

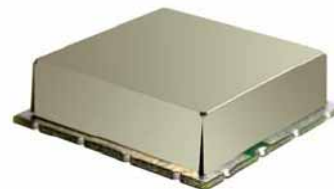
Engineering Development Model

Voltage Controlled Oscillator

ROSA-ED9946/1

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : 99-01-481

ELECTRICAL SPECIFICATIONS 50Ω				
Parameter	Min.	Typ.	Max.	Units
Frequency	1835		1837	MHz
Tuning Voltage	1.5		9.5	V
Power Output		4.3		dBm
Phase Noise				
at 1 kHz offset		-88		dBc/Hz
at 10 KHz offset		-112		dBc/Hz
at 100 KHz offset		-132		dBc/Hz
at 1000 kHz offset		-152		dBc/Hz
Pulling at 12 dBm PK-PK all phases		1.2		MHz
Pushing at Vcc ± 5%		.5		MHz/V
Tuning Sensitivity		2-3		MHz/V
Harmonic Suppression		-27		dBc
3 dB Modulation Bandwidth		2,800		kHz
Supply Voltage		11		V
Supply Current			40	mA

MAXIMUM RATINGS	
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Supply Voltage (Vcc)	+12V
Absolute Tuning Voltage (Vtune)	+11.5V

PIN CONNECTIONS	
RF OUT	1
VCC	4
V-TUNE	16
GROUND	2,3,5,6,7,8,9,10,11,12,13,14,15



P.O. Box 350188, Brooklyn, New York 11235-0000 (718) 934-4500 Fax (718) 332-4851 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINICIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS



REV. X1
ROSA-ED9946/1
12/17/2008
Page 1 of 1

Voltage Controlled Oscillator

ROSA-ED9946/1

Typical Performance Data

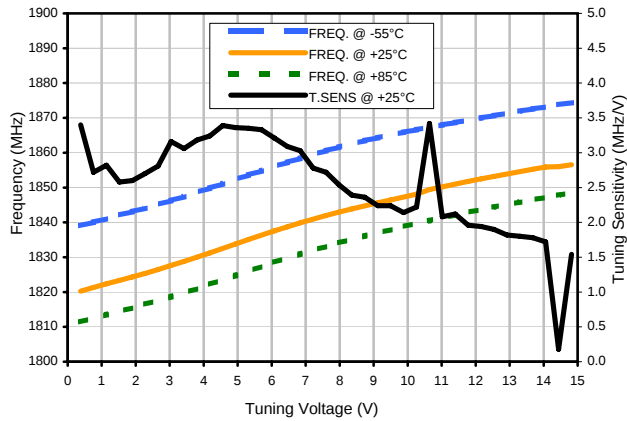
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ OFFSET (KHz)	PHASE NOISE (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C	F2	F3	F4			
0.4	3.40	1839.0	1820.3	1811.5	5.16	3.95	4.06	-27.0	-43.2	-34.7	0.44	1	-88
0.8	2.72	1840.1	1821.3	1812.5	5.20	3.98	4.04	-27.0	-44.0	-34.2	0.45	10	-112
1.1	2.82	1841.1	1822.4	1813.5	5.23	4.03	4.06	-27.1	-43.7	-33.8	0.43	100	-132
1.5	2.58	1842.1	1823.4	1814.5	5.26	4.01	4.09	-27.1	-44.5	-33.6	0.45	1000	-150
1.9	2.60	1843.1	1824.3	1815.5	5.29	4.03	4.11	-27.1	-43.9	-33.6	0.44		
2.3	2.70	1844.1	1825.4	1816.5	5.33	4.06	4.14	-27.3	-45.0	-33.3	0.46		
2.7	2.81	1845.1	1826.4	1817.6	5.36	4.10	4.13	-27.2	-44.7	-33.3	0.50		
3.0	3.16	1846.3	1827.6	1818.7	5.39	4.13	4.15	-27.5	-44.2	-32.5	0.46		
3.4	3.06	1847.4	1828.8	1819.8	5.41	4.15	4.17	-27.6	-44.6	-31.8	0.48		
3.8	3.18	1848.6	1830.0	1821.0	5.44	4.18	4.20	-27.6	-44.9	-31.6	0.46		
4.2	3.24	1849.8	1831.2	1822.2	5.47	4.20	4.23	-27.8	-44.1	-32.4	0.46		
4.6	3.39	1851.1	1832.5	1823.5	5.48	4.20	4.22	-27.5	-43.5	-32.3	0.46		
4.9	3.36	1852.3	1833.8	1824.8	5.49	4.22	4.25	-27.7	-43.5	-32.3	0.48		
5.3	3.35	1853.6	1835.1	1826.0	5.50	4.23	4.27	-27.6	-43.2	-32.4	0.46		
5.7	3.33	1854.8	1836.3	1827.3	5.50	4.24	4.30	-27.6	-44.7	-31.9	0.46		
6.1	3.21	1856.1	1837.6	1828.6	5.49	4.23	4.28	-27.2	-42.8	-32.4	0.48		
6.5	3.09	1857.3	1838.7	1829.8	5.48	4.23	4.30	-27.5	-42.8	-32.0	0.48		
6.8	3.03	1858.4	1839.9	1830.9	5.49	4.24	4.32	-27.2	-42.9	-31.5	0.48		
7.2	2.78	1859.5	1840.9	1832.0	5.47	4.24	4.33	-27.1	-42.4	-31.4	0.50		
7.6	2.72	1860.6	1842.0	1833.1	5.45	4.25	4.33	-27.1	-43.0	-31.9	0.50		
8.0	2.54	1861.6	1842.9	1834.1	5.42	4.25	4.35	-26.7	-42.9	-31.9	0.52		
8.4	2.39	1862.6	1843.9	1835.1	5.41	4.26	4.37	-26.8	-42.9	-31.6	0.52		
8.7	2.36	1863.5	1844.7	1836.1	5.39	4.28	4.39	-26.8	-42.7	-31.3	0.52		
9.1	2.24	1864.3	1845.6	1837.0	5.38	4.30	4.42	-26.8	-41.6	-31.2	0.54		
9.5	2.24	1865.1	1846.4	1837.9	5.37	4.33	4.43	-26.7	-43.5	-31.3	0.54		
9.9	2.14	1865.9	1847.3	1838.8	5.38	4.35	4.45	-26.7	-43.3	-31.0	0.55		
10.3	2.22	1866.6	1848.1	1839.7	5.40	4.59	4.48	-26.6	-43.8	-30.2	0.58		
10.6	3.42	1867.3	1849.4	1840.5	5.44	4.69	4.50	-26.7	-43.1	-29.5	0.57		
11.0	2.08	1868.0	1850.2	1841.3	5.52	4.65	4.52	-26.8	-43.8	-29.5	0.61		
11.4	2.12	1868.7	1851.0	1842.1	5.56	4.79	4.55	-26.8	-43.7	-29.4	0.59		
11.8	1.96	1869.3	1851.7	1842.9	5.61	4.82	4.58	-27.0	-44.6	-29.6	0.61		
12.2	1.94	1870.0	1852.5	1843.7	5.66	4.85	4.61	-27.1	-45.7	-29.2	0.59		
12.5	1.90	1870.7	1853.2	1844.4	5.71	4.89	4.63	-27.3	-45.2	-29.0	0.62		
12.9	1.82	1871.3	1853.9	1845.1	5.76	4.92	4.65	-27.3	-45.8	-29.1	0.62		
13.3	1.80	1872.0	1854.6	1845.8	5.81	4.95	4.68	-27.5	-46.2	-28.9	0.63		
13.7	1.78	1872.6	1855.3	1846.5	5.90	4.98	4.70	-27.6	-46.1	-29.2	0.11		
14.1	1.72	1873.2	1855.9	1847.2	5.94	4.70	4.72	-27.5	-46.4	-29.4	0.62		
14.4	0.18	1873.8	1856.0	1847.8	5.98	4.74	4.76	-27.7	-47.6	-29.4	0.63		
14.8	1.54	1874.4	1856.6	1848.4	6.02	5.05	4.78	-27.5	-48.5	-28.9	0.63		

Voltage Controlled Oscillator

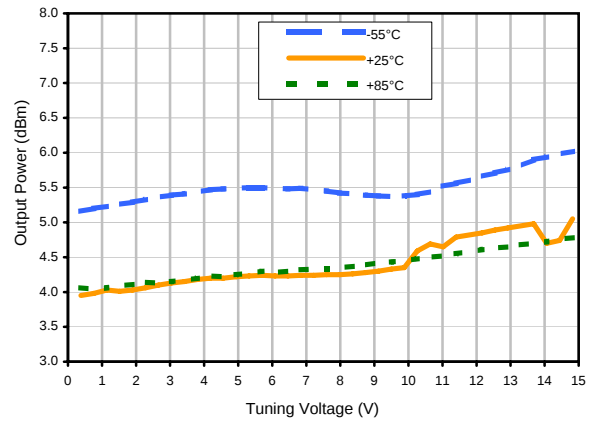
ROSA-ED9946/1

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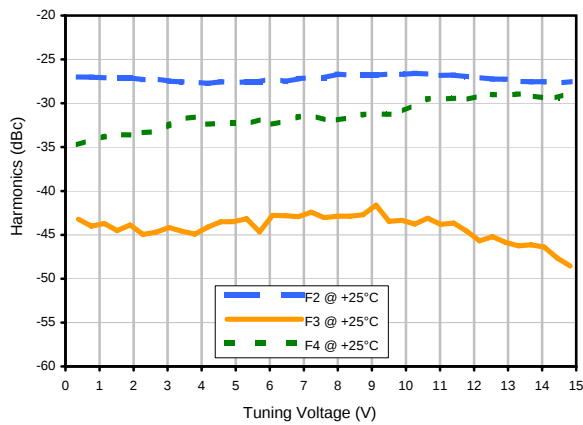
Frequency and Tuning Sensitivity



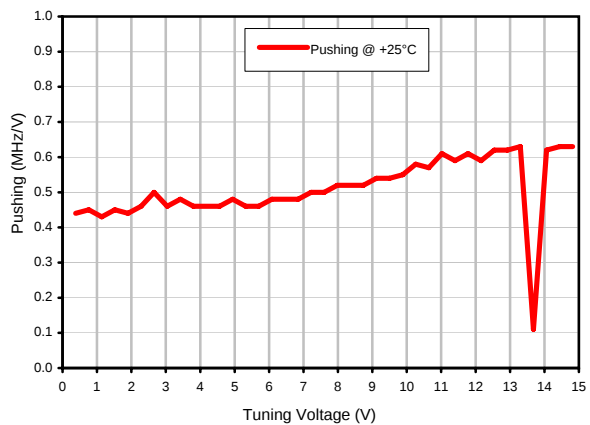
Power Output



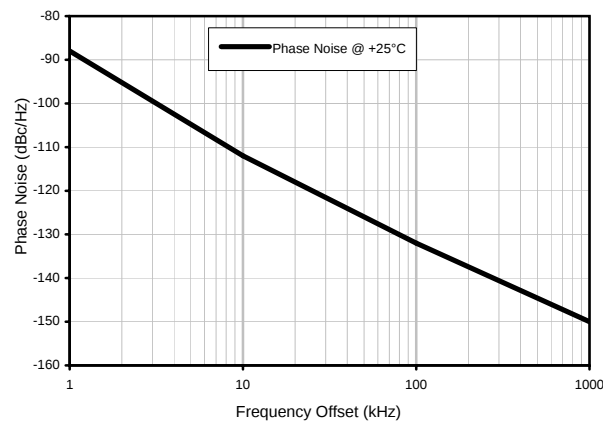
Harmonics Level



Frequency Pushing



Phase Noise





All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 20-2000 Hz, 4 times in each of three axes (total 12)	MIL-STD-883, Method 2007.3, Condition A
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215