

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

### Applications

- LAB
- Instrumentation
- Wireless communications
- WiMAX 3.5 GHz

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

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

*The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.*

### Electrical Specifications

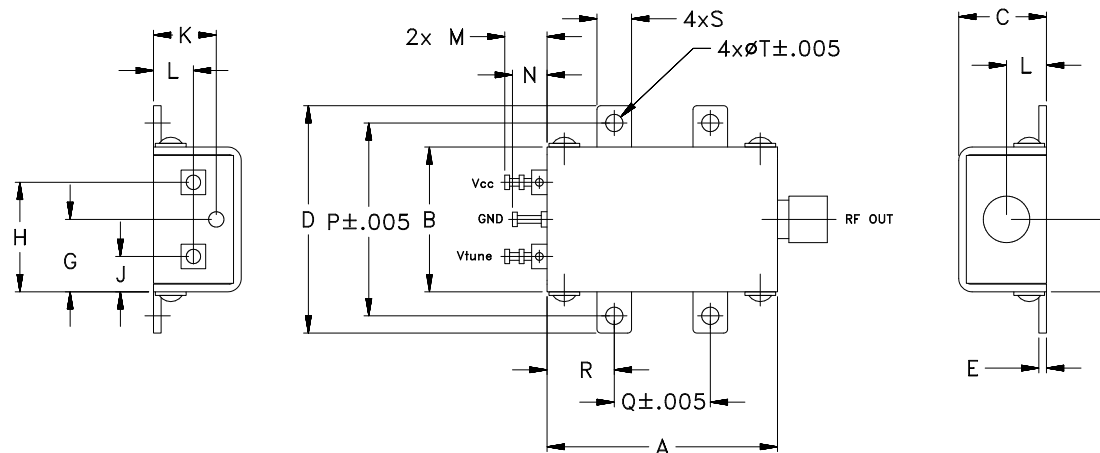
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING				NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)		3 dB MODULATION BANDWIDTH (MHz)	Typ.			Typ.	Max.	Typ.	Typ.
ZX95-3233+	3008	3233	+3	-71	-97	-119	-140	0.5	4.5	84	-91	11	350	-90	-30	-20	1	2.5	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	.45	.57	.18	.33	.21	.22	.18	1.00	.50	.35	.18	.106	GRAM
30.48	19.05	11.68	29.97	1.02	9.65	11.43	14.48	4.57	8.38	5.33	5.59	4.57	25.40	12.70	8.89	4.57	2.69	35.0

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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**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).

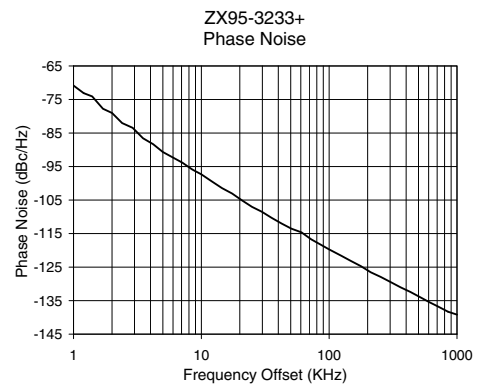
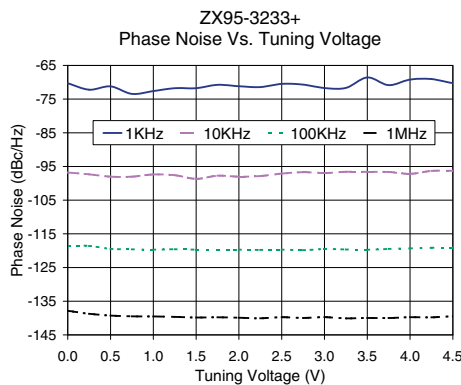
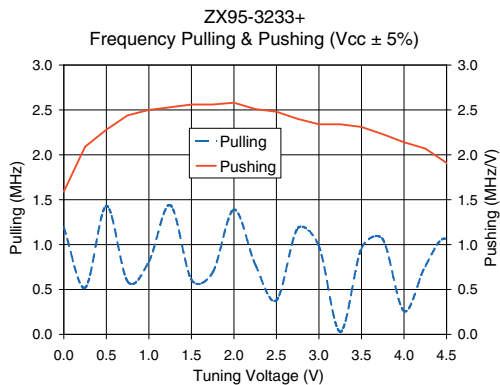
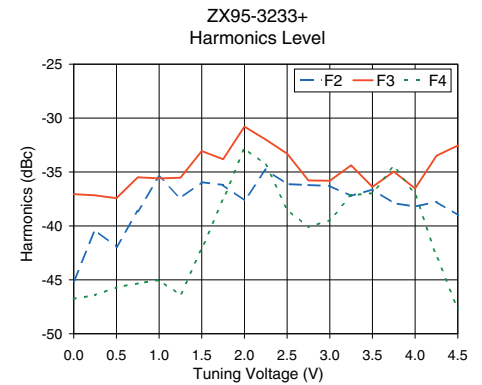
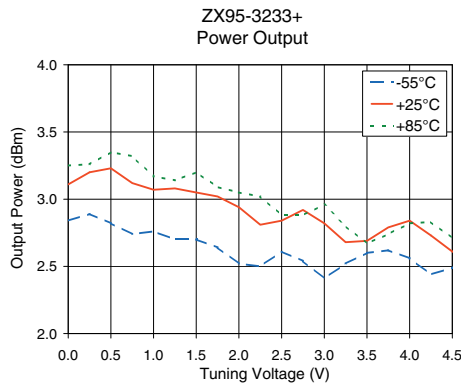
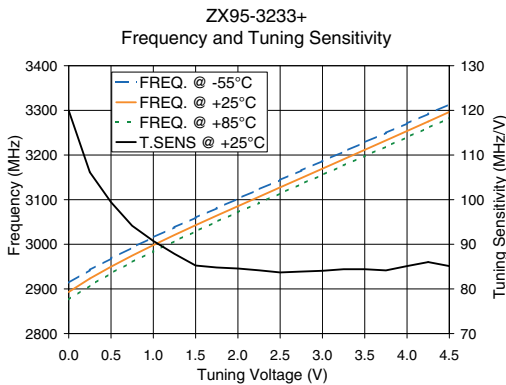
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M114757  
EDR-8463F2  
ZX95-3233+  
RAV  
090903  
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# Performance Data & Curves\*

# 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	119.96	2913.8	2893.3	2876.0	2.84	3.11	3.25	32.23	-45.1	-37.1	-46.8	1.59	1.19	-70.3	-96.8	-118.5	-137.8	1.0	-70.84
0.25	106.14	2942.3	2923.2	2907.5	2.89	3.20	3.26	32.27	-40.4	-37.2	-46.4	2.09	0.52	-72.2	-97.3	-118.6	-138.7	2.0	-79.03
0.50	99.43	2968.1	2949.8	2935.0	2.82	3.23	3.35	32.30	-42.0	-37.4	-45.7	2.28	1.43	-71.2	-98.0	-119.5	-139.3	3.5	-86.58
0.75	94.16	2992.5	2974.6	2960.1	2.74	3.12	3.32	32.32	-38.6	-35.5	-45.3	2.44	0.59	-73.5	-98.0	-119.6	-139.5	6.0	-92.33
1.00	90.74	3015.5	2998.2	2984.1	2.76	3.07	3.17	32.36	-35.4	-35.6	-45.0	2.50	0.81	-72.6	-97.4	-119.7	-139.5	8.5	-95.89
1.25	87.86	3038.0	3020.9	3007.0	2.70	3.08	3.14	32.37	-37.4	-35.5	-46.4	2.53	1.44	-71.8	-97.6	-119.6	-139.7	10.0	-97.33
1.50	85.25	3059.6	3042.8	3028.9	2.70	3.05	3.20	32.40	-35.9	-33.1	-42.1	2.56	0.61	-71.8	-98.7	-119.7	-139.9	20.8	-105.10
1.75	84.80	3080.8	3064.1	3050.7	2.64	3.02	3.09	32.44	-36.2	-33.8	-37.6	2.56	0.69	-70.8	-97.8	-119.7	-139.8	35.5	-110.32
2.00	84.58	3102.0	3085.3	3071.7	2.52	2.94	3.05	32.45	-37.6	-30.8	-32.8	2.58	1.39	-71.2	-98.0	-119.7	-139.9	60.7	-114.63
2.25	84.17	3123.2	3106.5	3092.7	2.50	2.81	3.02	32.46	-34.8	-32.0	-34.3	2.51	0.78	-71.4	-97.8	-119.8	-140.1	86.7	-118.40
2.50	83.69	3144.1	3127.5	3113.8	2.61	2.84	2.88	32.49	-36.1	-33.3	-38.5	2.48	0.38	-70.5	-97.1	-119.7	-139.8	100.0	-119.73
2.75	83.88	3165.4	3148.5	3134.9	2.54	2.92	2.88	32.52	-36.2	-35.8	-40.1	2.40	1.18	-70.7	-96.7	-119.9	-140.0	148.1	-123.17
3.00	84.07	3186.5	3169.4	3155.5	2.41	2.82	2.96	32.55	-36.3	-35.8	-39.5	2.34	0.98	-71.7	-97.0	-119.5	-139.7	211.6	-126.56
3.25	84.41	3207.4	3190.4	3176.6	2.52	2.68	2.80	32.59	-37.2	-34.4	-37.2	2.34	0.03	-71.7	-96.6	-119.7	-140.1	302.4	-129.46
3.50	84.42	3228.5	3211.5	3197.8	2.60	2.69	2.67	32.64	-36.6	-36.4	-37.0	2.31	0.96	-68.6	-96.6	-119.7	-140.0	361.5	-131.03
3.75	84.15	3249.5	3232.7	3218.7	2.62	2.79	2.74	32.69	-37.9	-35.0	-34.5	2.23	1.06	-70.9	-96.6	-119.5	-140.0	507.5	-133.84
4.00	85.12	3270.6	3253.7	3239.8	2.56	2.84	2.82	32.73	-38.2	-36.5	-37.0	2.14	0.26	-69.2	-97.2	-119.3	-139.7	606.7	-135.46
4.25	86.01	3292.1	3275.0	3260.9	2.44	2.73	2.83	32.76	-37.8	-33.5	-42.8	2.07	0.76	-69.1	-96.3	-119.2	-139.8	851.6	-138.32
4.50	85.11	3313.3	3296.5	3282.2	2.49	2.61	2.71	32.82	-39.0	-32.5	-47.7	1.91	1.06	-70.2	-96.3	-119.1	-139.5	1000.0	-139.17

\*at 25°C unless mentioned otherwise



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