129.55	190.64
9.5	4544.35	12.28	128.13	180.55
10.0	4606.72	12.22	125.79	169.58
10.5	4668.39	12.12	124.07	157.73
11.0	4729.50	11.99	122.82	145.25
11.5	4789.78	11.91	121.44	132.11
12.0	4850.76	11.84	119.56	117.65
12.5	4909.17	11.75	117.51	102.55
13.0	4966.10	11.65	114.56	85.97
13.5	5021.77	11.57	111.79	67.98
14.0	5076.67	11.52	107.65	47.45
14.5	5127.88	11.48	102.98	25.11
15.0	5176.25	11.40	97.36	0.00



OAS5100 4300 TO 5100 MHz VOLTAGE CONTROLLED OSCILLATOR

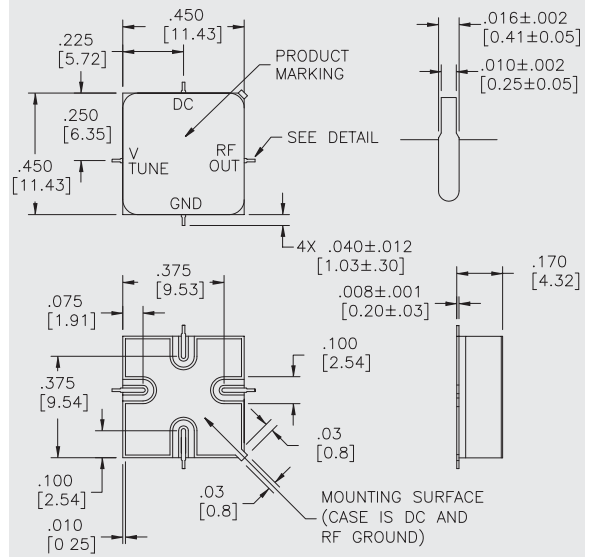
Typical Values @ +25 °C

Tuning Voltage Limits	0-15 V
Power Output	+13.0 dBm
Power Output Variation	2.0 dB
Standard Size SMTO-8 Package	

OAS5100

OAS5100

SMTO-8 Package for Oscillators

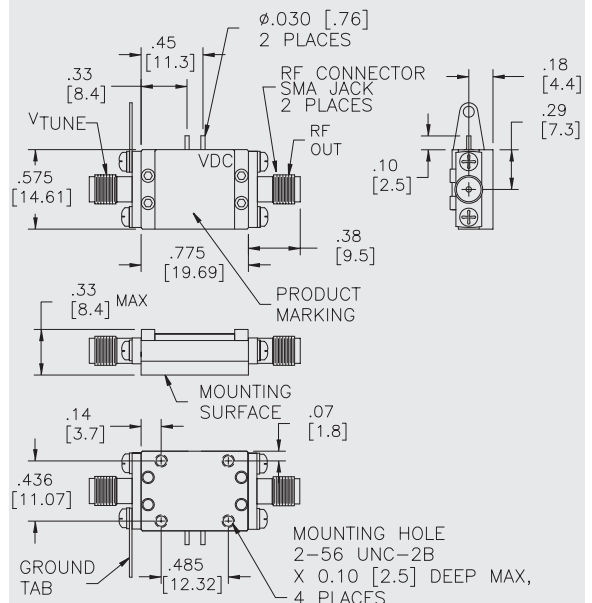


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency	4250-5200 MHz	4300-5100 MHz	4300-5100 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+13.0 dBm	+10.0 dBm	+9.0 dBm
Power Flatness[^] (Max.)	2.0 dB	2.5 dB	3.0 dB
Modulation Sensitivity (Min.-Max.)	50 to 85 MHz/V	45 to 90 MHz/V	40 to 95 MHz/V
Modulation Sensitivity Ratio (Max.)	1.5:1	1.7:1	1.7:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-84 dBc/Hz	-72 dBc/Hz	-72 dBc/Hz
at 100 kHz offset	-108 dBc/Hz	-103 dBc/Hz	-103 dBc/Hz
Frequency Drift (Max.)	—	50 MHz	100 MHz
Harmonics (Max.)	-22.0 dBc	-20.0 dBc	-20.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	0.1 MHz	0.5 MHz	0.5 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	10.0 MHz/V	20.0 MHz/V	20.0 MHz/V
Bias Voltage (Vdc)	5.0 V	5.0 V	5.0 V
DC Current (Max.)	94 mA	105 mA	105 mA

OACP5100

CougarPak® Package for Oscillators



ABSOLUTE MAXIMUM RATINGS

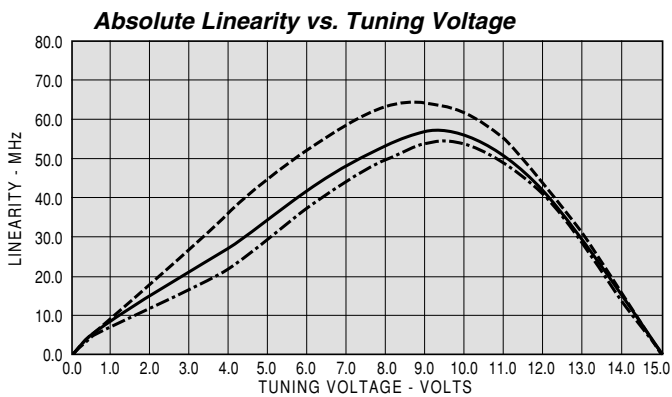
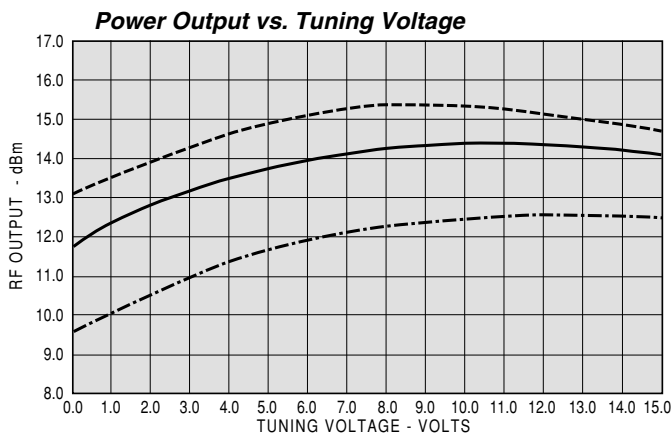
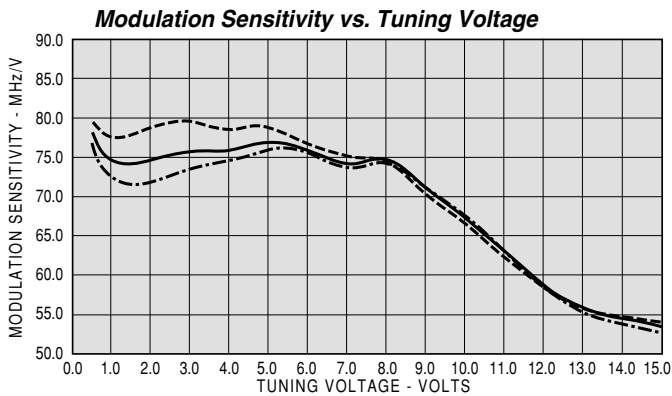
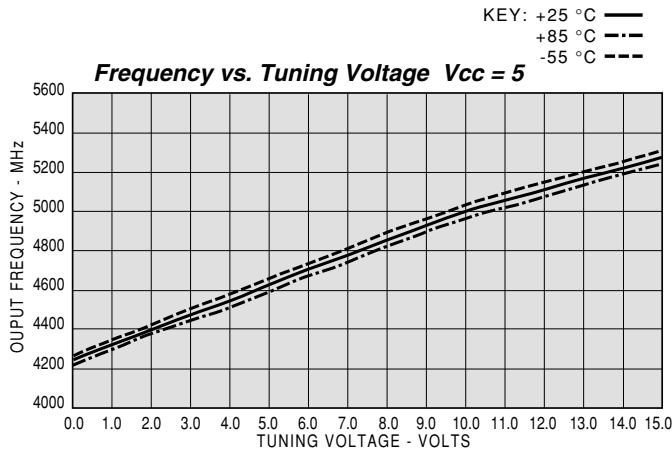
Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	125 °C
Maximum DC Voltage	+10 V
Maximum Tuning Voltage	+20 V
Burn-In Temperature	+125 °C
Thermal Resistance ¹ (θjc)	+53.8 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+8.1 °C

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

DIMENSIONS ARE IN INCHES [MILLIMETERS]

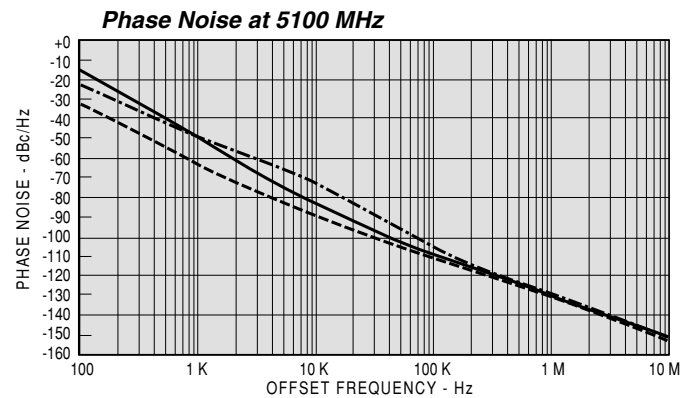
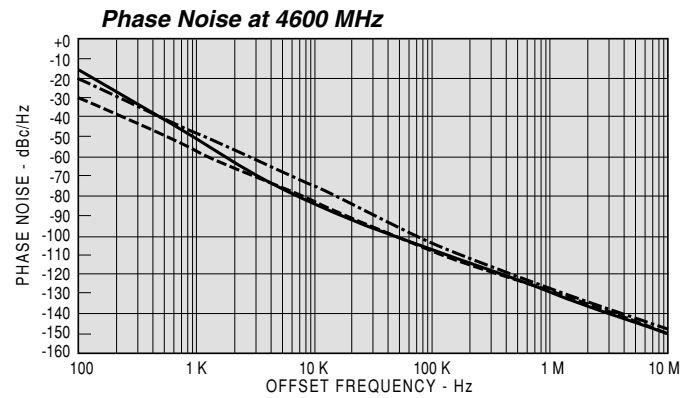
TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



TUNING VOLTAGE V	FREQ. MHz	POWER dBm	MODULATION SENSITIVITY MHz/V	LINEARITY MHz
0.0	4209.49	11.93		0.00
0.5	4251.42	12.26	84.20	6.04
1.0	4291.38	12.51	80.39	10.18
1.5	4330.97	12.74	79.72	13.99
2.0	4370.83	12.94	80.14	18.01
2.5	4411.93	13.12	80.73	22.42
3.0	4452.31	13.28	81.08	26.92
3.5	4493.00	13.43	81.46	31.61
4.0	4533.37	13.57	81.23	36.17
4.5	4573.58	13.70	80.91	40.57
5.0	4614.28	13.84	79.96	44.59
5.5	4653.41	13.98	78.57	47.83
6.0	4691.92	14.09	77.48	50.53
6.5	4729.81	14.19	76.24	52.61
7.0	4769.12	14.27	76.33	54.81
7.5	4808.30	14.30	78.99	58.25
8.0	4848.09	14.31	79.90	62.15
8.5	4886.39	14.34	77.06	64.64
9.0	4923.23	14.37	74.12	65.67
9.5	4959.89	14.37	71.74	65.50
10.0	4994.63	14.36	69.62	64.29
10.5	5028.00	14.33	67.14	61.84
11.0	5060.27	14.32	64.80	58.23
11.5	5091.30	14.29	62.56	53.52
12.0	5122.02	14.24	60.24	47.49
12.5	5151.05	14.20	58.41	40.70
13.0	5179.37	14.15	56.98	33.21
13.5	5207.32	14.10	56.12	25.28
14.0	5234.99	14.04	55.67	17.13
14.5	5263.26	13.95	55.43	8.65
15.0	5290.42	13.87	54.65	0.00

Model: OAS5100 Vcc= +5V Vstr mA = 93.81 Vstop mA = 94.7



OS5100

4300 TO 5100 MHz VOLTAGE CONTROLLED OSCILLATOR

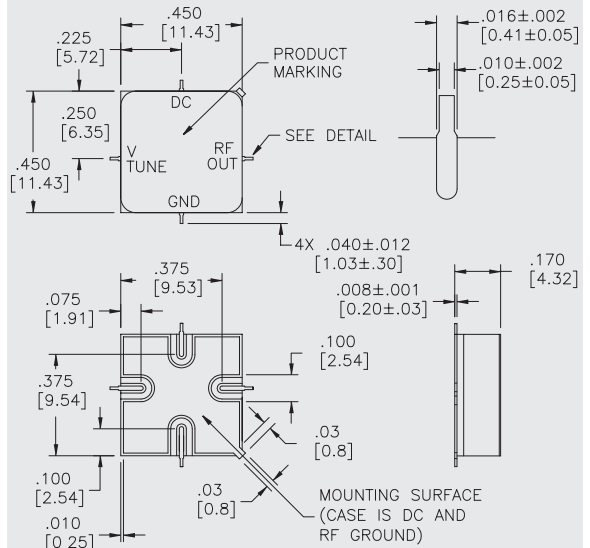
Typical Values @ +25 °C

Tuning Voltage Limits	0-15 V
Power Output	+1.0 dBm
Power Flatness	1.5 dB
Standard Size SMTO-8 Package	

OS5100

OS5100

SMTO-8 Package for Oscillators

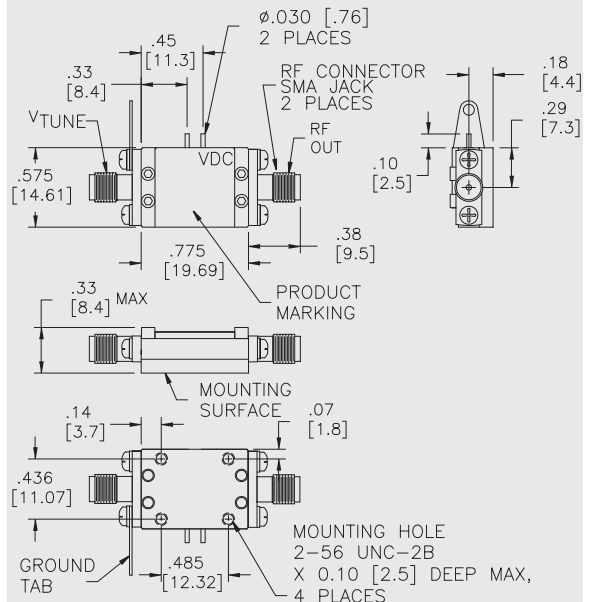


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency		4250-5200 MHz	4300-5100 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+1.0 dBm	-2.0 dBm	-2.5 dBm
Power Flatness[^] (Max.)	1.5 dB	2.0 dB	2.5 dB
Modulation Sensitivity (Min.-Max.)	50 to 85 MHz/V	45 to 90 MHz/V	40 to 95 MHz/V
Modulation Sensitivity Ratio (Max.)	1.5:1	1.7:1	1.7:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-85 dBc/Hz	-75 dBc/Hz	-75 dBc/Hz
at 100 kHz offset	-108 dBc/Hz	-103 dBc/Hz	-103 dBc/Hz
Frequency Drift (Max.)	-	50 MHz	100 MHz
Harmonics (Max.)	-12.0 dBc	-10.0 dBc	-10.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	13.0 MHz	15.0 MHz	15.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	10.0 MHz/V	20.0 MHz/V	20.0 MHz/V
Bias Voltage (Vdc)	5.0 V	5.0 V	5.0 V
DC Current (Max.)	25 mA	30 mA	30 mA

OCP5100

CougarPak® Package for Oscillators



ABSOLUTE MAXIMUM RATINGS

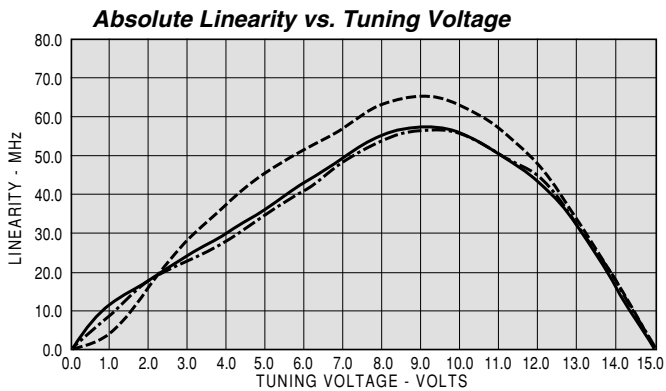
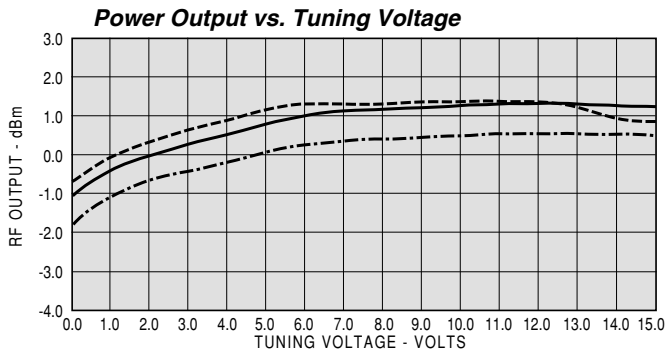
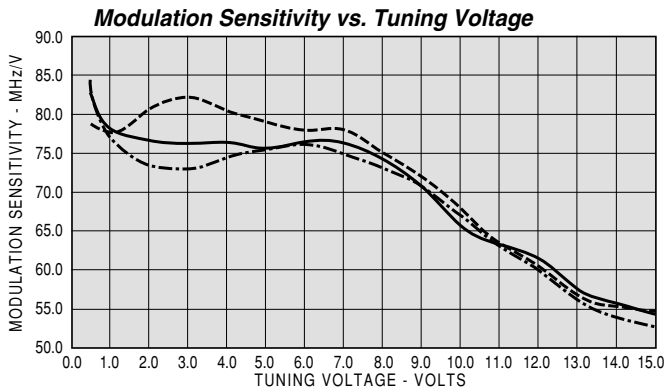
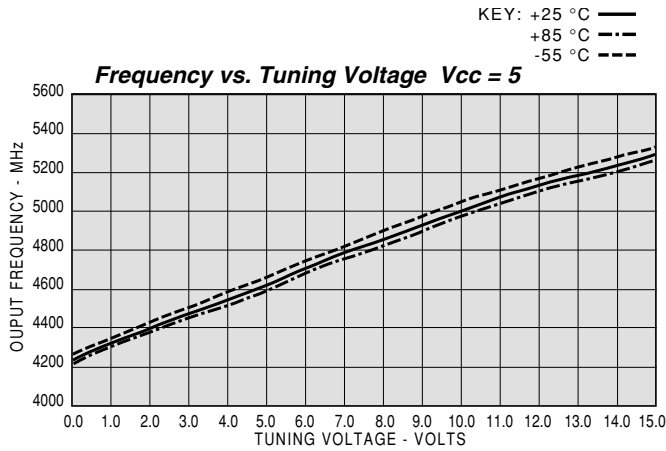
Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	125 °C
Maximum DC Voltage	+10 V
Maximum Tuning Voltage	+20 V
Burn-In Temperature	+125 °C
Thermal Resistance ¹ (θ _{jc})	+53.8 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+8.1 °C

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

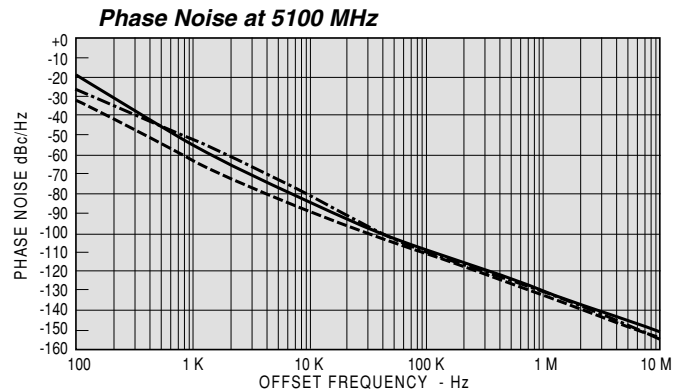
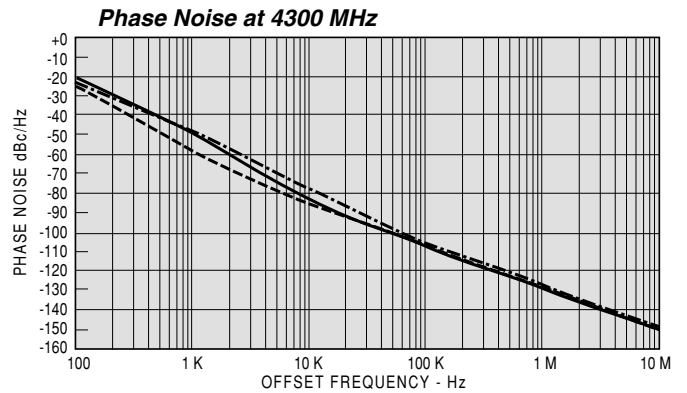
DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OS5100	Vcc= +5V	Vstr mA = 25.85	Vstop mA = 25.9
TUNING VOLTAGE	FREQ.	POWER	MODULATION SENSITIVITY
V	MHz	dBm	MHz/V
0.0	4,231	-1.13	
0.5	4,273	-0.82	83.7
1.0	4,314	-0.56	78.6
1.6	4,353	-0.38	76.6
2.1	4,393	-0.23	75.6
2.6	4,432	-0.07	75.5
3.1	4,472	0.08	75.5
3.6	4,510	0.22	75.4
4.1	4,550	0.36	75.2
4.6	4,588	0.50	74.8
5.2	4,627	0.65	74.3
5.7	4,665	0.78	74.5
6.2	4,705	0.88	76.6
6.7	4,746	0.93	80.5
7.2	4,789	0.93	82.0
7.8	4,830	0.93	80.4
8.3	4,871	0.93	78.2
8.8	4,909	0.95	76.3
9.3	4,948	0.98	74.3
9.8	4,986	1.02	72.4
10.4	5,022	1.05	70.4
10.9	5,058	1.08	68.1
11.4	5,092	1.10	65.8
11.9	5,125	1.11	63.6
12.4	5,156	1.11	61.4
12.9	5,187	1.10	59.7
13.5	5,217	1.08	58.3
14.0	5,247	1.05	57.7
14.5	5,276	1.03	57.1
15.0	5,306	1.01	56.8
			LINEARITY
			MHz
			0.0
			6.1
			9.7
			12.2
			14.5
			16.4
			17.9
			20.0
			22.1
			23.6
			24.4
			25.8
			28.6
			33.4
			38.4
			42.8
			46.4
			48.7
			50.3
			50.2
			46.2
			45.9
			43.7
			41.0
			36.5
			31.9
			18.5
			12.9
			6.2
			0.0



OAS6500 5000 TO 6500 MHz VOLTAGE CONTROLLED OSCILLATOR

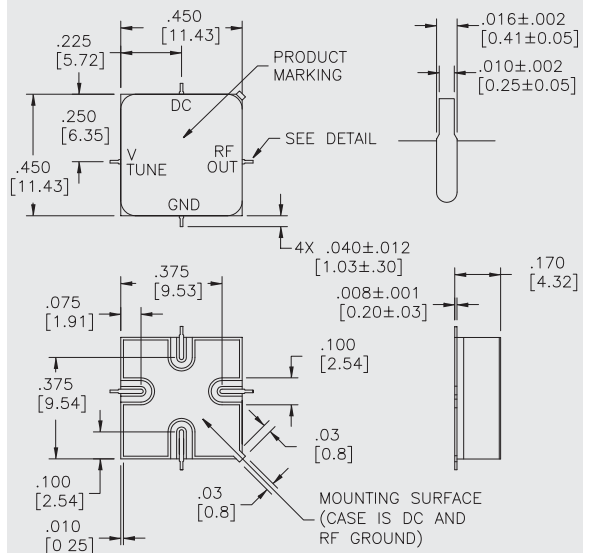
Typical Values @ +25 °C

Tuning Voltage Limits	0-15 V
Power Output	+13.0 dBm
Power Output Variation	2.0 dB
Standard Size SMT0-8 Package	

OAS6500

OAS6500

SMT0-8 Package for Oscillators

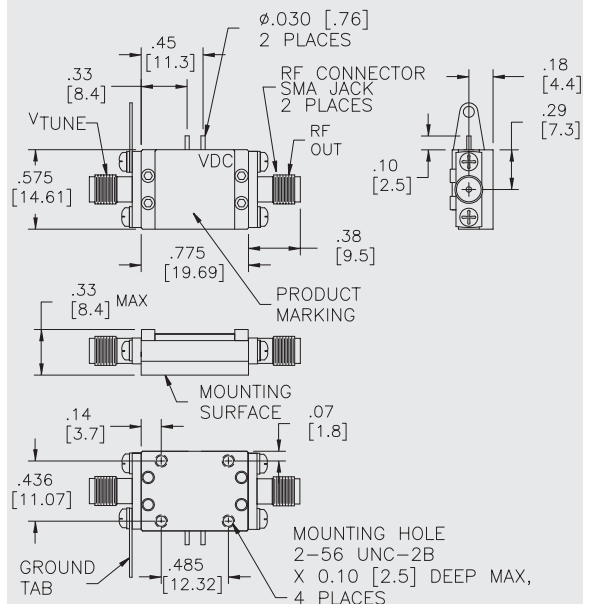


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency		4900-6600 MHz	5000-6500 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+13.0 dBm	+10.0 dBm	+9.0 dBm
Power Flatness* (Min.)	2.0 dB	2.5 dB	3.0 dB
Modulation Sensitivity (Min.-Max.)	80 to 160 MHz/V	70 to 175 MHz/V	70 to 175 MHz/V
Modulation Sensitivity Ratio (Max.)	1.7:1	1.9:1	2.1:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-80 dBc/Hz	-70 dBc/Hz	-68 dBc/Hz
at 100 kHz offset	-102 dBc/Hz	-100 dBc/Hz	-98 dBc/Hz
Frequency Drift (Max.)	—	100 MHz	150 MHz
Harmonics (Max.)	-25.0 dBc	-20.0 dBc	-20.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	0.35 MHz	0.5 MHz	0.5 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	8.0 MHz/V	10.0 MHz/V	10.0 MHz/V
Bias Voltage (Vdc)	5.0 V	5.0 V	5.0 V
DC Current (Max.)	94 mA	105 mA	105 mA

OACP6500

CougarPak® Package for Oscillators



DIMENSIONS ARE IN INCHES [MILLIMETERS]

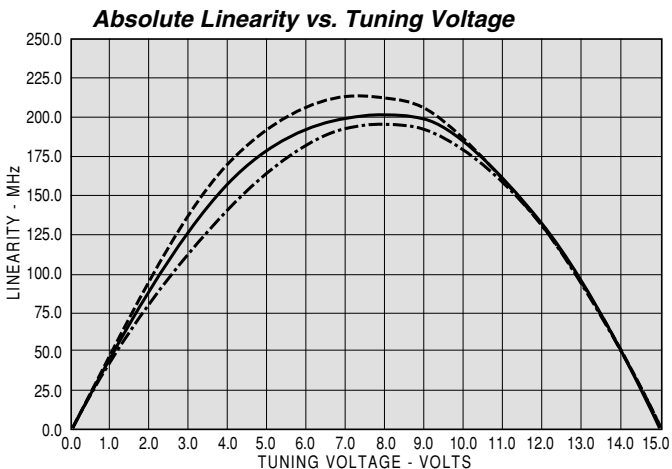
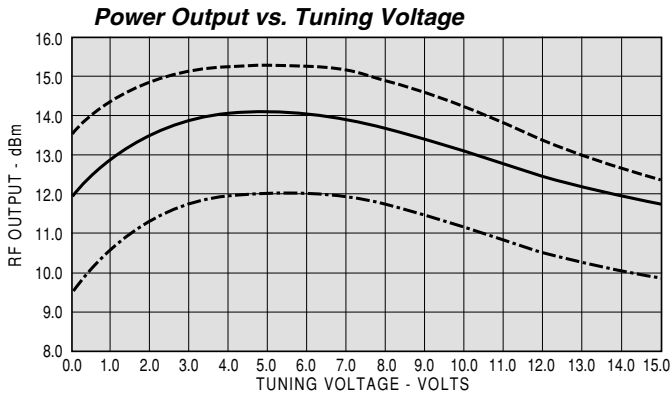
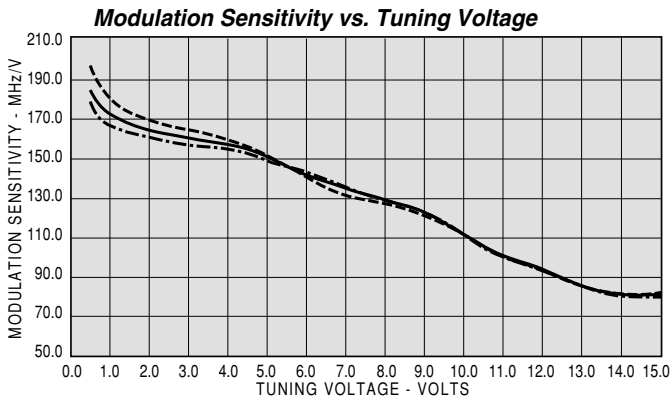
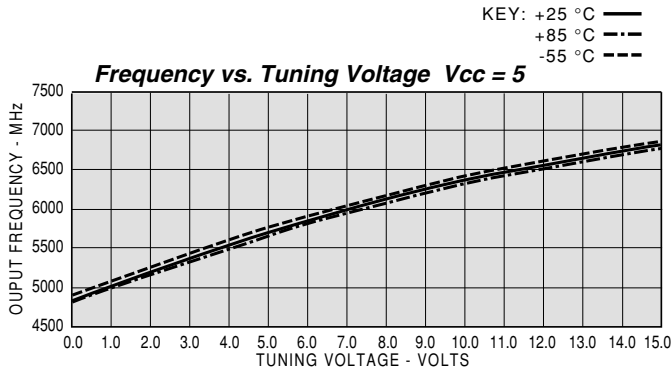
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 °C to +125 °C
Maximum Case Temperature	125 °C
Maximum DC Voltage	+10 V
Maximum Tuning Voltage	+20 V
Burn-In Temperature	+125 °C
Thermal Resistance¹ (θ_{jc})	+53.8 °C/Watt
Junction Temperature Rise Above Case (T_{jc})	+8.1 °C

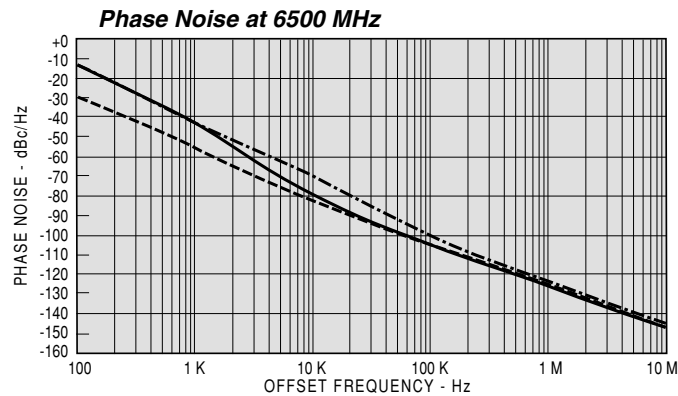
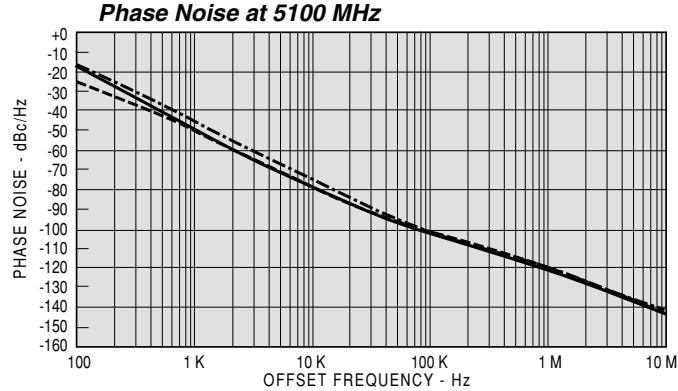
¹ Thermal resistance is based on total power dissipation. Ratings based on +25 °C.

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



OS6500

5000 TO 6500 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

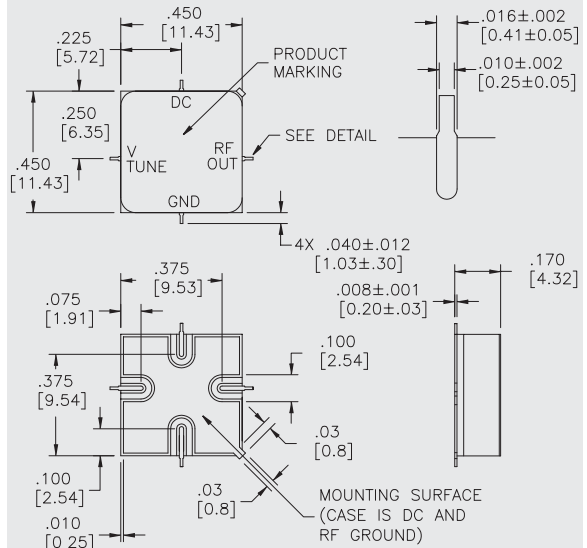
Tuning Voltage Limits
Power Output
Power Flatness
Standard Size SMTO-8 Package

OS6500

0-15 V
+1.0 dBm
2.0 dB

OS6500

SMTO-8 Package for Oscillators



SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency		4900-6600 MHz	5000-6500 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+1.0 dBm	-2.0 dBm	-3.0 dBm
Power Flatness[^] (Min.)	2.0 dB	2.5 dB	3.0 dB
Modulation Sensitivity (Min.-Max.)	80 to 160 MHz/V	70 to 180 MHz/V	70 to 185 MHz/V
Modulation Sensitivity Ratio (Max.)	1.7:1	1.9:1	2.1:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-80 dBc/Hz	-70 dBc/Hz	-68 dBc/Hz
at 100 kHz offset	-102 dBc/Hz	-100 dBc/Hz	-98 dBc/Hz
Frequency Drift (Max.)	-	100 MHz	150 MHz
Harmonics (Max.)	-17.0 dBc	-12.0 dBc	-10.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	15.0 MHz	20.0 MHz	20.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	15.0 MHz/V	20.0 MHz/V	20.0 MHz/V
Bias Voltage (Vdc)	5.0 V	5.0 V	5.0 V
DC Current (Max.)	26 mA	30 mA	30 mA

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

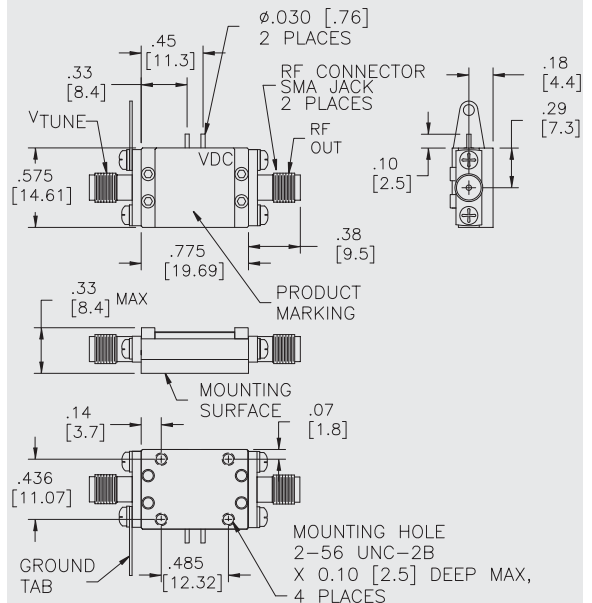
ABSOLUTE MAXIMUM RATINGS

Storage Temperature -62 °C to +125 °C
Maximum Case Temperature 125 °C
Maximum DC Voltage +10 V
Maximum Tuning Voltage +20 V
Burn-In Temperature +125 °C
Thermal Resistance¹ (θjc) +53.8 °C/Watt
Junction Temperature Rise Above Case (Tjc) +8.1 °C

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

OCP6500

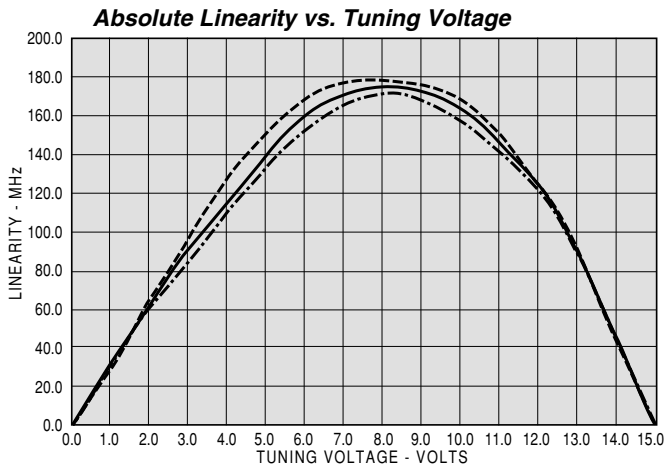
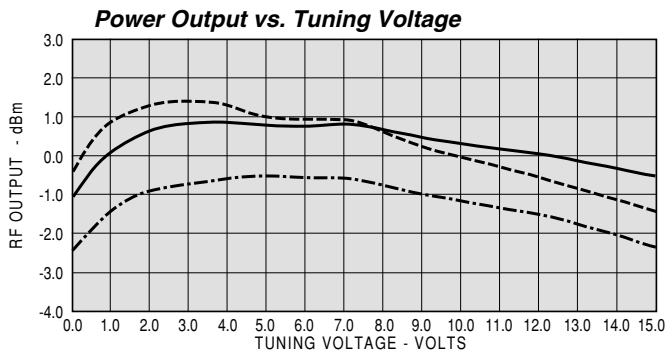
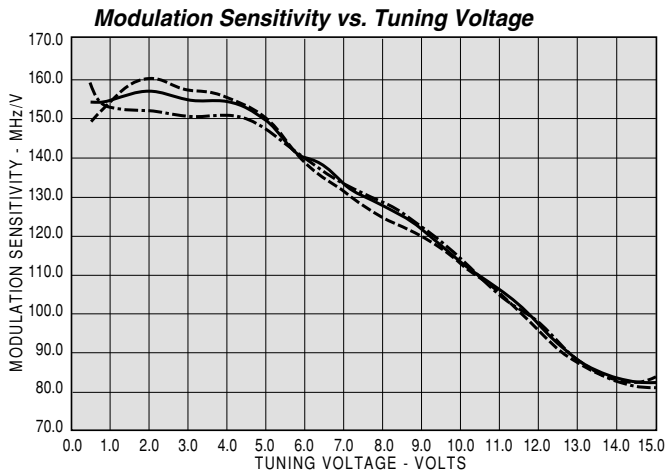
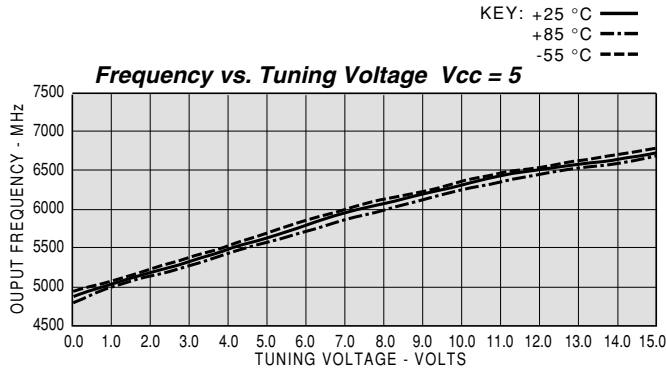
CougarPak® Package for Oscillators



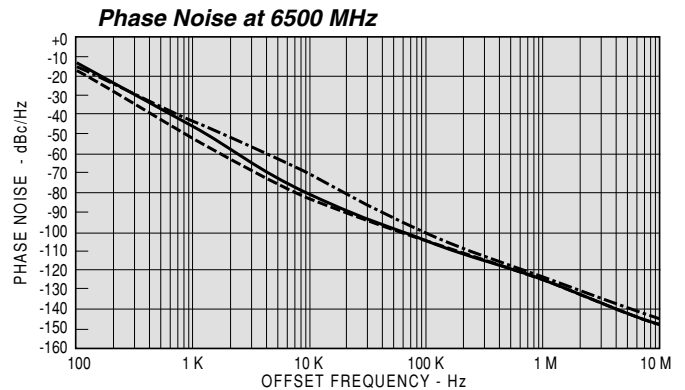
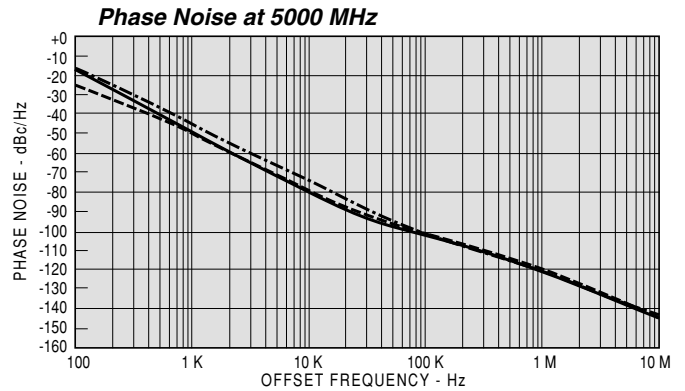
DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OS6500	Vcc= +5V	Vstr mA = 27.55	Vstop mA = 27.3	
TUNING VOLTAGE	FREQ.	POWER	MODULATION SENSITIVITY	
V	MHz	dBm	MHz/V	
			LINEARITY	
			MHz	
0.0	4,873	-0.60		0.0
0.5	4,955	-0.02	162.2	18.0
1.0	5,039	0.43	160.7	35.6
1.6	5,122	0.75	160.9	53.0
2.1	5,205	0.96	159.6	70.1
2.6	5,285	1.10	157.4	85.6
3.1	5,367	1.21	156.6	101.1
3.6	5,448	1.29	156.8	116.4
4.1	5,530	1.33	156.7	132.0
4.7	5,608	1.30	154.2	145.9
5.2	5,687	1.24	150.1	158.1
5.7	5,760	1.25	143.8	166.7
6.2	5,832	1.33	137.8	172.4
6.7	5,902	1.37	135.1	176.6
7.2	5,972	1.34	133.6	180.1
7.8	6,039	1.24	131.2	182.2
8.3	6,106	1.10	127.9	182.7
8.8	6,169	1.00	124.3	181.4
9.3	6,232	0.94	120.6	178.1
9.8	6,293	0.90	116.8	172.7
10.4	6,351	0.86	112.8	165.5
10.9	6,408	0.80	108.1	155.6
11.4	6,460	0.72	103.0	143.5
11.9	6,511	0.62	97.2	127.9
12.4	6,558	0.50	92.4	110.3
12.9	6,604	0.41	87.9	89.8
13.5	6,647	0.34	85.0	68.5
14.0	6,691	0.25	83.2	45.5
14.5	6,733	0.16	82.7	23.0
15.0	6,777	0.07	83.1	0.0



OS8900

6900 TO 8900 MHz VOLTAGE CONTROLLED OSCILLATOR

Typical Values @ +25 °C

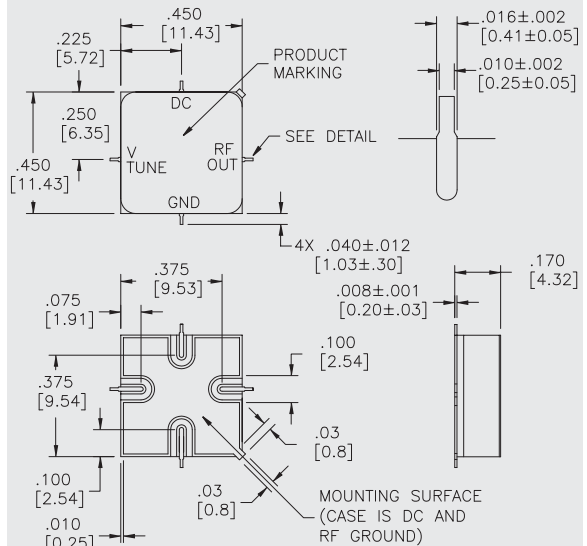
Tuning Voltage Limits
Power Output
Power Flatness
Standard Size SMTO-8 Package

OS8900

0-15 V
+1.0 dBm
2.0 dB

OS8900

SMTO-8 Package for Oscillators



SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency		6800-9100 MHz	6900-8900 MHz
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	15 V	15 V	15 V
Power Output (Min.)	+1.0 dBm	-2.0 dBm	-3.0 dBm
Power Flatness[^] (Max.)	2.0 dB	3.0 dB	3.5 dB
Modulation Sensitivity (Min.-Max.)	100 to 270 MHz/V	80 to 300 MHz/V	70 to 310 MHz/V
Modulation Sensitivity Ratio (Max.)	2.75:1	3.3:1	3.5:1
SSB Phase Noise (Max.)			
at 10 kHz offset	-70 dBc/Hz	-60 dBc/Hz	-60 dBc/Hz
at 100 kHz offset	-95 dBc/Hz	-92 dBc/Hz	-92 dBc/Hz
Frequency Drift (Max.)	-	100 MHz	200 MHz
Harmonics (Max.)	-25.0 dBc	-20.0 dBc	-20.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	47.0 MHz	55.0 MHz	60.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	21.0 MHz/V	25.0 MHz/V	30.0 MHz/V
Bias Voltage (Vdc)	5.0 V	5.0 V	5.0 V
DC Current (Max.)	24 mA	30 mA	30 mA

* Specifications are measured in 50-ohm system at +5 Volts bias unless otherwise specified.

[^] Power Flatness is defined as power variation over frequency band at any given temperature.

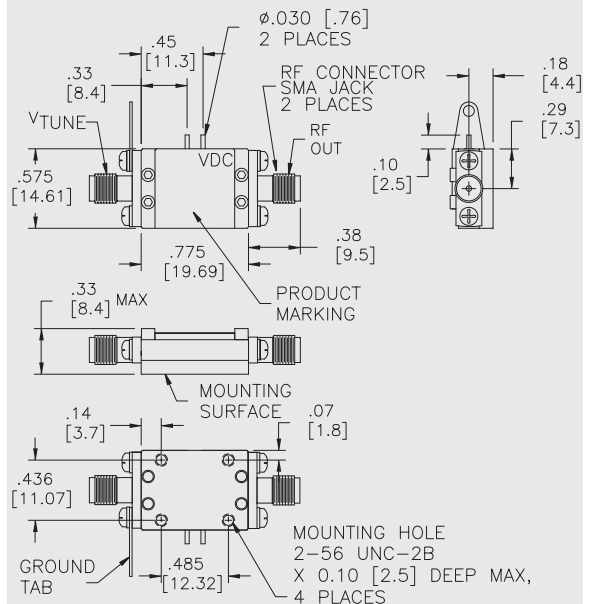
ABSOLUTE MAXIMUM RATINGS

Storage Temperature -62 °C to +125 °C
Maximum Case Temperature +125 °C
Maximum DC Voltage +10 V
Maximum Tuning Voltage +20 V
Burn-In Temperature +125 °C
Thermal Resistance¹ (θjc) +53.8 °C/Watt
Junction Temperature Rise Above Case (Tjc) +8.1 °C

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

OCP8900

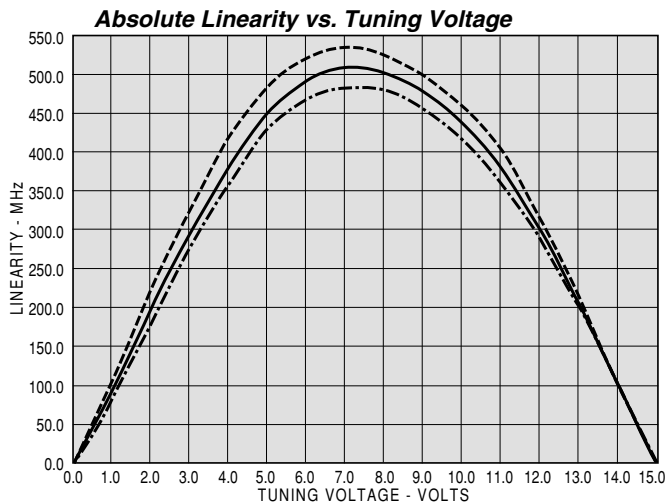
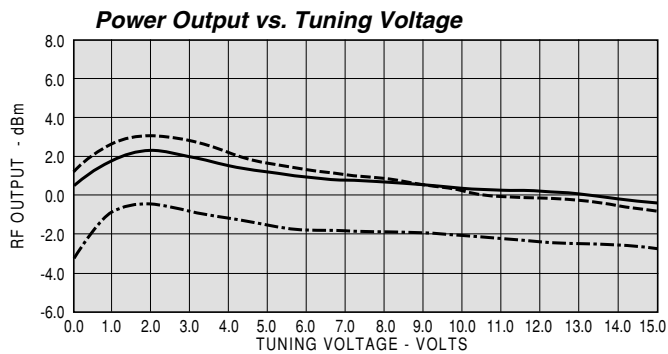
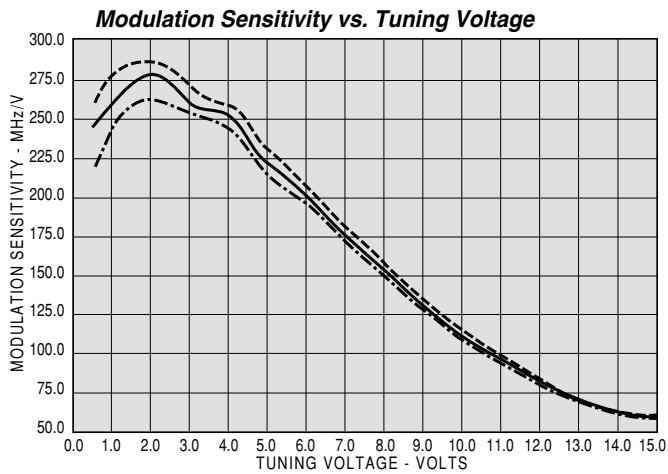
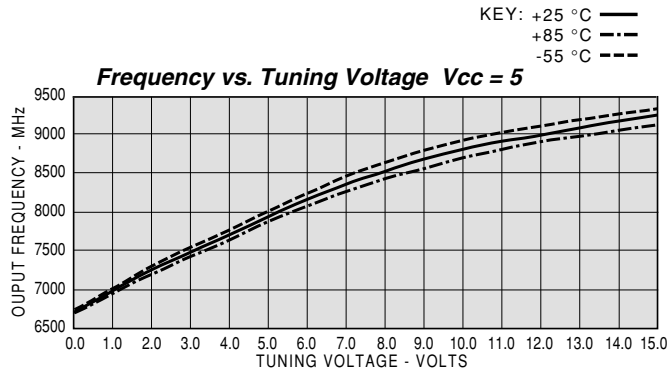
CougarPak® Package for Oscillators



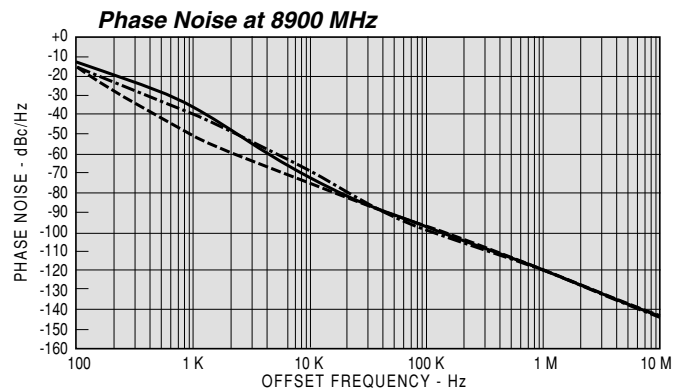
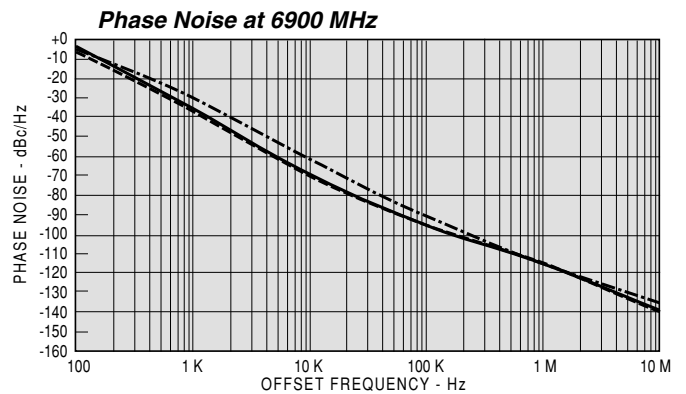
DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: OS8900	Vcc= +5V	Vstr mA = 24.13	Vstop mA = 24.1
TUNING VOLTAGE	FREQ.	POWER	MODULATION SENSITIVITY
V	MHz	dBm	MHz/V
0.0	6,794	0.31	
0.5	6,930	1.21	266.3
1.0	7,072	1.60	271.2
1.6	7,210	1.76	270.4
2.1	7,352	1.83	270.9
2.6	7,486	1.77	263.4
3.1	7,622	1.68	259.0
3.6	7,749	1.61	247.5
4.1	7,872	1.61	235.6
4.7	7,987	1.46	226.5
5.2	8,098	1.31	211.5
5.7	8,199	1.24	198.2
6.2	8,297	1.21	186.5
6.7	8,387	1.10	176.0
7.2	8,473	0.93	163.3
7.8	8,549	0.78	149.9
8.3	8,622	0.67	138.8
8.8	8,688	0.57	129.7
9.3	8,751	0.47	120.6
9.8	8,809	0.36	111.5
10.4	8,862	0.25	102.3
10.9	8,910	0.16	92.7
11.4	8,953	0.08	84.1
11.9	8,993	0.00	76.0
12.4	9,028	-0.10	68.9
12.9	9,062	-0.23	64.3
13.5	9,093	-0.37	61.4
14.0	9,123	-0.49	57.9
14.5	9,152	-0.61	55.7
15.0	9,180	-0.73	53.0
			LINEARITY
			MHz
			0.0
			54.8
			113.4
			170.3
			228.8
			282.1
			334.3
			379.7
			419.9
			454.2
			481.7
			501.7
			516.1
			524.8
			527.0
			522.4
			511.8
			496.8
			476.7
			451.9
			422.8
			388.1
			349.8
			306.5
			260.4
			210.8
			161.1
			108.1
			55.6
			0.0



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
Tuning Voltage Limits			
Tuning Voltage at low end	0 V	0 V	0 V
Tuning voltage at high end	-12 V	-12 V	-12 V
Power Output (Min.)	+17.0 dBm	+12.5 dBm	+12.0 dBm
Power Flatness[^] (Max.)	5.5 dB	6.0 dB	6.0 dB
Modulation Sensitivity (Min.-Max.)	280 to 630 MHz/V	200 to 750 MHz/V	200 to 750 MHz/V
Modulation Sensitivity Ratio (Max.)	2.0:1	2.5:1	2.5:1
SSB Phase Noise (Max.)			
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
Frequency Drift (Max.)	-	200 MHz	300 MHz
Fractional/Integer Harmonics (Max.)	-35.0/-40.0 dBc	-25.0/-30.0 dBc	-25.0/-30.0 dBc
Spurious (Max.)	-60.0 dBc	-60.0 dBc	-60.0 dBc
Frequency Pulling (Max.)			
Load VSWR = 1.67:1	0.5 MHz	1.0 MHz	1.0 MHz
Frequency Pushing (Max.)			
Vdc ± 0.5 V	0.1 MHz/V	0.3 MHz/V	0.3 MHz/V
Bias Voltage (Vdc)	15.0 V	15.0 V	15.0 V
DC Current (Max.)	220 mA	250 mA	250 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.

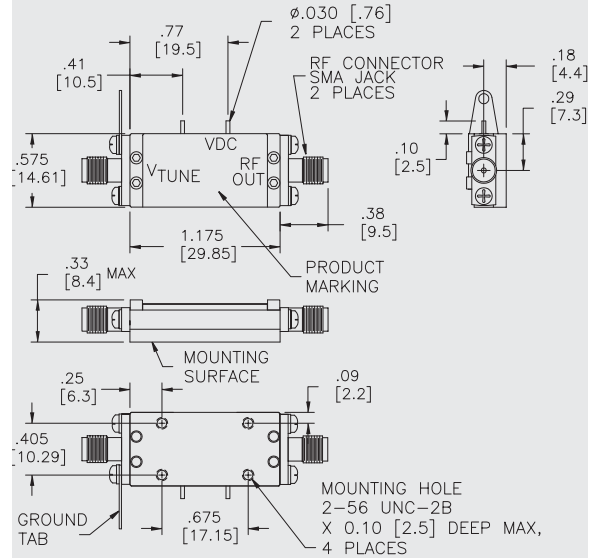
ABSOLUTE MAXIMUM RATINGS

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

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

OA2CP12001

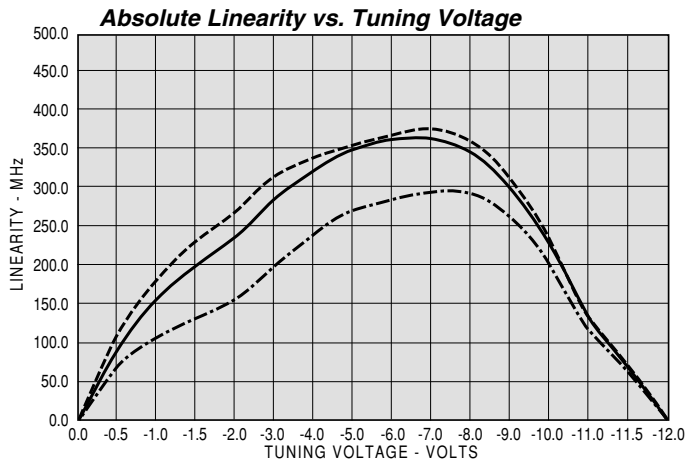
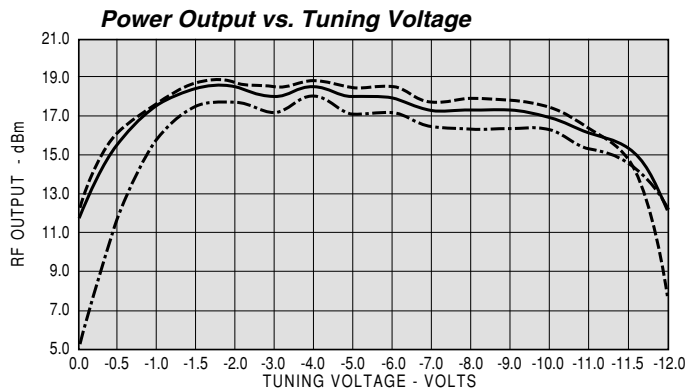
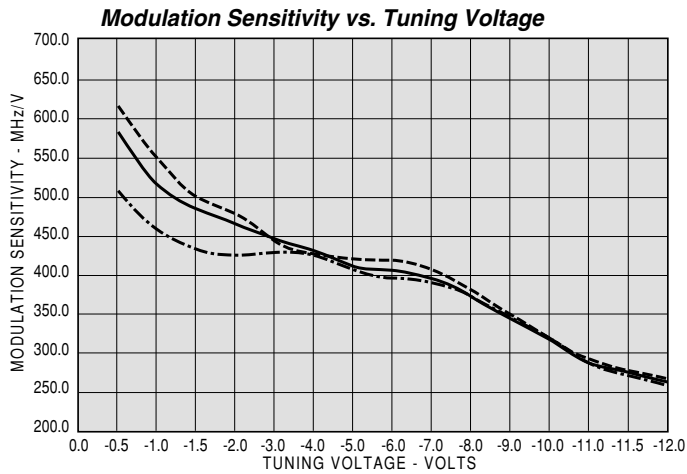
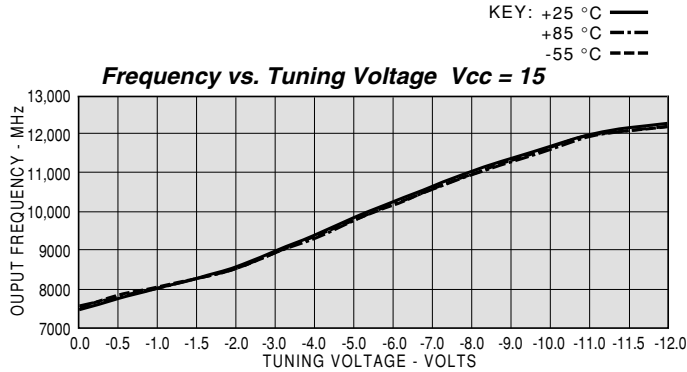
CougarPak® SMA Package for Oscillators (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



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

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

