

Engineering Development Model

Voltage Controlled Oscillator

ZOS-ED10434/1

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 : BR386

ELECTRICAL SPECIFICATIONS 50Ω				
Parameter	Min.	Typ.	Max.	Units
Frequency	790		806	MHz
Tuning Voltage		0 - 10		V
Power Output		+11		dBm
Phase Noise				
at 1 kHz offset		-68		dBc/Hz
at 10 KHz offset		-92		dBc/Hz
at 100 KHz offset		-112		dBc/Hz
at 1000 kHz offset		-132		dBc/Hz
Pulling at 12 dBr PK-PK all phases		0.05		MHz
Pushing at Vcc ± 5%		0.2		MHz/V
Tuning Sensitivity		7 - 20		MHz/V
Harmonic Suppression		-21	0	dBc
3 dB Modulation Bandwidth		4400		kHz
Supply Voltage		12		V
Supply Current			140	mA

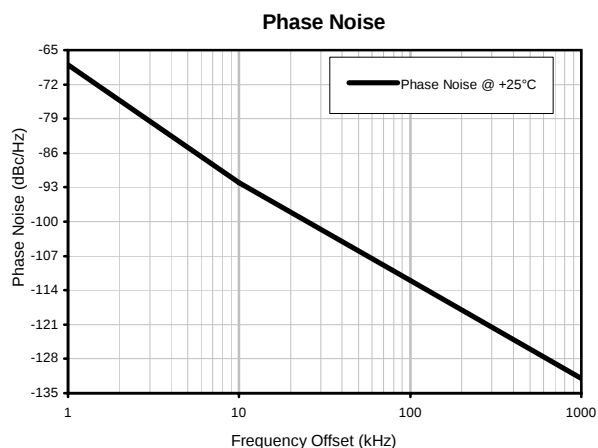
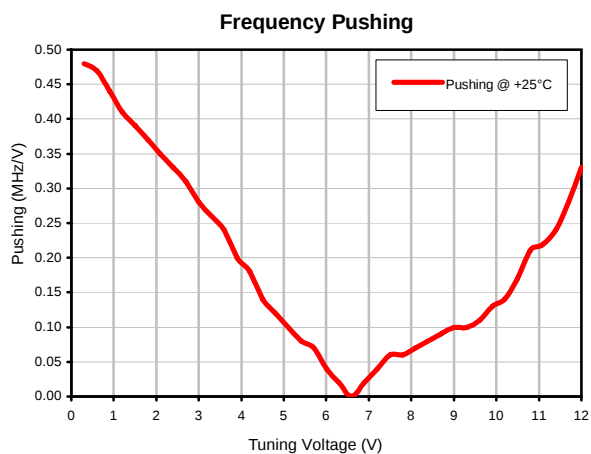
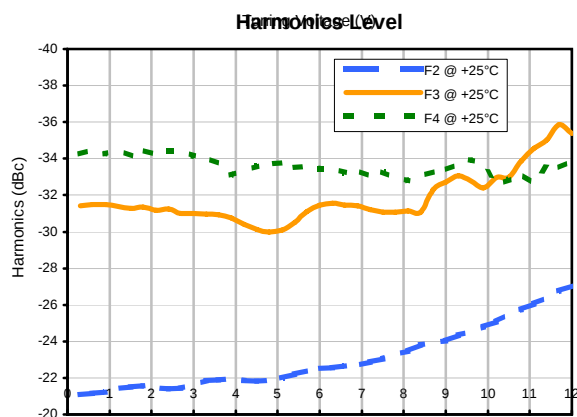
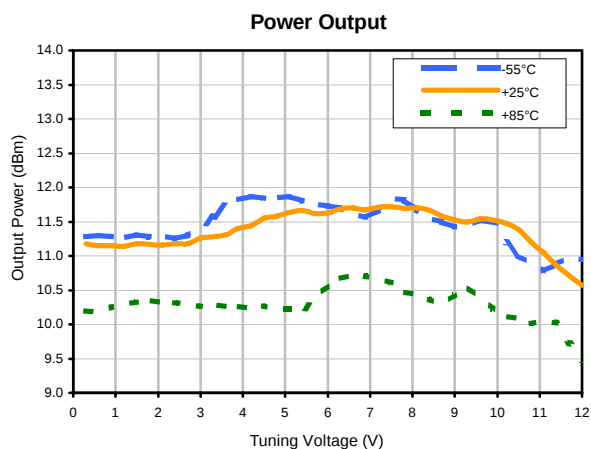
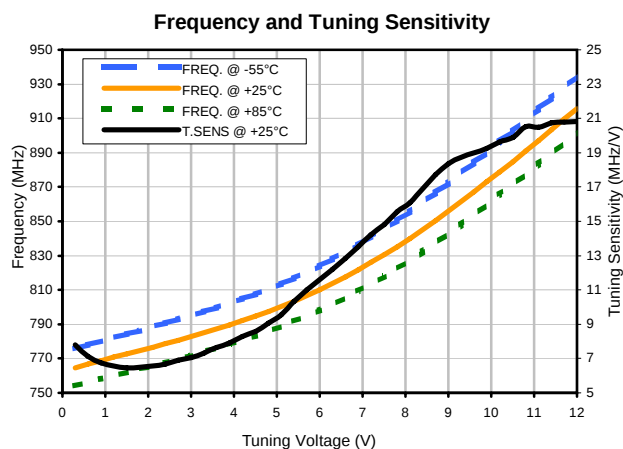
MAXIMUM RATINGS	
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Supply Voltage (Vcc)	+14V
Absolute Tuning Voltage (Vtune)	+12V

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

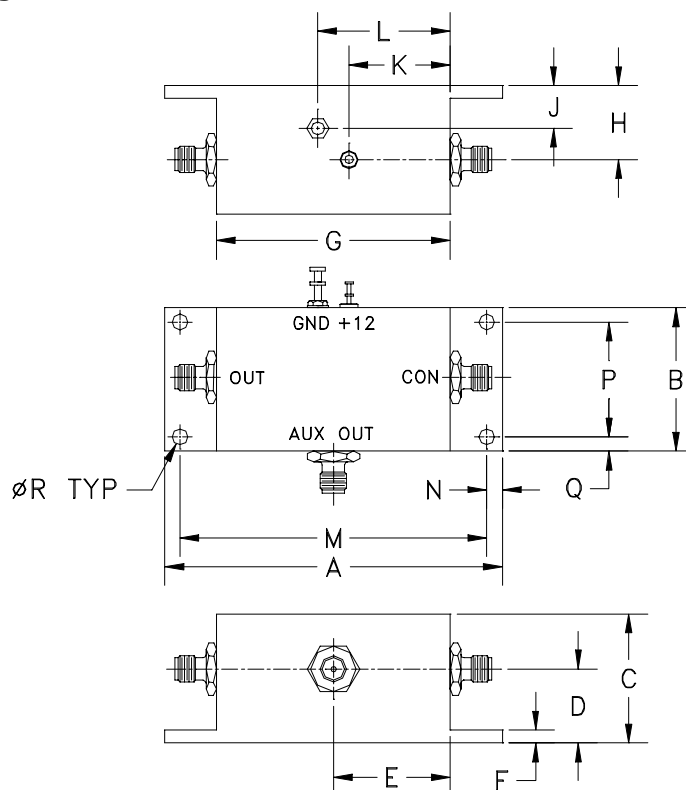
Typical Performance Data

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			
0.30	7.80	775.81	764.63	754.16	11.28	11.18	10.20	-21.09	-31.43	-34.25	0.48	1	-68
0.60	7.13	777.98	766.77	756.34	11.30	11.15	10.19	-21.16	-31.49	-34.46	0.47	10	-92
0.90	6.74	780.06	768.79	758.34	11.28	11.15	10.25	-21.22	-31.49	-34.27	0.44	100	-112
1.20	6.56	782.11	770.76	760.22	11.26	11.14	10.30	-21.45	-31.39	-34.45	0.41	1000	-132
1.50	6.46	784.15	772.70	762.05	11.31	11.18	10.33	-21.49	-31.29	-34.16	0.39		
1.80	6.50	786.23	774.65	763.90	11.28	11.17	10.35	-21.56	-31.34	-34.48	0.37		
2.10	6.57	788.34	776.62	765.78	11.29	11.16	10.33	-21.48	-31.19	-34.22	0.35		
2.40	6.69	790.51	778.63	767.71	11.25	11.18	10.32	-21.41	-31.26	-34.42	0.33		
2.70	6.90	792.77	780.70	769.68	11.30	11.18	10.29	-21.44	-31.00	-34.38	0.31		
3.00	7.07	795.07	782.82	771.72	11.38	11.26	10.26	-21.65	-31.01	-34.16	0.28		
3.30	7.30	797.36	785.01	773.83	11.57	11.28	10.29	-21.84	-30.98	-34.06	0.26		
3.60	7.64	799.68	787.30	776.02	11.76	11.31	10.26	-21.88	-30.94	-33.72	0.24		
3.90	7.90	802.12	789.67	778.32	11.82	11.40	10.26	-21.95	-30.76	-33.11	0.20		
4.20	8.27	804.72	792.15	780.73	11.87	11.44	10.23	-21.87	-30.40	-33.34	0.18		
4.50	8.60	807.49	794.73	783.26	11.84	11.55	10.27	-21.82	-30.13	-33.60	0.14		
4.80	9.07	810.42	797.45	785.95	11.85	11.58	10.22	-21.90	-30.00	-33.70	0.12		
5.10	9.57	813.52	800.32	788.82	11.87	11.64	10.22	-21.99	-30.09	-33.78	0.10		
5.40	10.33	816.77	803.42	791.90	11.80	11.66	10.19	-22.21	-30.52	-33.52	0.08		
5.70	11.00	820.25	806.72	794.96	11.76	11.62	10.42	-22.38	-31.11	-33.57	0.07		
6.00	11.60	823.95	810.20	798.24	11.73	11.63	10.56	-22.51	-31.46	-33.46	0.04		
6.30	12.20	827.87	813.86	801.63	11.70	11.68	10.67	-22.55	-31.56	-33.48	0.02		
6.60	12.83	831.99	817.71	805.29	11.61	11.70	10.72	-22.67	-31.45	-33.23	0.00		
6.90	13.50	836.36	821.76	809.23	11.56	11.67	10.70	-22.67	-31.42	-33.33	0.02		
7.20	14.20	840.96	826.02	813.42	11.66	11.71	10.67	-22.87	-31.21	-33.02	0.04		
7.50	14.83	845.56	830.47	817.83	11.83	11.72	10.61	-23.05	-31.08	-33.28	0.06		
7.80	15.57	850.44	835.14	822.46	11.82	11.69	10.48	-23.29	-31.08	-32.97	0.06		
8.10	16.10	855.66	839.97	827.28	11.67	11.70	10.43	-23.47	-31.15	-32.78	0.07		
8.40	16.90	861.13	845.04	832.29	11.55	11.66	10.36	-23.83	-31.07	-33.04	0.08		
8.70	17.73	866.76	850.36	837.49	11.50	11.58	10.30	-23.93	-32.31	-33.26	0.09		
9.00	18.37	872.53	855.87	842.73	11.42	11.52	10.43	-24.04	-32.73	-33.37	0.10		
9.30	18.73	878.39	861.49	848.04	11.45	11.50	10.54	-24.35	-33.08	-33.69	0.10		
9.60	19.00	884.23	867.19	853.69	11.52	11.54	10.40	-24.54	-32.78	-33.95	0.11		
9.90	19.27	890.20	872.97	859.56	11.49	11.52	10.22	-24.79	-32.41	-33.72	0.13		
10.20	19.63	896.49	878.86	865.52	11.20	11.48	10.12	-25.07	-32.97	-32.56	0.14		
10.50	19.90	902.75	884.83	871.49	11.00	11.38	10.08	-25.53	-33.01	-32.85	0.17		
10.80	20.53	909.17	890.99	877.51	10.89	11.20	10.01	-25.75	-33.87	-33.19	0.21		
11.10	20.47	915.57	897.13	883.53	10.78	11.05	10.05	-26.06	-34.58	-32.64	0.22		
11.40	20.73	921.98	903.35	889.63	10.88	10.86	10.02	-26.42	-35.01	-33.59	0.24		
11.70	20.77	928.32	909.58	895.92	10.98	10.71	9.72	-26.77	-35.88	-33.48	0.28		
12.00	20.83	934.75	915.83	902.21	10.94	10.57	9.49	-27.03	-35.39	-33.90	0.33		

Typical Performance Curves



Outline Dimensions



CASE #	A	B	C	D	E	F	G	H	J	K	L
BR386	3.25 (82.55)	1.38 (35.05)	1.25 (31.75)	.71 (18.03)	1.13 (28.70)	.125 (3.18)	2.25 (57.15)	.71 (18.03)	.41 (10.41)	.98 (24.89)	1.28 (32.51)

CASE #	M	N	P	Q	R	WT. GRAM
BR386	2.950 (74.93)	.15 (3.81)	1.100 (27.94)	.14 (3.56)	.150 (3.81)	180

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



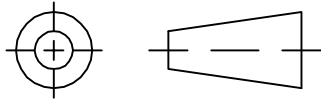
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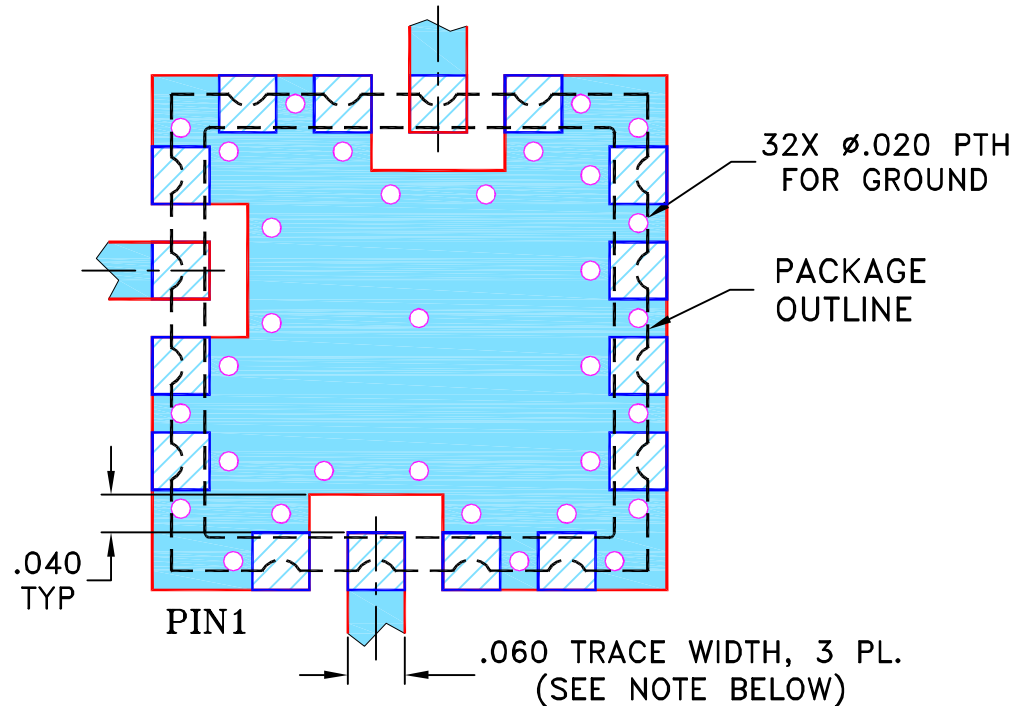
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
E	M105563	ADDED "rl" PIN CONNECTION	06/02/06	MMG	DJ
F	M105640	CORRECTED NOTE 2	06/08/06	MMG	MM
G	M124395	ADDED "RAMP"	09/09	EM	HH
G	R77589	ADDED "RAMP"	09/09	EM	HH

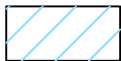
SUGGESTED MOUNTING CONFIGURATION FOR
CK605 CASE STYLE, "kg/rl/16AM01" PIN CONNECTION

NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" $\pm$.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE BOTTOM IS CONTINUOUS GROUND PLANE.



DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)



DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE

DIMENSIONS ARE IN INCHES

TOLERANCES ON:

2 PL DECIMALS $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

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ASHEETA1.DWG REV:A DATE:01/12/95



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PL,kg/rl/16AM01,CK605,ROS/LAVI/RAMP

SIZE
A

CODE IDENT
15542

DRAWING NO:
98-PL-012

REV:
G

FILE: 98PL012

SCALE: 5:1

SHEET: 1 OF 1



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
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I