NON-CATALOG

Voltage Controlled Oscillator ZX95-3250-S+

50Ω 2550 to 3250 MHz

The Big Deal:

- Low Phase Noise
- Good Pulling & Pushing
- Robust design and construction
- Rigid unibody construction

Generic photo used for illustration purposes only

CASE STYLE: GB956

Product Overview:

The ZX95-3250-S+ is a Voltage Controlled Oscillator, designed to operate from 2550 to 3250 MHz for point-to-point radio applications. The ZX95-3250-S+ is built using Mini-Circuits proven unibody construction (size of 1.20" x .75" x .46") which integrates the RF connectors with the case body to shield against unwanted signals and noise.

Key Features

Feature	Advantages
Low Phase Noise: -96 dBc/Hz typ at 10 kHz offset	Low phase noise improves system EVM (Error Vector Magnitude).
Good Pulling, 0.6 MHz typ.	Improves immunity against changes in output load.
Good Pushing, 3 MHz/V typ.	Provides increased immunity against noisy DC lines and improves output frequency stability vs. variations in supply voltage.

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Coaxial

Voltage Controlled Oscillator

ZX95-3250-S+

Linear Tuning 2550 to 3250 MHz

Generic photo used for illustration purposes only

CASE STYLE: GB956

Connectors	Model
SMA	ZX95-3250-S+

+RoHS Compliant

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

Features

- low phase noise, -96 dBc/Hz typ. @ 10kHz offset
- low pulling, 0.6 MHz typ.
- low pushing, 3 MHz/V typ.
- aqueous washable

Applications

- wireless communications
- point-to-point radio

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz Typ.				TUNING VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER Vcc (volts)	DC OPERATING POWER Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ZX95-3250-S+	2550	3250	+2.5	-70	-96	-118	-139	0.5	24	30 - 50	35	160	-90	-20	-12	0.6	3	5	42

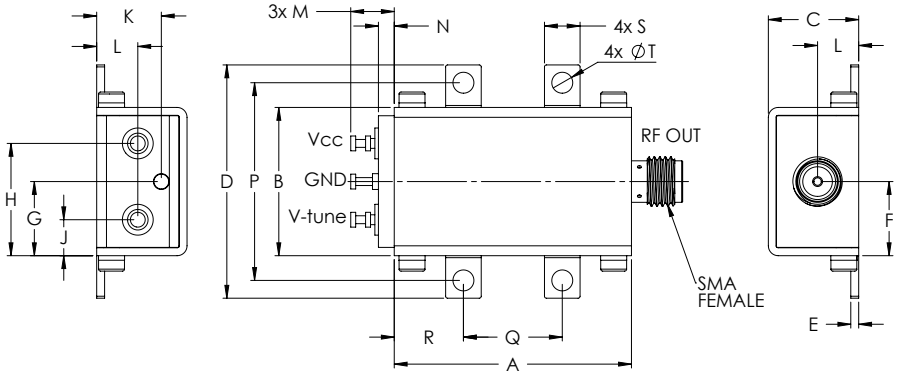
Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	26V
All specifications	50 ohm system

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

NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminals. See Application Note AN-40-10 .

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**	**.08**	**1.00**	**.50**	**.35**	**.18**	**.106**	grams
30.48	19.15	11.61	30.07	1.02	9.53	9.53	14.43	4.62	8.31	5.28	5.59	2.03	25.40	12.70	8.89	4.57	2.69	35.0

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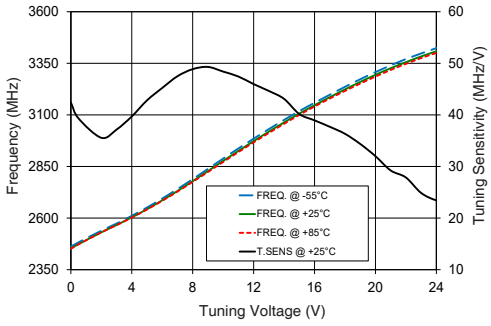
Performance Data & Curves*

ZX95-3250-S+

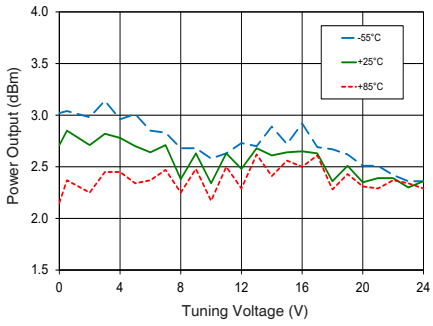
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 2900 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	42.42	2462.0	2452.4	2451.5	3.02	2.71	2.15	31.33	-20.9	-37.5	-45.8	2.07	1.02	-74.14	-95.1	-115.9	-135.8	1.0	-71.14
0.50	39.33	2482.5	2473.6	2473.0	3.04	2.85	2.37	31.36	-20.8	-37.4	-42.9	2.14	0.74	-74.42	-95.3	-116.4	-136.3	2.0	-77.88
2.00	35.56	2538.7	2531.0	2530.8	2.98	2.71	2.25	31.42	-20.6	-37.3	-41.2	2.14	0.96	-73.11	-95.0	-115.9	-136.1	3.5	-84.99
3.00	37.15	2573.4	2566.6	2565.9	3.14	2.82	2.45	31.43	-21.5	-37.3	-42.9	2.16	0.45	-72.34	-95.9	-116.5	-136.4	6.0	-91.01
4.00	39.71	2611.0	2603.7	2602.5	2.96	2.78	2.45	31.45	-21.4	-38.6	-41.6	2.21	0.96	-69.59	-95.3	-116.3	-136.3	8.5	-94.54
5.00	42.82	2651.4	2643.4	2641.7	3.01	2.70	2.34	31.47	-21.5	-38.8	-42.5	2.20	0.45	-73.31	-95.4	-116.8	-136.9	10.0	-96.09
6.00	45.23	2694.7	2686.3	2683.9	2.85	2.64	2.37	31.50	-21.9	-38.2	-43.6	2.31	0.90	-71.35	-96.1	-117.0	-136.9	20.8	-103.03
7.00	47.50	2740.9	2731.5	2728.5	2.83	2.71	2.47	31.53	-22.3	-38.3	-45.2	2.33	1.02	-69.84	-95.9	-117.1	-137.2	35.5	-108.68
8.00	48.87	2788.7	2779.0	2775.6	2.68	2.38	2.25	31.58	-21.8	-41.6	-39.1	2.30	0.26	-70.04	-95.9	-117.5	-137.5	60.7	-113.74
9.00	49.30	2838.4	2827.8	2823.3	2.68	2.63	2.48	31.61	-21.5	-38.3	-34.9	2.46	0.70	-70.51	-95.9	-117.3	-137.6	86.7	-116.67
11.00	47.44	2937.5	2925.5	2919.8	2.63	2.63	2.50	31.78	-19.6	-41.8	-31.1	2.66	0.13	-71.21	-96.2	-118.0	-138.3	100.0	-118.08
12.00	45.97	2984.8	2973.0	2966.9	2.73	2.48	2.29	31.89	-19.2	-43.0	-29.9	2.73	0.70	-70.10	-96.2	-118.3	-138.7	148.1	-121.52
14.00	43.10	3075.7	3063.6	3056.9	2.89	2.61	2.41	32.13	-19.2	-45.7	-27.6	2.96	0.32	-70.23	-95.9	-118.8	-139.1	177.0	-123.05
15.00	40.17	3118.6	3106.7	3100.1	2.72	2.64	2.56	32.30	-18.9	-40.7	-28.0	3.12	0.32	-70.92	-96.4	-118.9	-139.3	211.6	-124.62
17.00	37.70	3197.7	3185.8	3179.2	2.69	2.63	2.61	32.55	-18.9	-33.9	-28.8	3.00	0.26	-69.98	-96.0	-119.3	-139.7	302.4	-127.78
18.00	36.34	3236.2	3223.5	3216.2	2.67	2.36	2.28	32.59	-19.2	-32.2	-27.9	3.09	0.26	-71.19	-96.4	-119.3	-139.7	361.5	-129.48
20.00	32.00	3307.4	3294.2	3285.7	2.51	2.35	2.31	32.69	-20.2	-34.0	-29.2	3.42	0.32	-68.39	-95.9	-119.4	-140.0	507.5	-132.52
21.00	29.23	3339.8	3326.2	3317.7	2.51	2.39	2.29	32.82	-19.6	-35.4	-30.6	3.18	0.19	-70.48	-96.5	-120.2	-140.9	606.7	-133.91
23.00	24.88	3397.7	3383.3	3375.3	2.36	2.30	2.34	33.04	-19.8	-43.8	-33.8	2.91	0.32	-69.83	-97.7	-120.8	-141.4	851.6	-136.94
24.00	23.44	3423.6	3408.2	3400.2	2.36	2.36	2.29	33.10	-19.6	-40.4	-35.7	2.85	0.13	-69.28	-97.4	-120.8	-141.5	1000.0	-138.29

*at 25°C unless mentioned otherwise

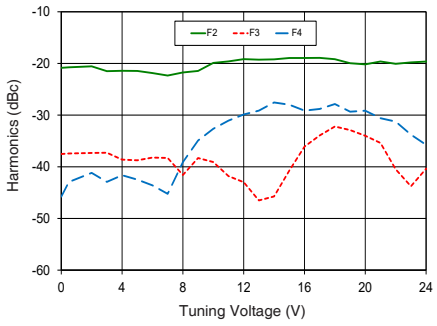
ZX95-3250-S+
Frequency and Tuning Sensitivity



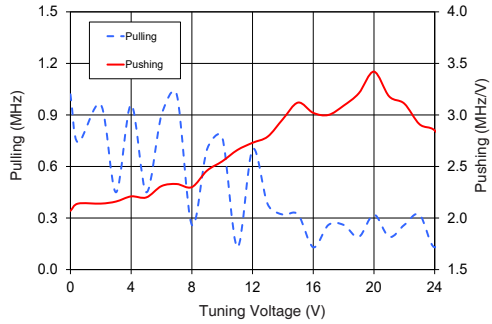
ZX95-3250-S+
Power Output



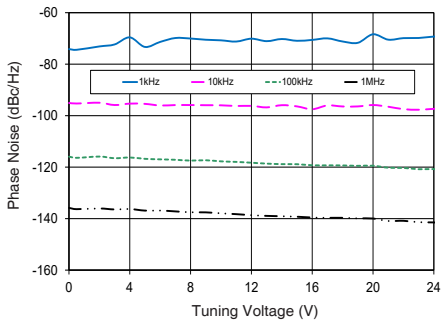
ZX95-3250-S+
Harmonics Level



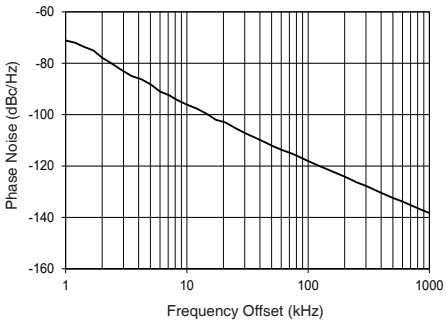
ZX95-3250-S+
Frequency Pulling & Pushing (Vcc ± 5%)



ZX95-3250-S+
Phase Noise Vs. Tuning Voltage



ZX95-3250-S+
Phase Noise



Additional Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document 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