

Coaxial

# Voltage Controlled Oscillator

## ZX95-2045+

5V Tuning for PLL IC's 1900 to 2000 MHz

### Features

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



CASE STYLE: GB956

### Applications

- r & d
- lab
- wireless communications
- test equipment
- WCDMA

Connectors	Model	Price	Qty.
SMA	ZX95-2045-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

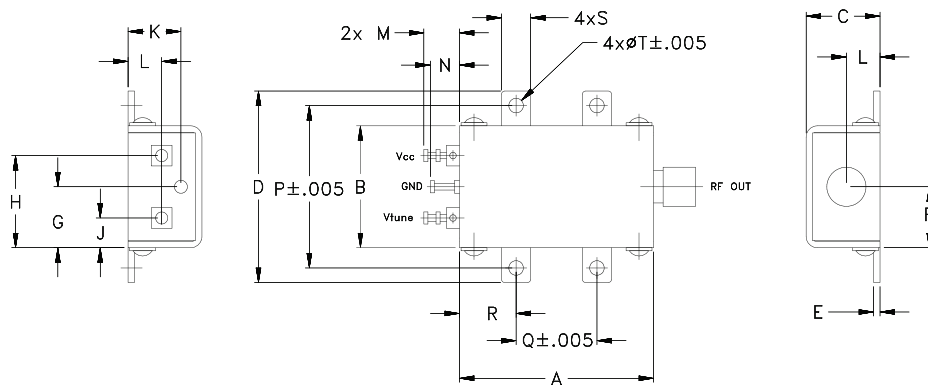
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.
ZX95-2045+	1900	2000	+6.3	-74	-101	-122	-143	0.5	4.5	42-56	33	60	-90	-20	-10	6	0.2	5	35

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	6.5V
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)

**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).

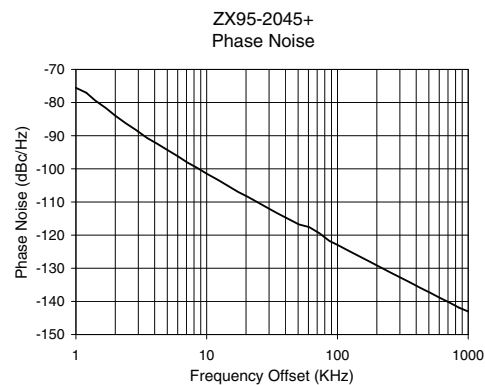
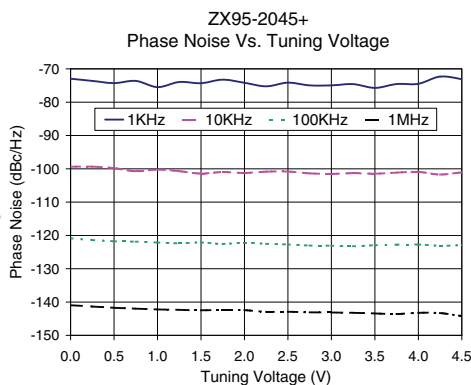
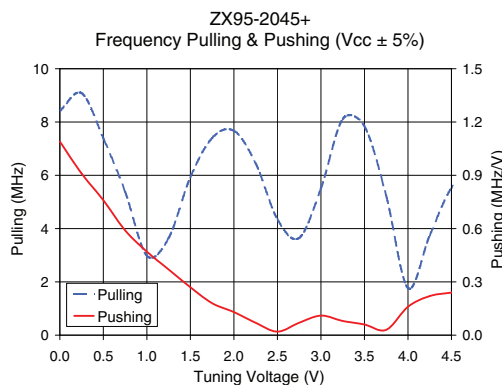
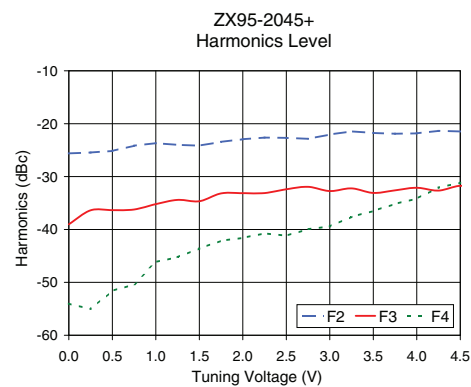
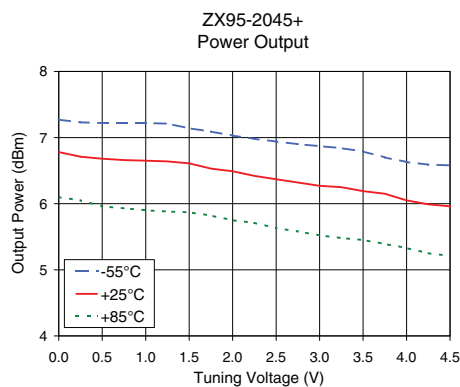
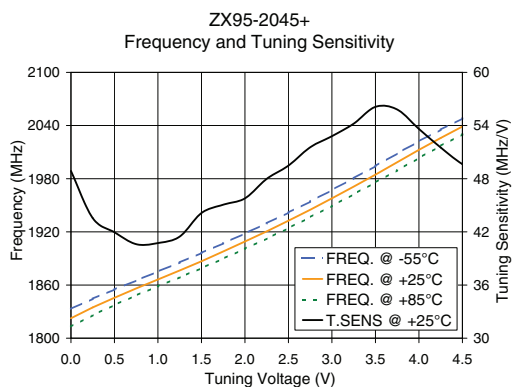
REV. OR  
M120661  
EDR-8930F2  
ZX95-2045+  
RAV  
120903  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-2045+

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 1950 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	48.87	1833.0	1822.5	1813.0	7.27	6.78	6.10	25.98	-25.6	-39.0	-54.0	1.09	8.42	-73.0	-99.4	-120.9	-141.0	1.0	-75.56
0.25	43.57	1844.4	1834.7	1826.0	7.23	6.71	6.05	25.98	-25.5	-36.4	-55.1	0.91	9.08	-73.6	-99.4	-121.4	-141.3	2.0	-83.97
0.50	41.96	1855.0	1845.6	1837.5	7.22	6.68	5.96	25.97	-25.2	-36.4	-51.6	0.76	7.39	-74.3	-99.8	-121.8	-141.7	3.5	-90.68
0.75	40.61	1865.1	1856.1	1848.3	7.22	6.66	5.93	25.98	-24.2	-36.2	-50.4	0.59	5.38	-73.6	-100.7	-121.9	-142.0	6.0	-96.18
1.00	40.74	1875.2	1866.3	1858.6	7.22	6.65	5.90	25.98	-23.7	-35.2	-46.2	0.47	2.98	-75.5	-100.2	-122.1	-142.2	8.5	-99.77
1.25	41.47	1885.5	1876.5	1868.7	7.21	6.64	5.88	25.97	-24.0	-34.4	-45.3	0.37	3.64	-74.0	-100.7	-122.4	-142.4	10.0	-101.45
1.50	44.13	1896.2	1886.8	1879.0	7.14	6.61	5.87	25.97	-24.2	-34.7	-43.6	0.27	5.93	-74.3	-101.4	-122.1	-142.5	20.8	-108.52
1.75	45.06	1907.1	1897.9	1889.8	7.09	6.53	5.82	25.98	-23.4	-33.2	-42.1	0.18	7.40	-73.3	-101.0	-122.6	-142.4	35.5	-113.61
2.00	45.79	1918.2	1909.1	1900.9	7.03	6.49	5.75	26.00	-22.9	-33.1	-41.6	0.13	7.67	-74.2	-101.3	-122.2	-142.4	60.7	-117.57
2.25	47.98	1929.7	1920.6	1912.4	6.98	6.42	5.71	26.00	-22.6	-33.1	-40.8	0.07	6.45	-75.2	-100.9	-122.5	-143.0	86.7	-121.75
2.50	49.48	1941.7	1932.6	1924.2	6.94	6.37	5.63	26.01	-22.7	-32.4	-41.2	0.02	4.35	-74.1	-100.8	-122.7	-142.9	100.0	-122.95
2.75	51.55	1954.2	1944.9	1936.5	6.90	6.32	5.58	26.01	-22.9	-31.9	-39.9	0.07	3.65	-75.0	-101.4	-123.1	-143.1	148.1	-126.64
3.00	52.80	1967.2	1957.8	1949.3	6.87	6.27	5.52	26.02	-22.1	-32.7	-39.4	0.11	5.51	-75.0	-101.5	-123.1	-143.1	211.6	-129.64
3.25	54.20	1980.6	1971.0	1962.4	6.84	6.25	5.48	26.01	-21.5	-32.2	-37.6	0.08	8.11	-74.6	-101.3	-123.3	-143.2	302.4	-132.78
3.50	56.11	1994.3	1984.6	1975.8	6.79	6.19	5.45	26.01	-21.8	-33.1	-36.5	0.06	7.84	-75.7	-101.5	-123.0	-143.4	361.5	-134.32
3.75	55.81	2008.5	1998.6	1989.5	6.70	6.15	5.39	26.03	-21.9	-32.6	-35.2	0.03	5.24	-74.6	-101.1	-122.8	-143.6	507.5	-137.32
4.00	53.61	2022.2	2012.6	2003.4	6.63	6.05	5.33	26.04	-21.8	-32.1	-34.2	0.16	1.77	-74.5	-100.9	-122.7	-143.2	606.7	-138.92
4.25	51.52	2035.2	2026.0	2017.0	6.59	5.99	5.25	26.05	-21.4	-32.7	-32.1	0.22	3.74	-72.3	-101.7	-123.1	-143.3	851.6	-141.89
4.50	49.65	2048.0	2038.8	2030.1	6.58	5.96	5.21	26.06	-21.5	-31.8	-31.2	0.24	5.53	-73.1	-101.1	-122.9	-144.1	1000.0	-143.04

\*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 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).