

The World Leader In VCOs & PLLs



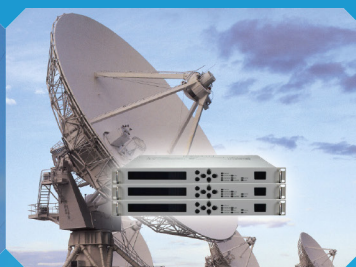
2016 PRODUCT SELECTION GUIDE



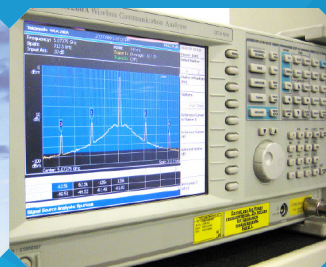
Voltage Controlled Oscillators | Phase-Locked Loops | 40 MHz - 15 GHz



Microwave
Radio



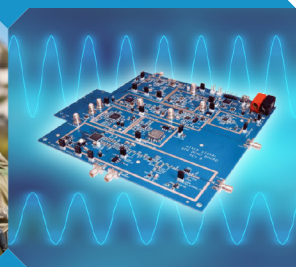
Satellite
Communications



Test &
Measurement

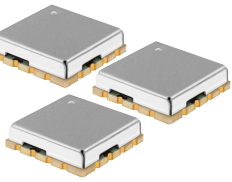


Military
Communications



Clock
Source

CLV Series VCOs | 400 MHz - 4 GHz

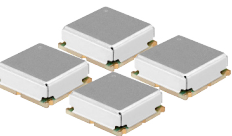


Wide Frequency Range • Low Phase Noise • Low Harmonics

The CLV series VCOs utilize a microstrip topology that is based on a patented high-Q distributed resonator design which delivers low phase noise and linear tuning spanning over a wide range of frequency bands covering 400 MHz to 4 GHz. They exhibit excellent tuning linearity and superior harmonic suppression making them the ideal choice for test equipment and satellite communication applications.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
CLV0600A-LF	530	670	1 - 4.5	52	-2.5 to 5.5	-109	-15	5	24	<2	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0625E-LF	575	675	0.5 - 4.5	43	-4 to 4	-111	-8	5	25	<2	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV0700E-LF	680	720	0.5 - 4.5	35	0 to 5	-109	-10	5	18	<2	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0798A-LF	730	920	1 - 15	28	-2 to 6.5	-108	-15	5	19	<2	<1	0.5 x 0.5 x 0.13	MINI-16-L
CLV0750E-LF	750	830	0.5 - 4.5	31	1.5 to 5.5	-110	-14	5	18	<1	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0835E-LF	800	835	0.5 - 4.5	25	-1 to 5	-111	-17	5	21	<1	<0.2	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0975B-LF	820	1170	0.5 - 15	31	-3 to 3.5	-109	-12	5	20	<2	<0.5	0.5 x 0.5 x 0.22	MINI-14S
CLV1075A-LF	830	1300	0.5 - 17	35	0 to 8	-105	-18	5	26	<4	<2	0.5 x 0.5 x 0.22	MINI-14S
CLV1025E-LF	865	1180	1 - 14	30	1 to 10	-107	-12	5	24	<2	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV0894A-LF	868	920	0.5 - 4.5	19	0 to 6	-113	-15	5	25	<1	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0890A-LF	890	930	0.5 - 4.5	25	-3.5 to 1	-111	-20	5	20	<0.6	<0.2	0.5 x 0.5 x 0.22	MINI-14S
CLV0925E-LF	896	959	0.3 - 4.7	20	-7 to -3	-111	-24	5	12	<1	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1000B-LF	900	1100	0.5 - 4.5	60	1 to 10	-104	-20	5	20	<4	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV0989A-LF	939	1039	0.5 - 4.5	29	-2 to 3	-109	-15	5	25	<3	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1186A-LF	945	1427	0.5 - 24	24	2 to 8	-104	-15	8	30	<2	<2	0.5 x 0.5 x 0.13	MINI-14S-L
CLV0986E-LF	971	1002	0.5 - 4.5	18	-2 to 3	-113	-20	5	20	<1	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1015E-LF	987	1032	0.6 - 5	21	-7 to -1	-109	-36	4.5	15	<2	<2	0.5 x 0.5 x 0.22	MINI-14S
CLV1030E-LF	990	1070	1 - 4.5	33	1 to 10	-106	-15	5	25	<3	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1100E-LF	1035	1180	1 - 10	25	0 to 8	-107	-15	5	23	<2	<2	0.5 x 0.5 x 0.22	MINI-14S
CLV1150E-LF	1100	1200	0.3 - 4.7	39	0 to 4	-109	-20	5	22	<1	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1225A-LF	1180	1270	0.5 - 4.5	37	-1 to 6	-109	-25	5	26	<1	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1295A-LF	1235	1355	0.5 - 4.5	68	3 to 7	-105	-15	5	26	<4	<2	0.5 x 0.5 x 0.22	MINI-14S
CLV1310A-LF	1260	1370	0.5 - 4.75	40	2 to 7	-107	-11	5	25	<0.5	<1.5	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1350E-LF	1295	1385	0.5 - 4.5	36	-3 to 3	-107	-12	5	21	<1	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1385E-LF	1370	1400	0.5 - 4.5	21	1 to 6.5	-109	-15	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1440E-LF	1400	1486	0.5 - 4.5	33	-3 to 3	-107	-15	5	23	<1	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1625B-LF	1445	1820	2 - 25	23	-2 to 3	-105	-22	5	25	<2	<1	0.5 x 0.5 x 0.13	MINI-16-L
CLV1585E-LF	1487	1587	0.25 - 4.5	36	2 to 7	-108	-17	5	24	<2	<3	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1525E-LF	1500	1550	0.3 - 4.7	25	-2 to 3	-108	-20	5	25	<1	<1	0.5 x 0.5 x 0.22	MINI-14S
CLV1635A-LF	1600	1670	0.5 - 4.5	33	0 to 6	-108	-25	5	22	<2	<1	0.5 x 0.5 x 0.13	MINI-14S-L
CLV1670A-LF	1640	1700	0.5 - 4.5	30	0 to 5	-111	-21	5	23	<1.5	<1	0.5 x 0.5 x 0.13	MINI-16-L
CLV1750A-LF	1690	1810	0.5 - 4.5	50	3 to 7	-104	-15	5	27	<4	<2	0.5 x 0.5 x 0.22	MINI-14S

TRO Series VCOs | 1300 MHz - 2400 MHz



Exceptional Phase Noise • Small Size • Low Power Consumption

The TRO series features the latest enhancement in new VCO development. This series utilizes ceramic resonator topology to deliver ultra-low phase noise performance, but its compact size is what distinguishes itself from other ceramic resonator designs and sets a new standard. The TRO provides nearly a 45% and 70% reduction in overall area and volume size, respectively, in comparison to other CRO models. This series is currently available in the range of 1300 to 2400 MHz and offers spectral purity that is unmatched in a size measuring 0.375" x 0.375" x 0.12".

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
TRO1350A-LF	1350	1350	0.5 - 4.5	5	0 to 6	-117	-25	5	25	<1	<1	0.375 x 0.375 x 0.12	375
TRO1790A-LF	1790	1790	0.5 - 4.5	5	1 to 7	-118	-12	5	25	<1	<1	0.375 x 0.375 x 0.12	375
TRO1800A-LF	1800	1800	0.5 - 4.5	4	1 to 7	-117	-10	5	25	<1	<1	0.375 x 0.375 x 0.12	375
TRO2000A-LF	2000	2000	0.5 - 4.5	5	5 to 8	-117	-17	5	28	<1	<1	0.375 x 0.375 x 0.12	375
TRO2400A-LF	2400	2400	0.5 - 4.5	4	2 to 8	-113	-20	5	25	<1	<2	0.375 x 0.375 x 0.12	375

CRO Series VCOs | 400 MHz - 8 GHz

Low Tuning Sensitivity • Ultra-Low Phase Noise • Low Frequency Drift

The CRO or ceramic resonator family of oscillators are renowned for offering superior phase noise performance. They are available in ranges anywhere from 400 MHz to 8 GHz while providing very low tuning sensitivities for performance optimization. The unique construction of CRO oscillators and the implementation of the 'tabless' resonator design provides additional microphonic immunization and reduced phase hits in high data rate backhaul radio systems.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
CRO0815A-LF	815	815	0.5 - 4.5	3	-2 to 4	-122	-5	5	15	<0.5	<0.5	0.5 x 0.5 x 0.13	MINI-16HL-SM
CRO1000B-LF	1000	1000	0 - 3.3	4	0 to 6	-121	-15	5	18	<0.5	<0.5	0.5 x 0.5 x 0.13	MINI-16HL-SM
CRO1140A-LF	1140	1140	0.5 - 4.5	3	0 to 6	-120	-10	5	22	<0.2	<0.1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO1320A-LF	1320	1320	0 - 4.5	3	0 to 6	-120	-20	5	29	<0.5	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO1600M-LF	1600	1600	0.5 - 4.5	5	1 to 5	-125	-15	8	30	<0.2	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO1728A-LF	1691	1765	0.5 - 4.5	30	0 to 6	-110	-15	5	25	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO1820A-LF	1818	1822	0.5 - 4.5	5	2 to 7	-119	-25	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO1940A-LF	1910	1970	0.5 - 4.5	21	1 to 6	-112	-30	5	22	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2065B-LF	2005	2065	0.5 - 4.5	20	-3 to 3	-112	-25	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2120B-LF	2080	2158	0.5 - 4.75	22	1 to 7	-110	-22	5	23	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2125A-LF	2125	2125	1.5 - 3.5	3	5 to 9	-121	-12	8	31	<0.05	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2245A-LF	2130	2360	0.5 - 4.5	79	-2 to 4	-103	-14	5	18	<2	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2242A-LF	2200	2285	0.5 - 4.5	25	2 to 7	-110	-15	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2273B-LF	2265	2280	0.5 - 4.5	6	1 to 5	-115	-13	5	20	<0.5	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2330A-LF	2300	2360	0.5 - 4.5	19	-3 to 3	-111	-27	5	21	<2	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2390A-LF	2360	2420	0.5 - 4.5	27	-2 to 2	-110	-20	5	19	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2377A-LF	2370	2385	0.5 - 4.5	7	1 to 5	-116	-25	5	30	<0.5	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2500C-LF	2400	2600	1 - 12	23	5 to 9	-106	-15	8	28	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2490B-LF	2430	2550	0.5 - 4.5	40	0 to 7	-107	-20	5	19	<1	<2	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2570A-LF	2520	2620	0.5 - 4.5	38	0 to 6	-107	-20	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2605B-LF	2560	2650	0.5 - 4.5	30	1 to 7	-107	-15	5	25	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2645A-LF	2615	2675	0.5 - 4.5	23	1 to 7	-109	-15	5	19	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2665D-LF	2640	2710	0.5 - 4.5	30	0 to 6	-109	-15	5	21	<2	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2730A-LF	2665	2795	0.5 - 4.5	49	-2 to 4	-103	-20	5	20	<3	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2700B-LF	2670	2730	0.5 - 4.5	20	4 to 9	-108	-21	5	18	<2	<2	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2715D-LF	2670	2760	0.5 - 4.5	34	3 to 7	-107	-15	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2845A-LF	2770	2920	0.5 - 4.5	52	7 to 13	-106	-20	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2840A-LF	2810	2870	0.5 - 4.5	34	-3 to 3	-109	-18	4	12	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2850A-LF	2845	2855	0.5 - 4.5	9	4 to 9	-117	-10	5	19	<0.5	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2930A-LF	2876	2984	0.5 - 4.5	60	7 to 13	-105	-20	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO2960A-LF	2945	2975	0.5 - 4.5	13	4 to 10	-112	-16	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3000B-LF	3000	3000	0.5 - 4.5	11	6 to 12	-115	-20	5	20	<0.5	<0.5	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3069A-LF	3064	3074	0.5 - 4.5	12	0 to 5	-116	-22	5	20	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3200A-LF	3200	3200	0.5 - 4.5	7	8 to 14	-116	-15	5	22	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3263A-LF	3206	3320	0.5 - 4.5	47	-2 to 5	-103	-15	5	26	<2	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3375A-LF	3370	3380	0.5 - 4.5	7	0 to 5	-112	-20	5	21	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3425B-LF	3420	3430	0.5 - 4.5	8	0 to 4	-110	-15	5	19	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3600C-LF	3550	3650	0.5 - 4.5	60	0 to 6	-100	-15	5	30	<2	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3625C-LF	3625	3625	0.5 - 4.5	6	0 to 7	-112	-20	5	24	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO3750A-LF	3750	3750	0.5 - 4.5	8	-1 to 5	-110	-30	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-16
CRO3850B-LF	3850	3850	0.5 - 4.5	4	1.5 to 4	-109	-39	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-16
CRO4166A-LF	4166	4166	0.5 - 4.5	10	3 to 9	-103	-15	5	25	<1	<1	0.5 x 0.5 x 0.22	MINI-16-SM
CRO4715A-LF	4715	4715	1 - 4	3	0 to 6	-107	-40	5	71	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO5216Z-LF	5211	5221	0.5 - 4.5	6	0 to 6	-106	-40	5	68	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO5406Z-LF	5401	5411	0.5 - 4.5	6	0 to 6	-106	-40	5	70	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO5750Z-LF	5740	5760	0.5 - 4.5	15	2 to 6	-106	-40	5	70	<0.5	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO5950Z-LF	5945	5955	0.5 - 4.5	10	-3 to 3	-107	-40	5	70	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO6000Z-LF	5990	6010	0.5 - 4.5	15	1 to 6	-108	-40	5	72	<0.5	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO6300Z-LF	6290	6310	0.5 - 4.5	18	1 to 6	-105	-40	5	74	<0.5	<2	0.86 x 0.63 x 0.22	VCO-24H
CRO6700Z-LF	6690	6710	0.5 - 4.5	11	1 to 6	-104	-40	5	69	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO6800Z-LF	6800	6800	0.5 - 4.5	18	3 to 7	-104	-40	5	69	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO6950Z-LF	6945	6955	0.5 - 4.5	15	1 to 6	-104	-40	5	70	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO7004Z-LF	6999	7009	0.5 - 8	5	-1 to 6	-105	-38	5	72	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO7100Z-LF	7090	7110	0.5 - 4.5	10	1 to 7	-102	-40	5	75	<1	<1	0.86 x 0.63 x 0.22	VCO-24H
CRO7850A-LF	7845	7855	0.5 - 4.5	42	-4 to 4	-99	-40	5	135	<2	<0.1	0.86 x 0.63 x 0.22	VCO-24H

SMV Series VCOs | 60 MHz - 6 GHz



Exceptional Spectral Purity • Low Power Consumption • Ultra-fine Tuning Precision

The SMV series VCO provides the ideal combination of phase noise, power and size. Residing in a 0.3" x 0.3" x 0.08" package, this oscillator series offers a wide range of products from 60 MHz to 6 GHz while providing exceptional phase noise performance. They are further heightened by consuming little power, making them a perfect fit for any remote wireless system.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
SMV0135A-LF	120	150	0.5 - 4.5	12	2 to 8	-100	-11	5	20	<2	<1	0.3 x 0.3 x 0.08	SUB-L
SMV0350A-LF	349	351	0 - 3	15	-3 to 3	-101	-22	3.3	15	<3	<1	0.3 x 0.3 x 0.08	SUB-L
SMV0780L-LF	750	810	0.5 - 3	40	1 to 5	-105	-10	2.7	9	<5	<5	0.3 x 0.3 x 0.08	SUB-L
SMV0912A-LF	775	1055	0 - 5	83	-2 to 3	-95	-15	5	15	<3	<2	0.3 x 0.3 x 0.08	SUB-L
SMV0850C-LF	800	900	0.5 - 4.5	61	5 to 11	-98	-20	5	25	<5	<5	0.3 x 0.3 x 0.08	SUB-L
SMV0978L-LF	975	995	0.5 - 2.5	76	1 to 7	-97	-12	3	7	<2	<6	0.3 x 0.3 x 0.08	SUB-L
SMV1100C-LF	980	1200	0.5 - 4.5	125	5 to 11	-98	-13	5	26	<10	<10	0.3 x 0.3 x 0.08	SUB-L
SMV1275A-LF	1100	1450	0.5 - 4.5	130	0 to 4	-96	-15	5	20	<8	<7	0.3 x 0.3 x 0.08	SUB-L
SMV1365C-LF	1265	1465	0.5 - 4.5	113	5 to 11	-95	-7	5	21	<5	<10	0.3 x 0.3 x 0.08	SUB-L
SMV1450A-LF	1350	1550	0.5 - 4.5	88	-3 to 3	-98	-8	3	11	<5	<2	0.3 x 0.3 x 0.08	SUB-L
SMV1440L-LF	1380	1500	0 - 3	99	-3 to 3	-93	-15	3	13	<3	<5	0.3 x 0.3 x 0.08	SUB-L
SMV1505A-LF	1505	1505	0 - 5	31	0 to 4	-99	-18	3	13	<5	<4	0.3 x 0.3 x 0.08	SUB-L
SMV1740C-LF	1640	1840	0.5 - 4.5	95	5 to 11	-90	-10	5	20	<8	<10	0.3 x 0.3 x 0.08	SUB-L
SMV1780A-LF	1710	1850	0 - 3	150	0 to 6	-87	-9	3	13	<7	<8	0.3 x 0.3 x 0.08	SUB-L
SMV2020L-LF	1860	2180	0.5 - 4.5	148	3 to 7	-91	-9	4.7	13	<9	<12	0.3 x 0.3 x 0.08	SUB-L
SMV2300A-LF	1900	2300	0.5 - 4.5	139	1 to 7	-93	-10	5	14	<4	<7	0.3 x 0.3 x 0.08	SUB-L
SMV2100L-LF	2050	2150	0 - 3	155	5 to 11	-85	-8	3	15	<25	<25	0.3 x 0.3 x 0.08	SUB-L
SMV2365C-LF	2180	2550	0.5 - 4.5	140	5 to 11	-88	-9	5	14	<10	<20	0.3 x 0.3 x 0.08	SUB-L
SMV2278A-LF	2275	2280	0.3 - 3	147	2 to 7	-91	-10	3	13	<6	<8	0.3 x 0.3 x 0.08	SUB-L
SMV2500L-LF	2400	2484	0 - 3	105	8 to 13	-86	-20	3	20	<21	<18	0.3 x 0.3 x 0.08	SUB-L
SMV2560A-LF	2435	2675	0.4 - 2.9	172	2 to 8	-82	-12	3	19	<31	<13	0.3 x 0.3 x 0.08	SUB-L
SMV2920C-LF	2820	3020	0.5 - 4.5	125	5 to 11	-85	-15	5	29	<13	<10	0.3 x 0.3 x 0.08	SUB-L
SMV2950A-LF	2850	3050	0 - 2.5	125	0 to 6	-85	-18	3	15	<15	<10	0.3 x 0.3 x 0.08	SUB-L
SMV3400C-LF	3180	3430	0.5 - 4.5	80	5 to 11	-89	-20	5	29	<13	<10	0.3 x 0.3 x 0.08	SUB-L
SMV3417B-LF	3415	3420	0 - 3	50	-1 to 5	-83	-32	3	17	<30	<14	0.3 x 0.3 x 0.08	SUB-L
SMV3895A-LF	3815	3975	0.5 - 2.5	140	0 to 4	-84	-15	2.8	11	<5	<21	0.3 x 0.3 x 0.08	SUB-L
SMV4596B-LF	4595	4598	0 - 2.5	110	-3 to 1	-81	-25	2.8	8	<5	<8	0.3 x 0.3 x 0.08	SUB-L
SMV5000E-LF	4780	5356	0.3 - 4.7	165	-2 to 2	-81	-20	5	27	<11	<4	0.3 x 0.3 x 0.08	SUB-L
SMV5550B-LF	5000	6000	0 - 10	135	0 to 6	-80	-35	5	24	<20	<10	0.3 x 0.3 x 0.08	SUB-L
SMV5320A-LF	5245	5395	1 - 4	170	-2 to 2	-81	-20	5	27	<11	<4	0.3 x 0.3 x 0.08	SUB-L
SMV5750A-LF	5700	5800	1 - 4	90	-2 to 2	-86	-30	5	26	<4	<5	0.3 x 0.3 x 0.08	SUB-L

USSP Series VCOs | 150 MHz - 4 GHz

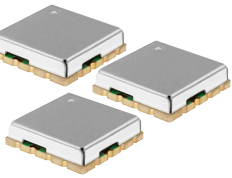


Ultra-compact Size • Low Phase Noise • Low Power Consumption

The USSP series is the smallest VCO currently available which is housed in a package measuring 0.2" x 0.2" x 0.06". In addition to being uniquely characterized by their ultra-small size, they also provide exceptionally low power consumption, typically <30mW, making them ideal for mobile radio communication systems and portable satellite terminals.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
USSP1220-LF	1210	1230	0.5 - 3	52	0 to 6	-101	-15	3.3	13	<6	<3	0.2 x 0.2 x 0.04	USSP
USSP1325-LF	1250	1400	0.5 - 4.5	75	0 to 6	-100	-15	5	23	<3	<3	0.2 x 0.2 x 0.04	USSP
USSP1400-LF	1380	1420	0 - 3	101	-2 to 4	-93	-25	3	8	<5	<4	0.2 x 0.2 x 0.04	USSP
USSP1570-LF	1540	1600	0.5 - 2.5	115	-4 to 2	-90	-25	2.7	7	<5	<4	0.2 x 0.2 x 0.04	USSP
USSP1730-LF	1715	1745	1 - 4	68	0 to 7	-94	-25	5	19	<5	<5	0.2 x 0.2 x 0.04	USSP
USSP2350-LF	2300	2400	0.5 - 3	140	-4 to 4	-82	-15	2.7	6	<40	<13	0.2 x 0.2 x 0.04	USSP
USSP2400-LF	2400	2485	0.5 - 2.5	120	-5 to 2	-83	-15	2.7	6	<35	<13	0.2 x 0.2 x 0.04	USSP
USSP3300-LF	3050	3550	0 - 5	155	-3 to 5	-81	-12	3	13	<11	<13	0.2 x 0.2 x 0.04	USSP
USSP3417-LF	3410	3430	0 - 3	80	-2 to 6	-82	-13	3	13	<12	<20	0.2 x 0.2 x 0.04	USSP

V Series VCOs | 40 MHz - 8 GHz



Low Phase Noise • Linear Tuning • Octave Bandwidth

The V series comes available in the industry standard 0.5" x 0.5" package size and offers the widest selection of products encompassing 40 MHz to 8 GHz. Utilizing lumped element or microstrip resonator technology, the V series are specially designed for applications requiring either narrowband tuning or frequency bandwidths covering more than an octave.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
V061ME01-LF	45	77	1 - 10	5	1.5 to 9.5	-113	-6	5	23	<1	<0.5	0.5 x 0.5 x 0.22	MINI-14S
V093ME01-LF	88	98	0.5 - 4.5	6.4	6 to 10	-127	-12	5	17	<1	<1	0.5 x 0.5 x 0.22	MINI-16
V150ME03-LF	100	200	0 - 12.5	10	5 to 11	-115	-10	12	19	<0.2	<0.5	0.5 x 0.5 x 0.13	MINI-16-L
V155ME05-LF	121	163	0.5 - 4.5	14	6 to 10	-121	-18	5	18	<1	<1	0.5 x 0.5 x 0.22	MINI-16
V240ME05-LF	134	246	0.5 - 4.6	31	-4 to 4	-106	-9	5	7	<2	<1	0.5 x 0.5 x 0.13	MINI-16-L
V220ME02-LF	200	239	0.5 - 4.5	18	5 to 10	-121	-16	5	19	<1	<1	0.5 x 0.5 x 0.22	MINI-16
V330ME01-LF	320	340	1 - 4	23	4 to 9	-111	-10	5	14	<3	<5	0.5 x 0.5 x 0.13	MINI-14S-L
V350ME52-LF	350	700	0 - 10	45	-1 to 9	-99	-5	5	13	<4	<2	0.5 x 0.5 x 0.22	MINI-14S
V418ME03-LF	390	406	0.5 - 4.5	6	-3 to 3	-118	-14	4.7	16	<1	<0.5	0.5 x 0.5 x 0.13	MINI-16M-L
V560MC03-LF	400	800	0 - 12	56	0 to 12	-105	-5	5	18	<4	<3	0.5 x 0.5 x 0.22	MINI-14S
V495ME01-LF	485	505	0.5 - 4.5	10	-2 to 4	-113	-7	5	8	<2	<2	0.5 x 0.5 x 0.16	MINI-16M-LOW
V500ME03-LF	500	1000	0 - 11	54	6 to 14	-105	-13	12	25	<5	<10	0.5 x 0.5 x 0.22	MINI-16-SM
V515ME01-LF	502	529	0.5 - 4.5	10	-3 to 3	-115	-10	5	10	<1	<1	0.5 x 0.5 x 0.16	MINI-16M-LOW
V585ME73-LF	600	1200	0 - 13	58	6 to 11	-100	-12	10	18	<3	<7	0.5 x 0.5 x 0.22	MINI-16-SM
V580ME15-LF	745	885	0.5 - 4.5	53	7 to 12	-108	-12	10	24	<3	<2	0.5 x 0.5 x 0.13	MINI-16-L
V585ME30-LF	800	1600	1 - 21	60	5 to 11	-101	-5	11.5	16	<3	<8	0.5 x 0.5 x 0.22	MINI-14S
V580ME13-LF	830	970	0.5 - 4.5	51	2 to 8	-109	-12	5	17	<3	<1	0.5 x 0.5 x 0.22	MINI-16
V585ME48-LF	950	2050	0 - 15	81	1 to 7	-98	-33	10	19	<3	<3	0.5 x 0.5 x 0.13	MINI-16HL-SM
V585ME72-LF	1000	2000	0.75 - 21	65	2 to 8	-99	-30	4.75	17	<3	<2	0.5 x 0.5 x 0.13	MINI-16-L
V602ME55-LF	1000	1350	0.5 - 4.5	130	0.5 to 6.5	-98	-15	3	10	<5	<4	0.5 x 0.5 x 0.13	MINI-14S-L
V585ME66-LF	1100	2500	0.3 - 20	85	6 to 11	-95	-10	10	21	<7	<11	0.5 x 0.5 x 0.13	MINI-16-L
V602ME15-LF	1100	1400	0.5 - 4.5	130	5 to 10	-99	-15	5	15	<3	<13	0.5 x 0.5 x 0.13	MINI-14S-L
V585ME28-LF	1200	2200	1 - 20	75	5.5 to 11.5	-100	-18	5	25	<6	<11	0.5 x 0.5 x 0.13	MINI-14S-L
V602ME33-LF	1375	1700	0.5 - 4.5	97	-1 to 3	-100	-14	5.0	14	<2	<5	0.5 x 0.5 x 0.13	MINI-14S-L
V586ME06-LF	1400	2050	1.75 - 12	84	3 to 10	-98	-8	12	20	<4	<15	0.5 x 0.5 x 0.13	MINI-14S-L
V585ME19-LF	1500	2000	0.8 - 20	34	3 to 7	-101	-10	10	15	<3	<9	0.5 x 0.5 x 0.22	MINI-14S
V600ME10-LF	1600	3200	0.5 - 20	108	4 to 12	-89	-25	5	26	<16	<10	0.5 x 0.5 x 0.13	MINI-16-L
V604ME08-LF	1680	1985	1 - 10	-99	4 to 9.5	-99	-12	9	22	<3	<7	0.5 x 0.5 x 0.22	MINI-14S
V600ME20-LF	1700	2800	0.5 - 15	118	3 to 10	-95	-20	5	21	<5	<8	0.5 x 0.5 x 0.13	MINI-16-L
V674ME25-LF	1820	2480	0.5 - 9.5	98	1 to 8	-91	-19	10	13	<5	<18	0.5 x 0.5 x 0.22	MINI-14H
V626ME10-LF	2000	2500	1 - 14	53	1 to 6	-97	-7	9	18	<2	<12	0.5 x 0.5 x 0.13	MINI-14H-L
V600ME14-LF	2000	4000	0 - 24	100	0 to 11	-86	-15	5	27	<10	<14	0.5 x 0.5 x 0.16	MINI-16-LOW
V626ME21-LF	2250	2790	1.5 - 13	60	0 to 6	-98	-20	8	28	<4	<14	0.5 x 0.5 x 0.13	MINI-16-L
V674ME29-LF	2400	2900	0.5 - 4.5	220	0 to 6	-86	-20	5	23	<6	<8	0.5 x 0.5 x 0.22	MINI-16
V805ME12-LF	2600	3110	1.75 - 12	66	3 to 12	-92	-20	12	23	<5	<20	0.5 x 0.5 x 0.13	MINI-14H-L
V600ME31-LF	2700	5400	0 - 24	140	3 to 11	-75	-20	5	25	<53	<18	0.5 x 0.5 x 0.16	MINI-16-LOW
V810ME08-LF	2750	3500	0.5 - 9.5	120	3 to 9	-88	-15	10	24	<6	<13	0.5 x 0.5 x 0.13	MINI-14H-L
V846ME29-LF	2900	4400	1 - 22	90	4 to 12	-80	-18	8	26	<8	<26	0.5 x 0.5 x 0.13	MINI-16-L
V600ME45-LF	3000	6000	0 - 24	147	-1 to 9	-74	-12	12	24	<22	<21	0.5 x 0.5 x 0.16	MINI-16-LOW
V844ME21-LF	3100	3600	0.25 - 4.75	165	2 to 10	-82	-15	5	21	<14	<10	0.5 x 0.5 x 0.22	MINI-14S
V844ME01-LF	3200	3400	0.5 - 4.5	103	4 to 8	-88	-25	5	18	<9	<16	0.5 x 0.5 x 0.22	MINI-14H
V846ME30-LF	3350	4550	0 - 20	70	0 to 8	-85	-15	5	25	<10	<20	0.5 x 0.5 x 0.13	MINI-16-L
V844ME02-LF	3400	3600	1.0 - 5.0	94	1 to 5	-88	-15	5	18	<1	<6	0.5 x 0.5 x 0.13	MINI-14S-L
V900ME01-LF	3500	4000	2 - 18	70	2 to 8	-88	-45	8	24	<9	<12	0.5 x 0.5 x 0.22	MINI-14H
V910ME20-LF	3920	4520	1 - 7	168	1 to 7	-83	-23	5	30	<14	<10	0.5 x 0.5 x 0.13	MINI-14S-L
V844ME36-LF	4100	4300	0.5 - 4.5	93	1 to 5	-86	-15	5	15	<8	<10	0.5 x 0.5 x 0.13	MINI-14S-L
V950ME09-LF	4200	5000	1 - 12	124	9 to 17	-85	-18	12	35	<10	<28	0.5 x 0.5 x 0.13	MINI-14S-L
V950ME26-LF	4600	5400	0.3 - 9.5	110	2 to 8	-82	-20	5	28	<10	<14	0.5 x 0.5 x 0.22	MINI-14S
V940ME29-LF	4900	5500	0 - 10	87	0 to 8	-88	-25	5	28	<5	<15	0.5 x 0.5 x 0.22	MINI-14S
V950ME25-LF	5000	6000	0 - 22	56	-3 to 3	-88	-32	5	22	<8	<8	0.5 x 0.5 x 0.13	MINI-16HL-SM
V940ME24-LF	5500	5850	0 - 9	75	0 to 6	-87	-25	5	36	<9	<19	0.5 x 0.5 x 0.22	MINI-14S
V940ME03-LF	5725	5875	0.5 - 4.5	85	0 to 4	-85	-30	5	26	<10	<8	0.5 x 0.5 x 0.13	MINI-14S-L
V940ME28-LF	5840	6040	0.5 - 4.5	85	-3 to 4	-85	-15	5	28	<10	<8	0.5 x 0.5 x 0.22	MINI-14S
V965ME06-LF	6380	6420	0.5 - 4.5	80	-5 to 2	-89	-19	5	50	<11	<13	0.5 x 0.5 x 0.13	MINI-14S-L
V965ME04-LF	6500	6550	0.5 - 4.5	80	-6 to 1	-85	-19	5	50	<6	<12	0.5 x 0.5 x 0.13	MINI-14S-L

DRO Series VCOs | 7 GHz - 14 GHz

Exceptional Spectral Purity • Low Power Consumption • Ultra-Fine Tuning Precision

The DRO series Voltage Controlled Oscillator is a fundamental, narrowband signal source utilizing a high-Q dielectric resonator for optimal phase noise performance. The DRO VCO solution is currently being offered for frequencies operating within 7 to 14 GHz. This customizable, ultra-low noise oscillator series is available with both electrical tuning and mechanical tuning for fine frequency precision.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
DRO7000A	7000	7000	0 - 12	1.5	0 to 6	-101	-25	5	23	<1	<1	0.91 x 0.91 x 0.51	SDRO
DRO8000A	8000	8000	0 - 12	1	-3 to 3	-102	-25	5	23	<1	<1	0.91 x 0.91 x 0.51	SDRO
DRO8100A	8100	8100	0 - 12	1	-3 to 3	-102	-25	5	25	<1	<1	0.91 x 0.91 x 0.51	SDRO
DRO8800A	8800	8800	0 - 12	0.5	-1 to 5	-104	-30	5	18	<1	<1	0.91 x 0.91 x 0.51	SDRO
DRO9000A	9000	9000	0 - 12	0.6	-2 to 4	-106	-30	5	18	<1	<1	0.91 x 0.91 x 0.51	SDRO
DRO9700A	9700	9700	0 - 12	0.85	-3 to 3	-105	-35	5	18	<0.1	<2	0.91 x 0.91 x 0.51	SDRO
DRO9900A	9900	9900	0 - 12	0.9	-2 to 4	-103	-30	5	18	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO10000A	10000	10000	0 - 12	0.5	-3 to 3	-102	-25	5	20	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO10150A	10150	10150	0 - 12	0.5	-3 to 3	-103	-30	5	18	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO10500A	10500	10500	0 - 12	0.5	-2 to 6	-102	-30	5	23	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO11000A	11000	11000	0 - 12	0.8	-3 to 3	-103	-30	5	25	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO11050A	11050	11050	0 - 12	0.8	-1 to 5	-103	-30	5	25	<1	<2	0.91 x 0.91 x 0.51	SDRO
DRO11150A	11150	11150	0 - 12	0.6	-2 to 4	-106	-35	5	23	<1	<1.5	0.91 x 0.91 x 0.51	SDRO
DRO11750A	11750	11750	0 - 12	0.5	-3 to 3	-104	-30	5	23	<1	<1.5	0.91 x 0.91 x 0.51	SDRO
DRO12000A	12000	12000	0 - 12	0.5	-3 to 3	-106	-35	5	23	<1	<1.5	0.91 x 0.91 x 0.51	SDRO
DRO12100A	12100	12100	0 - 12	0.5	-3 to 3	-105	-35	5	23	<1	<1.5	0.91 x 0.91 x 0.51	SDRO
DRO12600A	12600	12600	0 - 12	0.5	-3 to 3	-102	-25	5	23	<1	<1.5	0.91 x 0.91 x 0.51	SDRO

ZRO Series VCOs | 600 MHz - 3 GHz

Ultra-low Phase Noise • Voltage Bias Stabilization • Temperature Compensated

The ZRO series VCOs are ceramic resonator based oscillators which have been designed with an innovative topology to help provide extremely low phase noise. Utilizing specialized voltage bias and temperature stabilization techniques, the ZRO oscillator maintains minimal tuning sensitivity and low harmonic suppression for maximum overall performance.

Part Number	Low Freq (MHz)	High Freq (MHz)	Vtune (Vdc)	Kvco (MHz/V) (typ)	Output Power (dBm)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc)(typ)	Vcc (Vdc)	Icc (mA) (typ)	Pushing (MHz/V) (max)	Pulling (MHz) (max)	Size (Inches)	Package
ZRO0690B2LF	690	690	0 - 6	2	7 to 11	-131	-19	8	23	<1	<1	0.75 x 0.75 x 0.22	ZMX-14-SM
ZRO0700B-LF	699	701	0.5 - 4.5	2	7 to 11	-129	-21	5	18	<0.06	<0.30	0.75 x 0.75 x 0.22	ZMX-14-SM
ZRO0736B2LF	736	737	0 - 6	2	7 to 11	-125	-24	8	25	<0.06	<0.30	0.75 x 0.75 x 0.22	ZMX-14-SM
ZRO0818C2LF	805	831	0 - 11	3	3 to 7	-126	-35	10	23	<0.20	<1.5	0.75 x 0.75 x 0.22	ZMX-14-SM
ZRO0915C2LF	902	928	0 - 11	2	3 to 7	-128	-35	10	23	<0.20	<1.5	0.75 x 0.75 x 0.22	ZMX-14-SM
ZRO1000A-LF	1000	1000	1.5 - 3.5	2	5 to 9	-129	-18	8	25	<0.20	<0.5	0.75 x 0.75 x 0.22	ZMX-14-SM

RF Amplifiers | 17.7 GHz - 26 GHz

High Output Power • High Gain • Optimum Heat Dissipation

The RF Amplifiers are optimized to have high output power, high gain, optimum heat dissipation, and a single power supply. With a connectorized modular design and small package size, the RF amplifiers are able to detect a wide dynamic range with its customized RF sample and gain.

Part Number	Min Freq. (MHz)	Max Freq. (MHz)	Bias Voltage (V)	Bias Current (mA)	Gain (dB)	Max Power (dBm)	Noise Figure (dB)	OIP3 (dBm)	Size (Inches)
PAC18700T	17700	19700	5	1500	26	30	7	46	1.4 x 1.5 x 0.6
DRC23000M	20000	26000	5	300	20	16	7	30	1.2 x 1.05 x 0.6

PLL Synthesizers | 80 MHz - 6 GHz

Integer-N & Fractional-N • Low Phase Noise • Compact Size

The programmable phase lock loop (PLL) solutions come in a selection of size and type. The PLLs are offered as either integer-N or fractional-N while utilizing a passive or active loop filter depending on the bandwidth. They can be quickly programmed through a 3-wire serial interface while providing very low spurious suppression and small step sizes. The PLL family of products are available in several different sizes ranging from 0.866" x 0.63" to as small as 0.5" x 0.5".

Part Number	Low Freq (MHz)	High Freq (MHz)	Step Size (kHz)	Output Power (dBm) (typ)	Spurs (dBc)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc) (typ)	Vcc (Vdc)	Icc (mA) (typ)	Switch Speed (msec) (typ)	Size (Inches)	Package
PCA0090A-LF	85	95	50	0.50	-65	-101	-10	3.3	30	3	0.5 x 0.5 x 0.13	CPLL
PSA0185A-LF	120	220	1000	6.00	-65	-107	-12	15/5	35/14	1.5	0.86 x 0.63 x 0.14	PLL
PVA0837AF-LF	832	842	1	3.00	-55	-106	-10	5/3	35/15	2	0.6 x 0.6 x 0.13	PLL-V12N
PSA1200AF-LF	950	1450	250	0.00	-75	-75	-10	15/5	40/25	0.01	0.86 x 0.63 x 0.14	PLL-24S1
PSA1225AF-LF	1025	1425	1000	0.00	-75	-90	-10	12/5	40/25	1	0.86 x 0.63 x 0.14	PLL-24S1
PCA1292A-LF	1292	1298	1000	0.00	-70	-105	-15	5	40	2	0.5 x 0.5 x 0.13	CPLL
PCA1330A-LF	1320	1340	1000	3.00	-70	-99	-15	5	40	2	0.5 x 0.5 x 0.13	CPLL
PSA1525AF-LF	1325	1725	1000	3.00	-75	-90	-10	12/5	40/25	2	0.86 x 0.63 x 0.14	PLL-24S1
PSA1634AF-LF	1384	1884	250	0.00	-75	-74	-10	15/5	40/25	3	0.86 x 0.63 x 0.14	PLL-24S1
PCA1550A-LF	1500	1600	1000	1.50	-70	-101	-15	5	40	2	0.5 x 0.5 x 0.13	CPLL
PCA1550B-LF	1502	1510	1000	0.00	-70	-100	-15	3.3	30	2	0.5 x 0.5 x 0.13	CPLL
PSA1825AF-LF	1625	2025	1000	0.50	-77	-90	-15	12/5	30/20	1	0.86 x 0.63 x 0.14	PLL-24S1
PSA1685AF-LF	1680	1690	100	4.50	-70	-100	-15	5	40	1	0.86 x 0.63 x 0.14	PLL-24
PSA1975AF-LF	1775	2175	1000	0.00	-65	-90	-20	12/5	30/20	1	0.86 x 0.63 x 0.14	PLL-24S1
PSA2100AF-LF	1900	2300	1000	0.00	-65	-90	-20	15/5	23/20	1	0.86 x 0.63 x 0.14	PLL-24S1
PCA2010A-LF	1990	2030	1000	3.00	-70	-100	-15	5	40	2	0.5 x 0.5 x 0.13	CPLL
PSA2150AF-LF	2000	2300	1000	5.00	-65	-90	-20	15/5	25/23	1	0.86 x 0.63 x 0.14	PLL-24S1
PVA2125C-LF	2025	2226	100	0.00	-65	-94	-15	5/3	21/10	3	0.6 x 0.6 x 0.22	PLL-V12C
PSA2275AF-LF	2075	2475	1000	0.00	-65	-90	-20	12/5	23/20	1	0.86 x 0.63 x 0.14	PLL-24S1
PSA2575AF-LF	2375	2775	1000	0.00	-70	-89	-20	12/5	30/20	1	0.86 x 0.63 x 0.14	PLL-24S1

RFS Series Fixed Frequency PLLs | 1 GHz - 6 GHz

Reference Signal Included • No External Programming • Fixed Frequency

The RFS series is a complete fixed frequency PLL solution incorporating a 10 MHz TCXO reference oscillator, phase detector, loop filter, VCO and PIC microcontroller. It simplifies any design requiring a highly stable, low cost single frequency signal source in the range of 1 GHz to 6 GHz by removing the need for any external programming. Operating off two DC supply voltages, the RFS series utilizes a microstrip topology and a loop filter bandwidth that is configured per each application to provide optimal phase noise performance.

Part Number	Freq (MHz)	Output Power (dBm) (typ)	Spurs (dBc)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc) (typ)	Vcc (Vdc)	Icc (mA) (typ)	Startup Lock Time (msec) (typ)	Size (Inches)	Package
RFS1030-LF	1030	3	-65	-98	-20	5/3	35/10	1	0.6 x 0.6 x 0.13	RFS-V12N
RFS1090-LF	1090	3	-62	-98	-20	5/3	35/10	1	0.6 x 0.6 x 0.13	RFS-V12N
RFS1130-LF	1130	3	-65	-99	-25	5/3	35/10	1	0.6 x 0.6 x 0.13	RFS-V12N
RFS1500A-LF	1500	5	-65	-98	-25	5/3	35/10	1	0.6 x 0.6 x 0.13	RFS-V12N
RFS2450-LF	2450	3	-65	-95	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS2800N-LF	2800	3	-65	-95	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS2950A-LF	2950	3	-65	-95	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS3267N-LF	3267	5	-65	-88	-18	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS3400N-LF	3400	4	-65	-90	-18	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS3500A-LF	3500	3	-65	-93	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS3600N-LF	3600	3	-65	-91	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS3900N-LF	3900	3	-65	-90	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS4300Z-LF	4300	3	-65	-85	-45	5	60	3	1.0 x 1.0 x 0.22	SFS-L1M
RFS4400-LF	4400	3	-65	-87	-25	5/3	35/15	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS4500A-LF	4500	2	-65	-86	-25	5/3	35/15	3	0.6 x 0.6 x 0.13	RFS-V12N
RFS5900A-LF	5900	3	-65	-86	-20	5/3	30/12	3	0.6 x 0.6 x 0.13	RFS-V12N

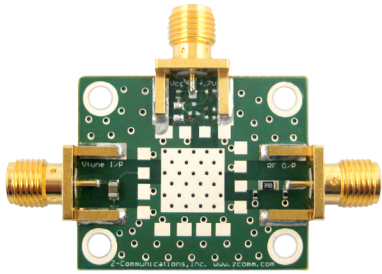
SFS Series Fixed Frequency PLLs | 500 MHz - 15 GHz

No External Programming • Ultra-Low Noise • Small Size

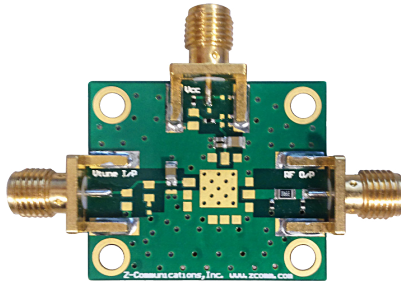
The SFS series is a fixed frequency PLL solution incorporating the phase detector, loop filter, VCO and PIC controller. It minimizes design complexities by eliminating the need for any external programming. It is ideal for any commercial application requiring a single frequency signal source within the range of 500 MHz to 15 GHz and it delivers superior phase noise performance by utilizing either a microstrip or ceramic resonator topology.

Part Number	Freq (MHz)	Output Power (dBm) (typ)	Spurs (dBc)	PN @10kHz (dBc/Hz) (typ)	2nd Harm (dBc) (typ)	Vcc (Vdc)	Icc (mA) (typ)	Reference Input (MHz)	Size (Inches)	Package
SFS0792C-LF	792.5	0	-70	-118	-15	5/3	25/14	40	0.6 x 0.6 x 0.22	PLL-V12C
SFS0832C-LF	832	9	-70	-120	-15	5/3	25/14	32	0.6 x 0.6 x 0.22	PLL-V12C
SFS1000C-LF	1000	1	-70	-118	-12	5/3	25/14	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS1200C-LF	1200	1	-70	-117	-13	5/3	25/14	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS1250C-LF	1250	5	-70	-110	-15	5/3	25/14	50	0.6 x 0.6 x 0.22	PLL-V12C
SFS1265C-LF	1265	3	-70	-105	-10	5/3	33/11	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS1280C-LF	1280	5.5	-70	-113	-15	5/3	25/14	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS1385C-LF	1385	3	-70	-105	-10	5/3	33/11	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS1600E-LF	1600	5	-65	-120	-12	8/3	35/10	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS1625C-LF	1625	0	-70	-115	-12	5/3	25/14	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS1680A-LF	1680	6	-80	-106	-25	5/3	31/9	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS1770A-LF	1770	6	-70	-95	-15	5/3	35/9	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS1800R-LF	1800	5.5	-70	-112	-22	5/3	28/10	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS1830C-LF	1830	3	-70	-105	-20	5/3	28/10	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS1855C-LF	1855	3	-70	-105	-18	5/3	28/10	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS1875C-LF	1875	3	-70	-105	-18	5/3	28/10	156.25	0.6 x 0.6 x 0.22	PLL-V12C
SFS1900A-LF	1900	3	-70	-98	-20	5/3.3	25/10	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS2000C-LF	2000	6	-70	-110	-18	5/3	30/10	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS2100C-LF	2100	7	-70	-112	-25	5/3	25/10	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS2200C-LF	2200	6	-70	-109	-10	5/3	30/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS2400C-LF	2400	6	-70	-109	-10	5/3	30/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS2500C-LF	2500	6	-70	-111	-20	5/3	30/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS2700C-LF	2700	6	-70	-110	-16	5/3	35/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS2810C-LF	2810	6	-65	-110	-20	5/3.3	25/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS3000C-LF	3000	6	-70	-109	-10	5/3	30/11	20	0.6 x 0.6 x 0.22	PLL-V12C
SFS3275C-LF	3275	0	-65	-107	-12	5/3	32/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS3450C-LF	3450	2	-65	-104	-15	5/3	25/11	10	0.6 x 0.6 x 0.22	PLL-V12C
SFS3900A-LF	3900	3	-65	-88	-20	5/3	33/15	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS4000C-LF	4000	0	-65	-102	-12	5/3.3	32/11	100	0.6 x 0.6 x 0.22	PLL-V12C
SFS4250A-LF	4250	2.5	-65	-84	-25	5/3	33/15	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS4500A-LF	4500	2.5	-65	-84	-25	5/3	33/15	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS4800C-LF	4800	3	-70	-109	-25	5/3	140/15	10	1.0 x 1.0 x 0.22	SFS-L1
SFS4875A-LF	4875	2.5	-65	-84	-25	5/3	33/15	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS4900A-LF	4900	0	-65	-90	-25	5/3	33/15	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS5200A-LF	5200	0	-65	-90	-25	5/3	33/15	20	0.6 x 0.6 x 0.13	PLL-V12N
SFS5280A-LF	5280	0	-65	-92	-25	4.3/3	28/11	44	0.6 x 0.6 x 0.13	PLL-V12N
SFS5490A-LF	5490	2	-70	-93	-30	5/3	33/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS6200A-LF	6200	3	-65	-90	-20	5/3	40/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS6350A-LF	6350	3	-65	-90	-20	5/3	40/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS6400A-LF	6400	6	-65	-88	-20	5/3	40/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS6520A-LF	6520	6	-65	-90	-20	5/3	40/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS6750A-LF	6750	3	-65	-86	-20	5/3	33/11	10	0.6 x 0.6 x 0.13	PLL-V12N
SFS8300Z-LF	8300	-2.5	-70	-85	-30	5/3	85/11	10	1.0 x 1.0 x 0.22	SFS-L1
SFS8910Z-LF	8910	0	-70	-83	-20	5/3	90/11	10	1.0 x 1.0 x 0.22	SFS-L1
SFS9265C-LF	9265	0	-70	-100	-35	5/3	90/11	100	1.0 x 1.0 x 0.22	SFS-L1B
SFS9370Z-LF	9370	0	-85	-83	-40	5/3	90/11	20	1.0 x 1.0 x 0.22	SFS-L1
SFS10000C-LF	10000	0	-70	-100	-30	5/3	90/11	100	1.0 x 1.0 x 0.22	SFS-L1
SFS10625H-LF	10625	0	-70	-105	-30	5/3.3	90/45	156.25	1.0 x 1.0 x 0.22	SFS-L1
SFS11000Z-LF	11000	0	-70	-84	-30	5/3	90/11	100	1.0 x 1.0 x 0.22	SFS-L1
SFS11300H-LF	11300	0	-70	-90	-30	5/3	90/45	10	1.0 x 1.0 x 0.22	SFS-L1
SFS11600H-LF	11600	0	-65	-103	-30	5/3.3	85/40	100	1.0 x 1.0 x 0.22	SFS-L1
SFS11800C-LF	11800	3	-70	-90	-30	5/3	90/11	10	1.0 x 1.0 x 0.22	SFS-L1
SFS12000H-LF	12000	0	-65	-103	-30	5/3	85/40	100	1.0 x 1.0 x 0.22	SFS-L1
SFS13050H-LF	13050	0	-70	-88	-30	5/3	90/45	10	1.0 x 1.0 x 0.22	SFS-L1
SFS13500Z-LF	13500	0	-65	-80	-30	5/3	90/11	10	1.0 x 1.0 x 0.22	SFS-L2

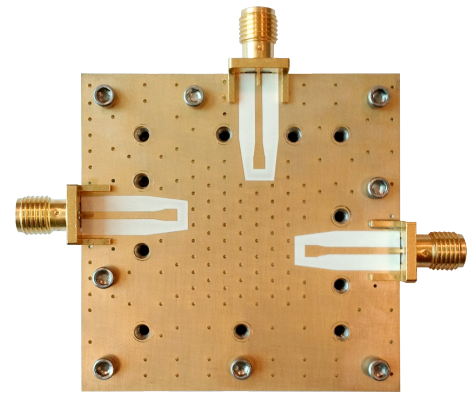
Evaluation Boards | For Z-Comm VCOs



MINIEVAL
V, CRO and CLV Series VCOs

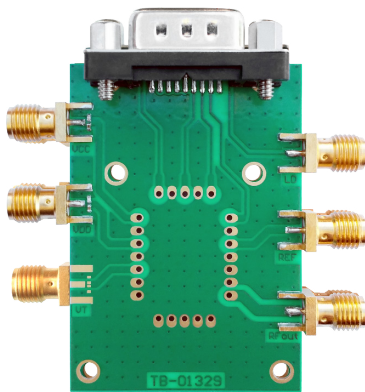


SMVEVAL
SMV Series VCOs

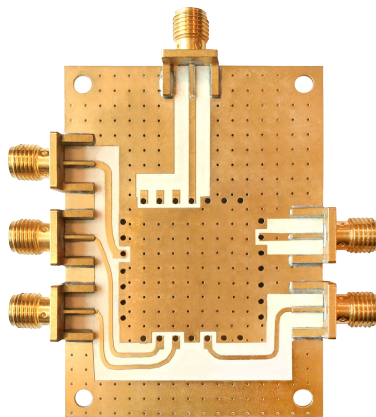


DROEVAL
DRO Series VCOs

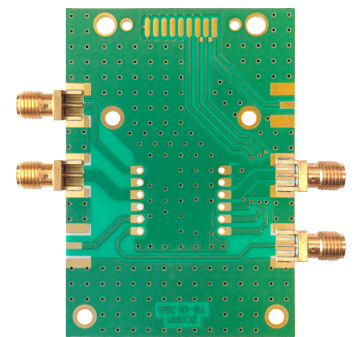
Evaluation Boards | For Z-Comm PLLs



PLLEVAL
PSA and PSN Series PLLs



SFSL1EVAL
SFS Series PLLs with
SFS-L1 package

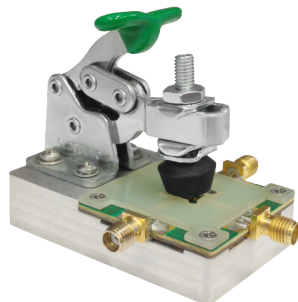


SFSEVAL
SFS Series PLLs with PLL-V12C
or PLL-V12N packages

Test Fixtures | For Z-Comm VCOs & PLLs



MINI-16-TF
V, CRO and CLV Series VCOs



SMV-TF
SMV Series VCOs



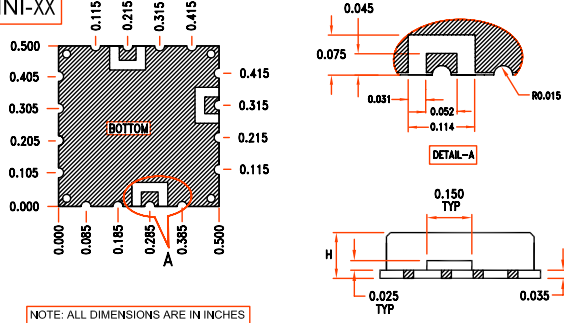
PLL-24-TF
PSN and PSA Series PLLs



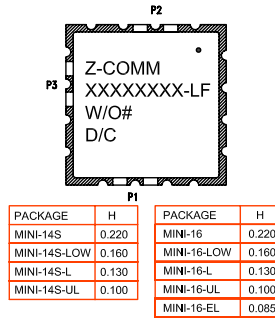
PLL-V12N-TF
SFS Series PLLs

VCO & PLL Outlines

MINI-XX



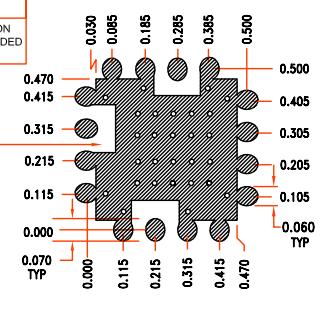
NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010



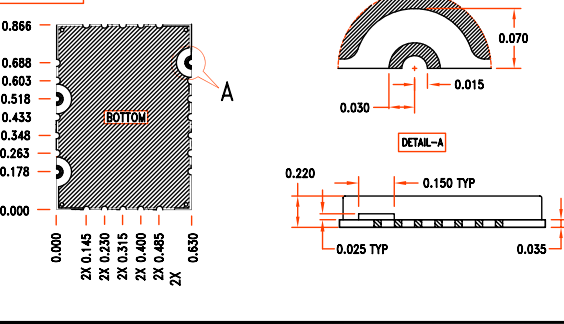
RECOMMENDED FOOTPRINT
SEVERAL HOLES OF ϕ 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.030 MIN. CUTBACK FROM LIVE PADS

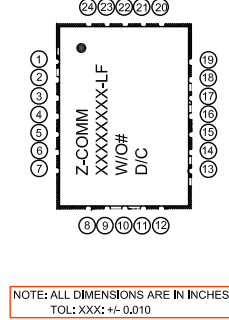
PIN CONFIGURATION
P1 Vt
P2 RF OUT
P3 Vcc
REST GROUND



VCO-24H



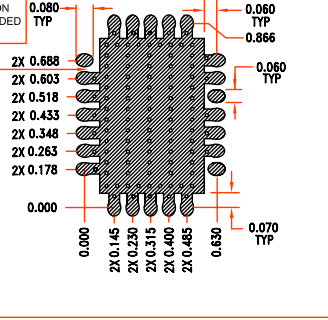
NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010



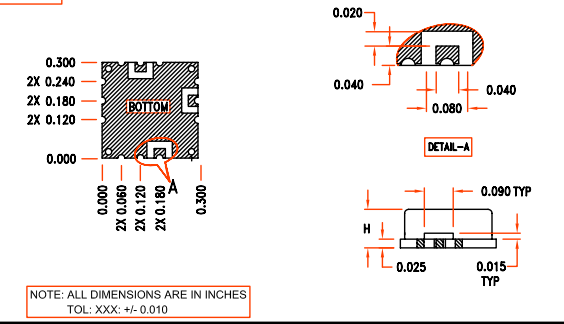
RECOMMENDED FOOTPRINT
SEVERAL HOLES OF ϕ 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.030 MIN. CUTBACK FROM LIVE PADS

PIN CONFIGURATION
P1 RF OUTPUT
P2-12 GROUND
P13 Vcc
P14-16 GROUND
P17 Vtune
P18-24 GROUND

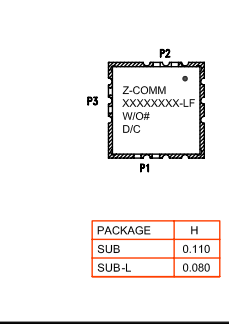


SUB-L



NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010

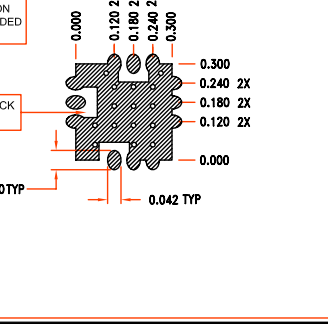
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SUB-L	0.080



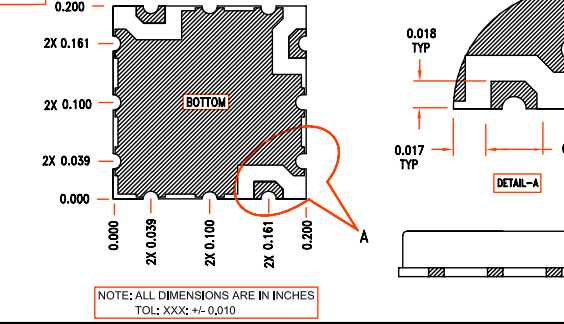
RECOMMENDED FOOTPRINT
SEVERAL HOLES OF ϕ 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.030 MIN. CUTBACK FROM LIVE PADS

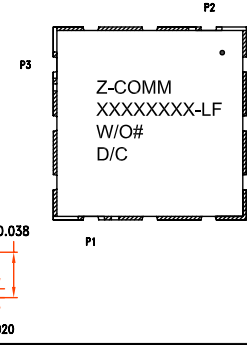
PIN CONFIGURATION
P1 Vt
P2 RF Out
P3 Vcc
REST GROUND



USSP



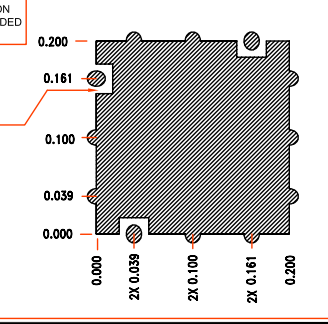
NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010



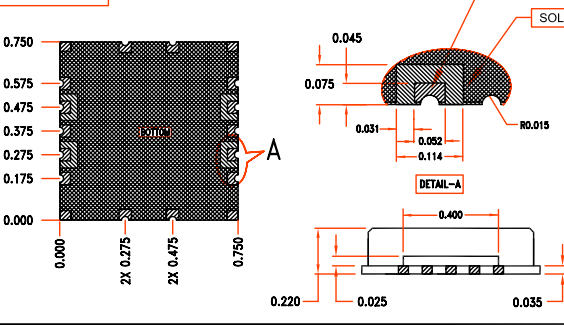
RECOMMENDED FOOTPRINT
SEVERAL HOLES OF ϕ 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.030 MIN. CUTBACK FROM LIVE PADS

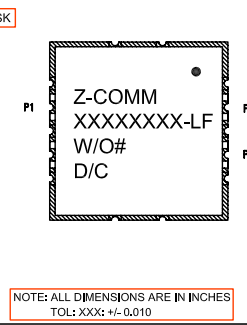
PIN CONFIGURATION
P1 Vt
P2 RF OUT
P3 Vcc
REST GROUND



ZMX-14-SM



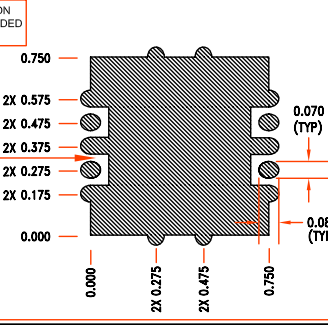
NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010



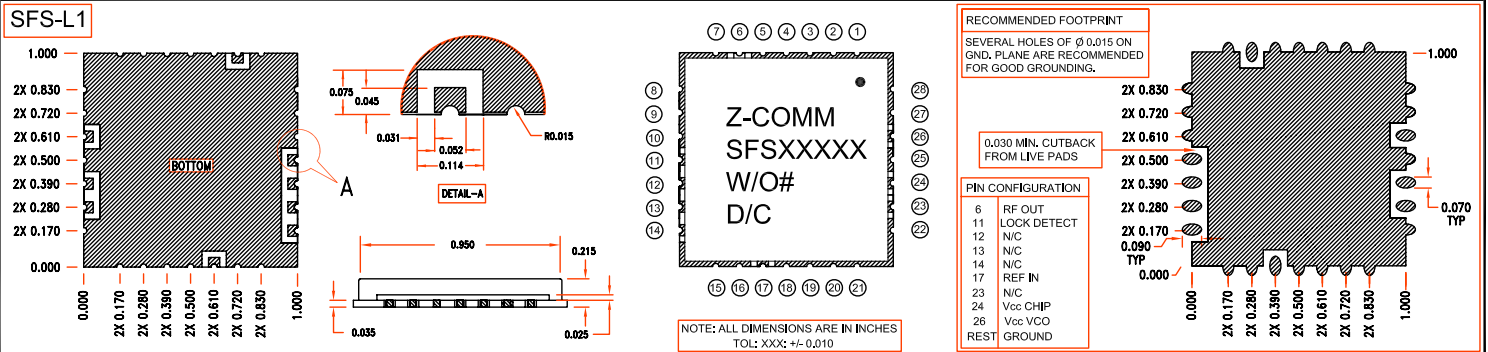
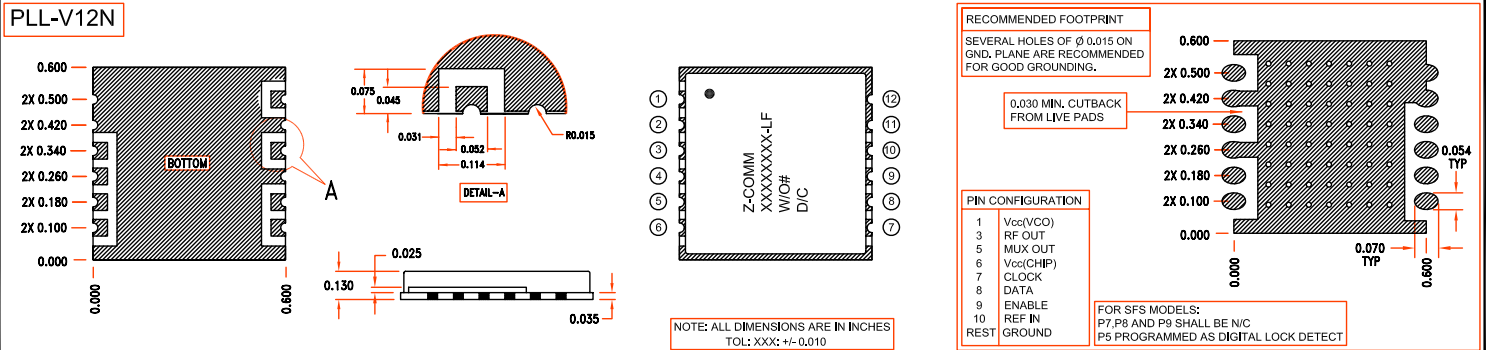
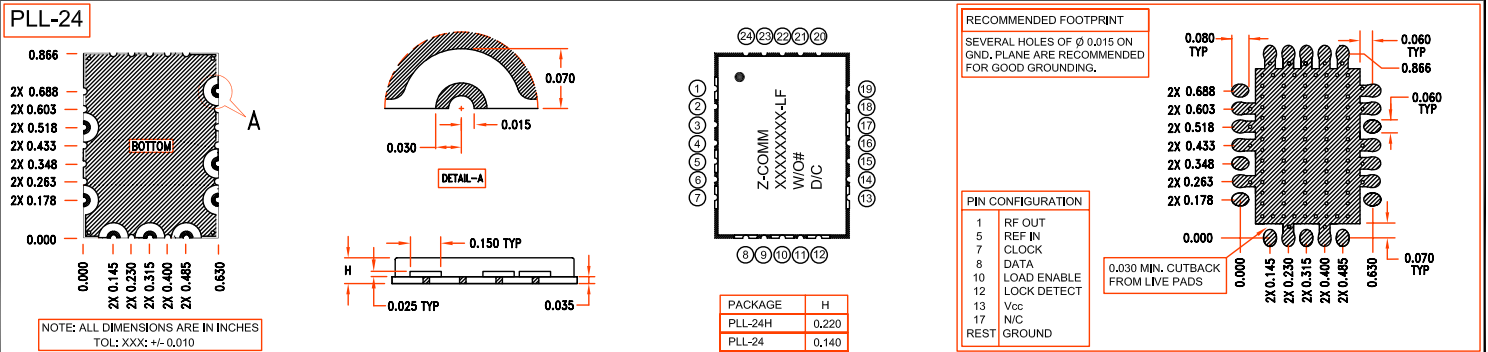
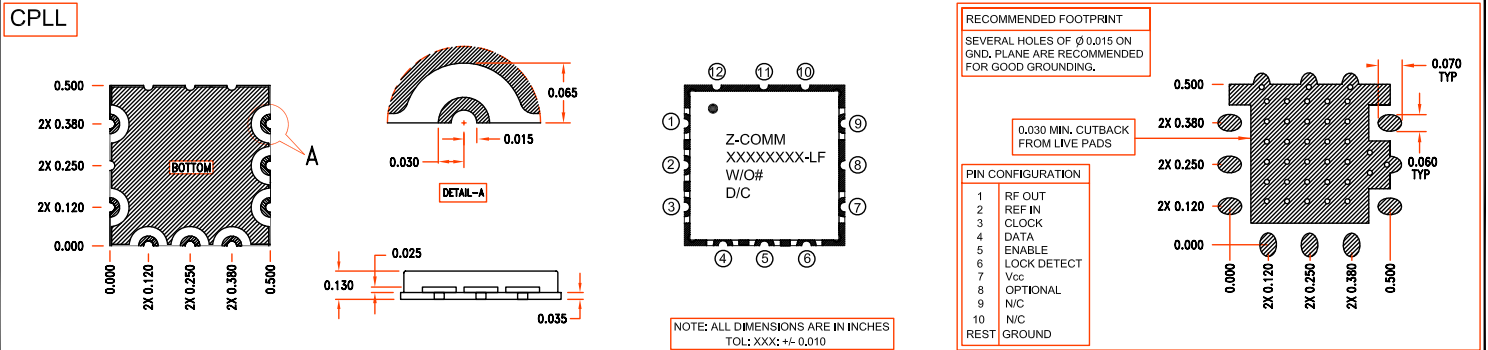
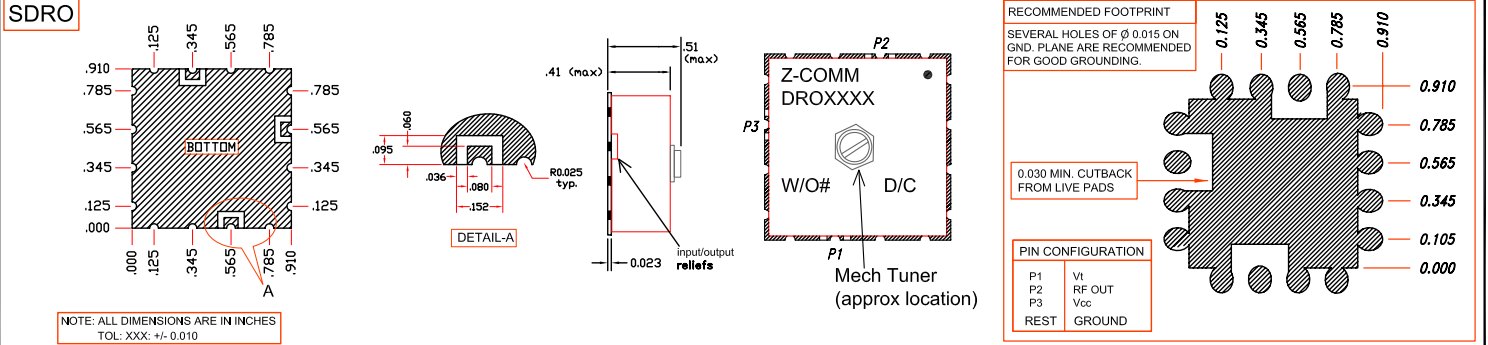
RECOMMENDED FOOTPRINT
SEVERAL HOLES OF ϕ 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.030 MIN. CUTBACK FROM LIVE PADS

PIN CONFIGURATION
P1 Vt
P2 RF OUT
P3 Vcc
REST GROUND

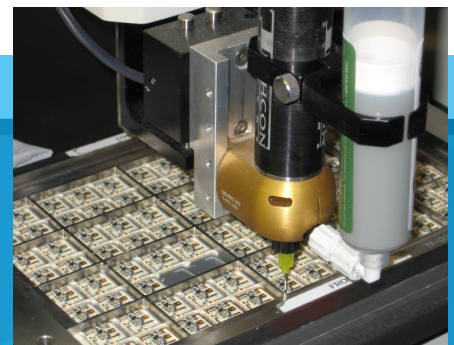


VCO & PLL Outlines





With over 1000 off-the-shelf products,
we carry the right signal source solution for your application.
Please contact us for custom requirements or visit us at
www.zcomm.com for our complete line of products.



ISO 9001:2008