

Coaxial

# Voltage Controlled Oscillator

## ZX95-3233+

5V Tuning for PLL IC's 3008 to 3233 MHz

### Features

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- protected by US patent 6,790,049



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-3233-S+	\$44.95 ea.	(1-9)

### Applications

- lab
- instrumentation
- wireless communications
- WiMAX 3.5 GHz

#### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications

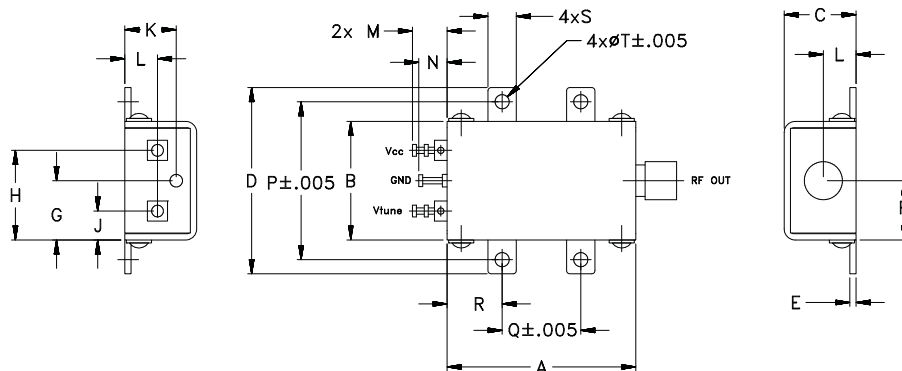
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.	Vcc (volts)	Current (mA)
ZX95-3233+	3008	3233	+3	-69	-96	-118	-138	0.5	4.5	70-85	13	350	-90	-33	-22	1	1.5	5	40		

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7.0V
Absolute Max. Tuning Voltage (Vtune)	6.5V
All specifications	50 ohm system

Permanent damage may occur if any of these limits are exceeded.

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
1.20	.75	.46	1.18	.04	.38	.38	.57	.18	.33	.21	.22	.18	1.00	.50	.35	.18	.106	grams
30.48	19.05	11.68	29.97	1.02	9.65	9.65	14.48	4.57	8.38	5.33	5.59	4.57	25.40	12.70	8.89	4.57	2.69	35.0



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

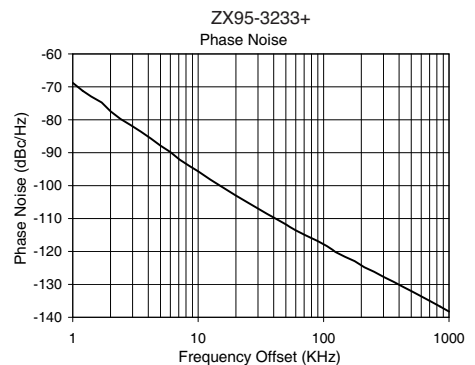
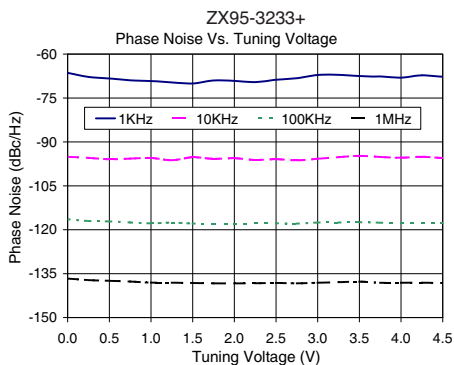
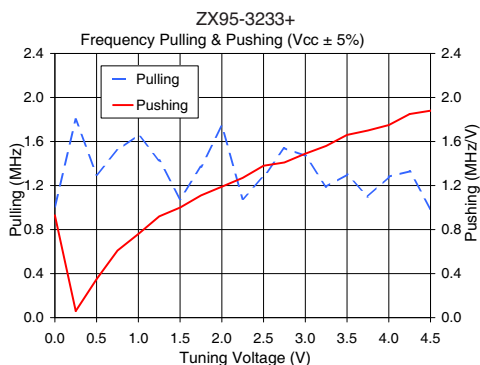
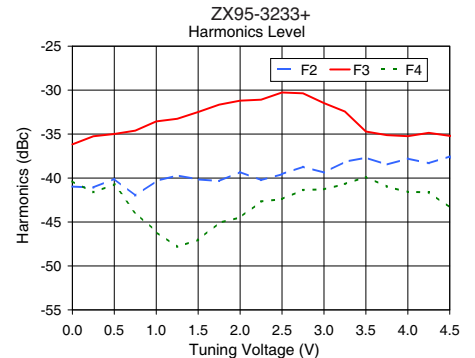
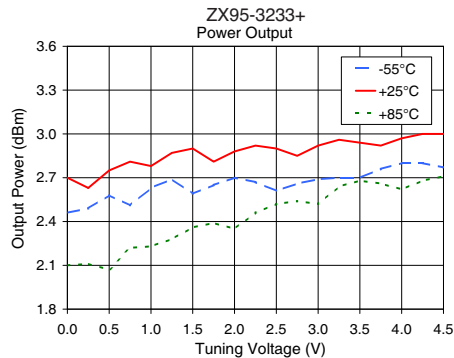
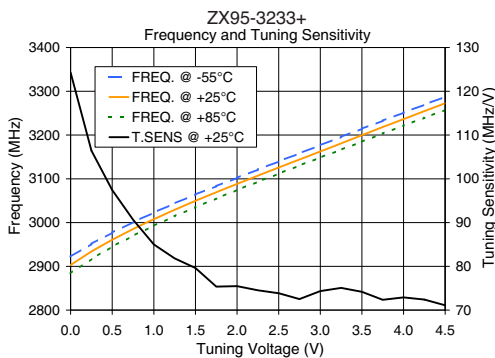
REV. A  
M140869  
EDR-10651MPF1  
ZX95-3233+  
RAV  
130311  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-3233+

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 3121 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	124.28	2922.1	2903.1	2884.0	2.46	2.70	2.10	32.06	-41.0	-36.2	-40.4	0.93	1.01	-70.53	-98.2	-120.3	-138.8	1.0	-68.78
0.25	106.42	2951.2	2934.2	2916.9	2.49	2.63	2.11	32.08	-41.1	-35.3	-41.6	0.06	1.80	-70.57	-97.9	-119.9	-138.4	2.0	-77.43
0.50	97.44	2977.0	2960.8	2945.0	2.58	2.75	2.07	32.11	-40.1	-35.0	-40.7	0.35	1.30	-72.01	-98.3	-120.6	-139.0	3.5	-83.62
0.75	90.67	3000.8	2985.1	2969.7	2.51	2.81	2.22	32.12	-42.0	-34.6	-43.9	0.61	1.52	-70.33	-97.9	-120.5	-138.5	6.0	-89.81
1.00	85.00	3022.7	3007.8	2992.9	2.63	2.78	2.23	32.15	-40.3	-33.6	-46.1	0.76	1.66	-70.53	-97.9	-120.7	-138.7	8.5	-94.01
1.25	81.81	3043.6	3029.1	3014.5	2.69	2.87	2.28	32.17	-39.7	-33.3	-47.8	0.92	1.43	-70.85	-97.8	-120.4	-138.5	10.0	-95.65
1.50	79.62	3063.9	3049.5	3035.1	2.59	2.90	2.36	32.19	-40.2	-32.5	-47.0	1.00	1.08	-71.14	-96.9	-119.6	-137.7	20.8	-103.40
1.75	75.37	3083.2	3069.4	3055.1	2.65	2.81	2.39	32.22	-40.4	-31.7	-45.1	1.11	1.37	-69.66	-97.1	-119.8	-138.2	35.5	-108.61
2.00	75.47	3102.3	3088.3	3074.6	2.70	2.88	2.35	32.25	-39.3	-31.2	-44.5	1.19	1.74	-69.77	-97.7	-119.7	-138.0	60.7	-113.65
2.25	74.53	3121.1	3107.1	3093.1	2.67	2.92	2.46	32.28	-40.3	-31.1	-42.7	1.27	1.08	-70.50	-97.0	-119.5	-137.5	86.7	-116.59
2.50	73.86	3139.7	3125.8	3111.8	2.61	2.90	2.52	32.31	-39.6	-30.3	-42.4	1.38	1.28	-69.41	-97.0	-119.7	-137.9	100.0	-117.75
2.75	72.53	3158.0	3144.2	3130.3	2.66	2.85	2.54	32.35	-38.7	-30.4	-41.4	1.41	1.54	-69.45	-96.5	-119.3	-137.7	148.1	-121.61
3.00	74.34	3176.7	3162.3	3148.7	2.69	2.92	2.52	32.38	-39.4	-31.5	-41.3	1.49	1.47	-68.52	-96.1	-118.9	-137.2	211.6	-124.82
3.25	75.07	3195.6	3180.9	3166.5	2.70	2.96	2.64	32.40	-38.2	-32.4	-40.7	1.56	1.19	-69.88	-96.4	-119.0	-137.4	302.4	-127.78
3.50	74.17	3214.3	3199.7	3184.8	2.70	2.94	2.68	32.42	-37.7	-34.7	-39.9	1.66	1.30	-68.33	-96.0	-118.9	-137.2	361.5	-129.22
3.75	72.35	3232.7	3218.2	3203.3	2.76	2.92	2.66	32.47	-38.5	-35.1	-41.0	1.70	1.10	-67.98	-95.8	-118.6	-137.1	507.5	-132.16
4.00	72.90	3251.1	3236.3	3221.6	2.80	2.97	2.62	32.51	-37.8	-35.2	-41.6	1.75	1.28	-67.52	-95.8	-118.8	-137.0	606.7	-133.72
4.25	72.42	3269.3	3254.6	3239.4	2.80	3.00	2.68	32.53	-38.3	-34.9	-41.6	1.85	1.33	-68.64	-95.9	-118.6	-137.0	851.6	-136.76
4.50	71.10	3287.4	3272.7	3257.3	2.77	3.00	2.71	32.56	-37.5	-35.2	-43.4	1.88	0.99	-67.74	-95.6	-118.3	-136.5	1000.0	-138.25

\*at 25°C unless mentioned otherwise



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine [minicircuits.com](http://www.minicircuits.com) Provides ACTUAL Data Instantly at [minicircuits.com](http://www.minicircuits.com)

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).