Surface Mount

Voltage Controlled Oscillator

SOS-656PV-119+

5V Tuning for PLL IC's 632 to 656 MHz

Features

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- small size 0.3" x 0.3"
- aqueous washable

Applications

- wireless communications
- personal & home communication

CASE STYLE: FZ802
PRICE: $ 20.60 ea. QTY (5-49)

+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 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
						Typ.		VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)						Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
SOS-656PV-119+	632	656	-0.4	-89	-113	-133	-152	0.5	4.5	11	125	25	-90	-14	-	0.3	0.1	5	20

Pin Connections

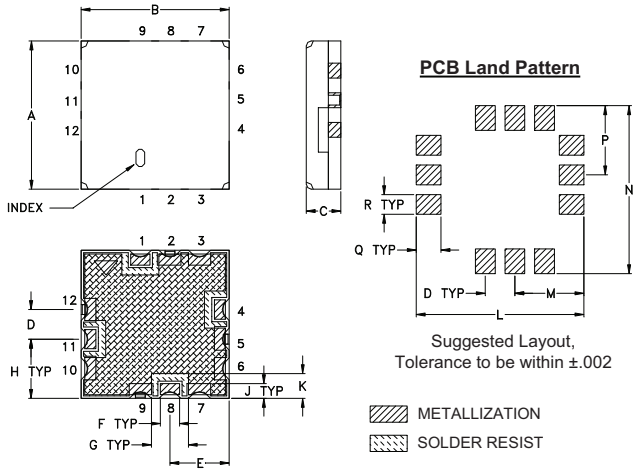
RF OUT	8
VCC	11
V-TUNE	1
GROUND	2,3,4,5,6,7,9,10,12

Maximum Ratings

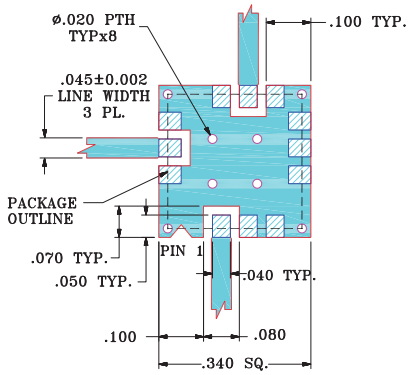
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

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

Outline Drawing



Demo Board MCL P/N: TB-271
Suggested PCB Layout (PL-143)



NOTE:
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025"±.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt.
.300	.300	.070	.060	.120	.039	.075	.120	.030	.050	.340	.140	.340	.140	.050	.040	grams
7.62	7.62	1.78	1.52	3.05	0.99	1.91	3.05	0.76	1.27	8.64	3.56	8.64	3.56	1.27	1.02	.25

REV. OR
M122533
EDR-8970F1
SOS-656PV-119+
RAV
121009

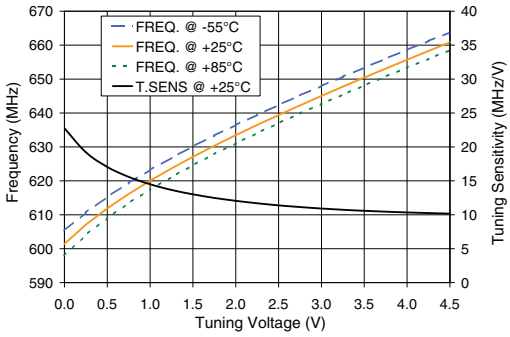
Performance Data & Curves*

SOS-656PV-119+

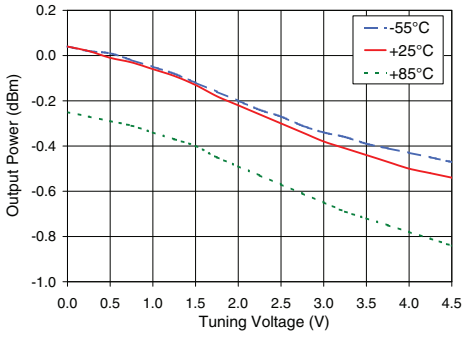
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 644 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	22.75	605.3	601.4	598.0	0.04	0.04	-0.25	15.20	-13.7	-53.5	-58.8	0.75	0.22	-83.9	-111.6	-132.4	-150.7	1.0	-89.10
0.25	19.21	610.7	607.1	604.1	0.02	0.02	-0.27	15.22	-13.7	-51.7	-56.1	0.50	0.22	-85.5	-111.9	-133.1	-151.1	2.0	-97.76
0.50	17.06	615.3	611.9	609.1	0.01	-0.01	-0.29	15.22	-13.6	-51.2	-53.9	0.38	0.22	-86.1	-112.6	-133.3	-151.7	3.5	-103.53
0.75	15.58	619.4	616.2	613.5	-0.02	-0.03	-0.31	15.23	-13.6	-50.3	-52.4	0.31	0.23	-86.6	-113.0	-133.6	-152.4	6.0	-108.85
1.00	14.50	623.2	620.0	617.4	-0.05	-0.06	-0.34	15.24	-13.7	-50.0	-50.6	0.25	0.23	-88.0	-113.0	-133.5	-151.3	8.5	-111.96
1.25	13.67	626.8	623.7	621.1	-0.08	-0.09	-0.37	15.25	-13.7	-50.0	-50.2	0.22	0.24	-89.2	-112.9	-133.4	-152.5	10.0	-113.41
1.50	13.01	630.1	627.1	624.6	-0.12	-0.13	-0.40	15.25	-13.7	-50.0	-49.3	0.19	0.25	-88.4	-113.9	-133.8	-150.5	20.8	-119.92
1.75	12.48	633.4	630.3	627.9	-0.16	-0.18	-0.45	15.26	-13.6	-49.9	-48.5	0.17	0.25	-89.8	-112.8	-133.9	-152.6	35.5	-124.71
2.00	12.05	636.5	633.5	631.0	-0.20	-0.22	-0.49	15.26	-13.6	-49.2	-48.0	0.15	0.26	-89.7	-113.0	-133.5	-152.4	60.7	-129.05
2.25	11.69	639.4	636.5	634.1	-0.24	-0.26	-0.53	15.26	-13.7	-49.8	-47.3	0.14	0.27	-88.0	-113.4	-133.7	-151.4	86.7	-132.54
2.50	11.39	642.4	639.4	637.0	-0.27	-0.30	-0.57	15.27	-13.8	-49.7	-46.6	0.12	0.27	-89.9	-113.2	-133.7	-151.9	100.0	-133.69
2.75	11.14	645.2	642.2	639.9	-0.31	-0.34	-0.61	15.27	-13.9	-49.5	-45.8	0.11	0.28	-89.5	-113.3	-133.6	-153.6	148.1	-137.08
3.00	10.92	648.0	645.0	642.7	-0.34	-0.38	-0.65	15.27	-14.0	-49.5	-45.5	0.10	0.28	-89.8	-113.1	-133.6	-153.6	211.6	-140.34
3.25	10.73	650.7	647.8	645.4	-0.36	-0.41	-0.69	15.28	-13.9	-49.4	-45.2	0.09	0.29	-90.0	-113.8	-133.7	-151.2	302.4	-143.39
3.50	10.58	653.4	650.4	648.1	-0.39	-0.44	-0.72	15.28	-13.8	-48.9	-44.9	0.09	0.30	-89.5	-113.9	-133.6	-150.9	361.5	-144.70
3.75	10.45	656.0	653.1	650.8	-0.41	-0.47	-0.75	15.28	-13.7	-49.5	-44.6	0.08	0.30	-89.5	-112.9	-133.6	-151.4	507.5	-147.86
4.00	10.34	658.6	655.7	653.4	-0.43	-0.50	-0.78	15.28	-13.6	-49.5	-44.3	0.08	0.30	-90.7	-113.0	-133.3	-152.3	606.7	-149.54
4.25	10.25	661.2	658.3	656.0	-0.45	-0.52	-0.81	15.29	-13.6	-49.6	-43.8	0.07	0.31	-88.4	-112.8	-133.7	-151.2	851.6	-152.41
4.50	10.17	663.8	660.8	658.5	-0.47	-0.54	-0.84	15.29	-13.6	-49.8	-43.7	0.07	0.31	-89.3	-113.4	-133.5	-150.8	1000.0	-153.40

*at 25°C unless mentioned otherwise

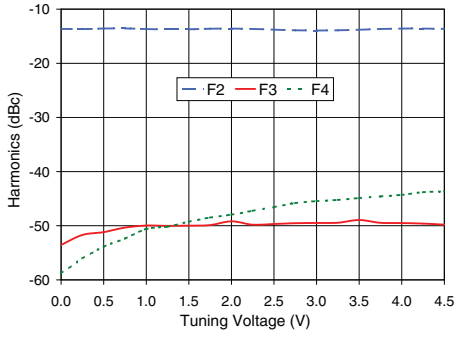
SOS-656PV-119+
Frequency and Tuning Sensitivity



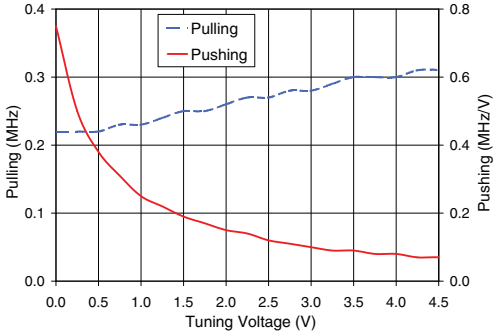
SOS-656PV-119+
Power Output



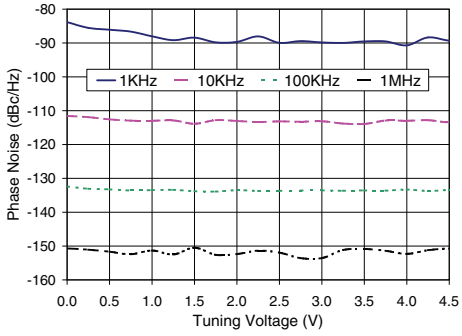
SOS-656PV-119+
Harmonics Level



SOS-656PV-119+
Frequency Pulling & Pushing (Vcc ± 5%)



SOS-656PV-119+
Phase Noise Vs. Tuning Voltage



SOS-656PV-119+
Phase Noise