

Coaxial

# Voltage Controlled Oscillator

## ZX95-2650A+

5V Tuning for PLL IC's 2450 to 2650 MHz

### Features

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

### Applications

- r & d
- lab
- instrumentation
- wireless communications
- point-to-point transmission system



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-2650A-S+	\$44.95 ea.	(1-9)

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

### Electrical Specifications

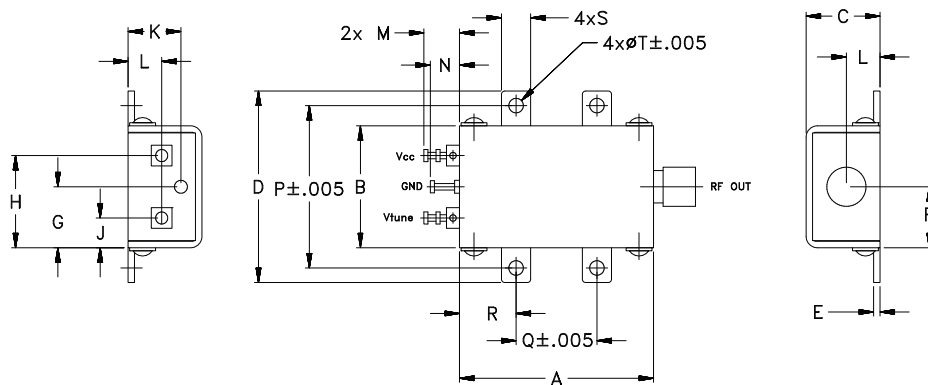
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING				NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER		
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)		3 dB MODULATION BANDWIDTH (MHz)	Typ.			Typ.	Max.	Typ.
ZX95-2650A+	2450	2650	+0.5	-69	-97	-118	-138	0.5	5	111-125	20	80	-90	-25	-15	3	2	5	30

### 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)	7V
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)

**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).

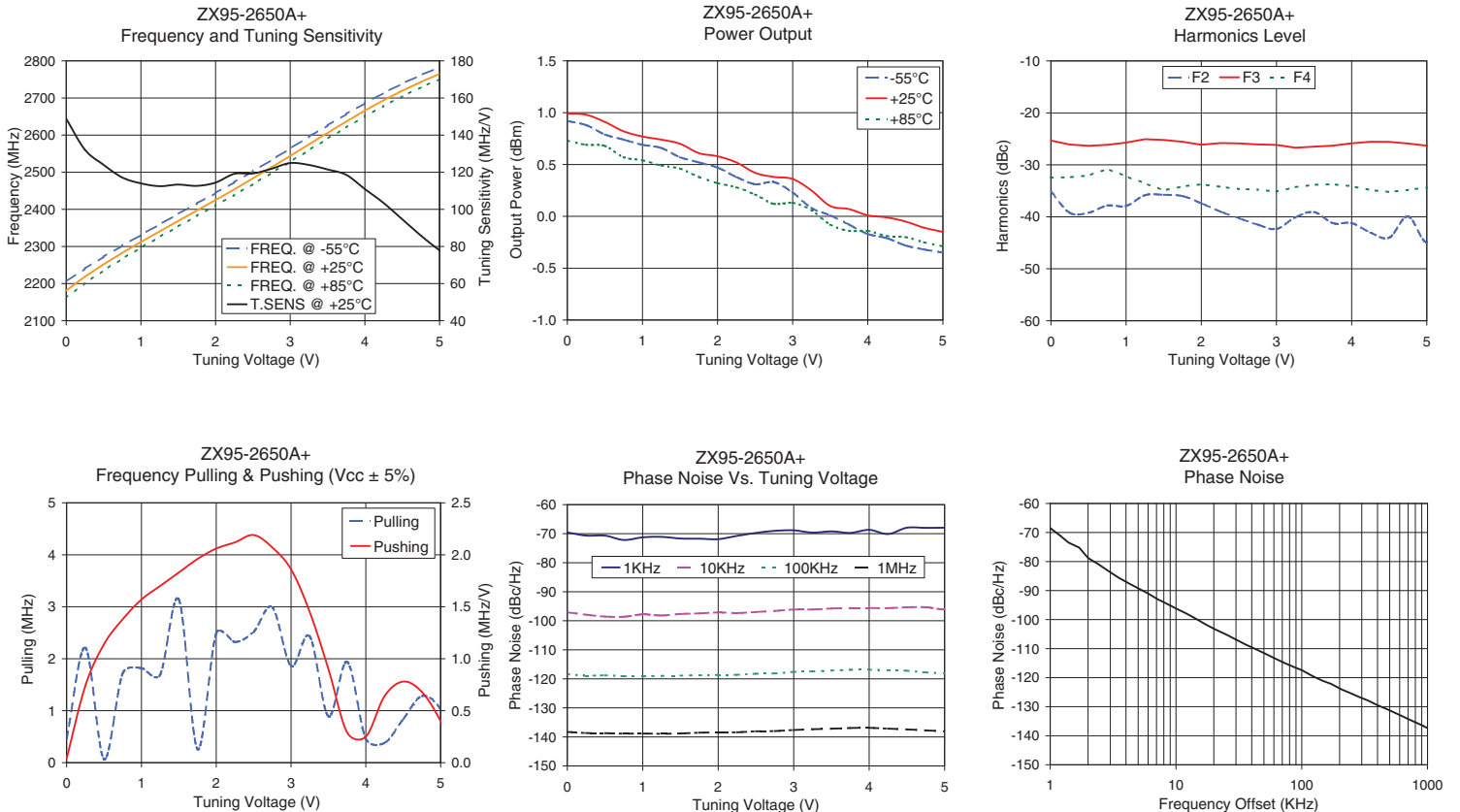
REV. C  
M139652  
EDR-10492MPF1  
ZX95-2650A+  
RAV  
121206  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-2650A+

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 2550 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	148.83	2205.5	2181.4	2161.7	0.92	0.99	0.73	21.43	-35.1	-25.3	-32.4	0.04	0.46	-69.6	-97.1	-118.4	-138.3	1.0	-68.47
0.25	132.16	2240.2	2218.6	2201.2	0.88	0.98	0.69	21.45	-39.2	-26.1	-32.4	0.74	2.21	-70.7	-97.9	-118.9	-138.7	2.0	-78.77
0.50	124.01	2272.3	2251.7	2235.3	0.79	0.91	0.68	21.45	-39.2	-26.3	-32.1	1.14	0.07	-70.7	-98.6	-118.8	-138.7	4.2	-87.47
0.75	117.17	2302.3	2282.7	2267.0	0.74	0.82	0.57	21.46	-37.8	-26.1	-30.8	1.38	1.72	-72.2	-98.6	-119.1	-138.9	6.0	-91.01
1.00	113.99	2331.2	2312.0	2296.9	0.69	0.77	0.54	21.47	-37.9	-25.7	-32.2	1.57	1.82	-71.2	-97.8	-119.1	-138.8	8.5	-94.59
1.25	112.47	2359.4	2340.5	2325.7	0.66	0.74	0.49	21.47	-35.8	-25.1	-33.5	1.70	1.69	-71.1	-98.2	-119.0	-138.9	10.0	-96.15
1.50	113.35	2387.5	2368.6	2353.9	0.57	0.70	0.46	21.46	-35.8	-25.2	-34.9	1.83	3.14	-71.7	-97.7	-118.9	-138.8	20.8	-103.51
1.75	112.64	2415.7	2396.9	2382.2	0.52	0.61	0.38	21.47	-36.0	-25.6	-34.2	1.96	0.26	-71.7	-97.5	-118.8	-138.6	42.5	-110.05
2.00	114.42	2444.0	2425.1	2410.5	0.47	0.58	0.32	21.47	-37.4	-26.1	-33.8	2.06	2.49	-71.9	-97.1	-118.6	-138.5	60.8	-113.31
2.25	119.14	2473.1	2453.7	2438.9	0.38	0.52	0.28	21.45	-39.0	-25.8	-34.2	2.12	2.32	-70.7	-97.4	-118.6	-138.4	86.9	-116.36
2.50	119.33	2502.8	2483.5	2468.2	0.31	0.42	0.21	21.44	-40.3	-25.9	-34.6	2.19	2.52	-69.7	-97.0	-118.3	-138.1	100.0	-117.41
2.75	121.86	2532.9	2513.3	2498.3	0.33	0.38	0.12	21.46	-41.5	-26.1	-34.8	2.07	2.99	-69.0	-96.6	-118.2	-138.0	145.8	-121.06
3.00	124.95	2564.0	2543.8	2528.3	0.23	0.36	0.13	21.43	-42.3	-26.2	-35.2	1.86	1.86	-68.8	-96.1	-117.6	-137.6	240.3	-125.21
3.25	123.91	2595.1	2575.0	2559.4	0.08	0.25	0.06	21.42	-40.1	-26.7	-34.3	1.45	2.43	-69.6	-96.1	-117.4	-137.4	337.4	-127.89
3.50	121.47	2626.0	2606.0	2590.4	0.01	0.10	-0.08	21.41	-39.1	-26.5	-33.8	0.90	0.89	-69.2	-95.8	-117.2	-137.2	403.3	-129.55
3.75	118.60	2656.6	2636.4	2620.8	-0.08	0.07	-0.14	21.40	-41.2	-26.3	-33.7	0.29	1.94	-69.7	-95.6	-116.9	-137.0	473.6	-130.81
4.00	110.92	2685.9	2666.0	2650.4	-0.17	0.01	-0.14	21.38	-41.2	-25.9	-34.1	0.25	0.46	-68.7	-95.6	-116.9	-136.9	566.2	-132.34
4.25	103.44	2713.4	2693.7	2678.6	-0.21	-0.01	-0.19	21.38	-43.0	-25.6	-34.8	0.64	0.38	-70.1	-95.7	-117.0	-137.2	664.9	-133.78
4.50	94.64	2738.7	2719.6	2704.7	-0.28	-0.05	-0.20	21.37	-44.0	-25.6	-35.2	0.78	0.84	-67.9	-95.4	-117.2	-137.4	933.4	-136.71
5.00	77.92	2782.5	2764.7	2750.6	-0.35	-0.15	-0.29	21.37	-44.9	-26.3	-34.4	0.40	1.02	-68.0	-96.1	-118.1	-138.1	1000.0	-137.42

\*at 25°C unless mentioned otherwise



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