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PRODUCT GUIDE

Oscillators & Synthesizers

Broad Selection of Ready-to-Ship Oscillators and Synthesizers

Fairview Microwave offers several lines of voltage controlled oscillators (VCOs), waveguide gunn oscillators, phase locked oscillators, reference oscillators, phase locked crystal oscillators, and frequency synthesizers that cover select bands from 10 MHz to 43 GHz. These lines of oscillators are typically used in a variety of applications involving phase locked loops, electronic jamming equipment, frequency synthesizers, and function generators.

Voltage controlled and gunn oscillators have an output signal frequency that can be varied by adjusting the amplitude of the tuning voltage. Phase locked oscillators generate a stable and accurate output fixed frequency response that provides significantly low phase noise and spurious performance. Fairview's frequency synthesizers come in a variety of output frequencies as multiples of a single reference frequency. Several of these models offer the flexibility of internal or external references. The performance characteristics of these signal sources are critical to overall system performance.

Fairview's comprehensive portfolio of oscillators and synthesizers include surface mount and coaxial packaged versions available for same-day shipping. Some models include added features that include modulated input ports, hermetic sealing, integrated buffer amplifiers, and USB GUI and serial command control functions. All models cover full operational temperature ranges. Fairview also offers a selection of oscillators and synthesizers that are MIL-SPEC compliant with environmental test conditions which include shock, vibration, and temperature cycle, for high-reliability applications.












These products can be viewed online at www.fairviewmicrowave.com, with real-time pricing, inventory, and comprehensive datasheets that include typical performance graphs and detailed CAD drawings. Live technical support representatives are available to answer any of your technical questions and can assist with selecting the right product to meet your specifications.

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Oscillators

0.175" Ultra Small Surface Mount Packaged VCO
















FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC003 	500 - 1,000	DC - 19	6	10	-97	-10	4	10	0.175 x 0.175 x 0.075
FMVC005 	1,000 - 2,000	DC - 20	10	12	-90	-7	2	20	0.175 x 0.175 x 0.075
FMVC006 	2,000 - 2,750	DC - 10	11	11	-86	-17	6	22	0.175 x 0.175 x 0.075
FMVC007 	2,000 - 3,000	DC - 20	9	12	-87	-14	2	24	0.175 x 0.175 x 0.075
FMVC008 	3,120 - 3,920	DC - 11	8	10	-87	-22	10	22	0.175 x 0.175 x 0.075
FMVC009 	3,570 - 4,580	DC - 11.5	8	12	-83	-17	4	15	0.175 x 0.175 x 0.075
FMVC011 	4,800 - 5,200	DC - 3	1	3.3	-80	-20	4	25	0.175 x 0.175 x 0.075
FMVC012 	4,800 - 5,700	DC - 11	8	12	-84	-20	2	20	0.175 x 0.175 x 0.075
FMVC014 	5,400 - 5,900	DC - 10	8.5	11	-84	-25	5	25	0.175 x 0.175 x 0.075
FMVC015 	6,100 - 7,000	DC - 10	5.5	5	-76	-30	5	15	0.175 x 0.175 x 0.075
FMVC019 	10,000 - 11,000	DC - 11	4	12	-72	-40	15	70	0.175 x 0.175 x 0.075

0.5" Surface Mount Packaged VCO

FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC11000 	10 - 20	DC - 20	10	15	-120	-11	0.02	0.05	0.5 x 0.5 x 0.13
FMVC11001 	18 - 30	DC - 12	12	12	-120	-13	0.03	0.07	0.5 x 0.5 x 0.13












* Phase Noise measured at 10 KHz offset frequency

0.175" Ultra Small Surface Mount Packaged VCO Continued



FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC11002 	25 - 50	DC - 15	11.5	15	-120	-12	0.05	0.03	0.5 x 0.5 x 0.13
FMVC11003 	30 - 60	DC - 15	11	15	-119	-14	0.05	0.05	0.5 x 0.5 x 0.13
FMVC11004 	40 - 80	DC - 20	12	15	-117	-14	0.05	0.05	0.5 x 0.5 x 0.13
FMVC11005 	40 - 100	DC - 20	11.5	15	-118	-14	0.2	0.1	0.5 x 0.5 x 0.13
FMVC11006 	50 - 100	DC - 20	12	15	-115	-12	0.05	0.1	0.5 x 0.5 x 0.13
FMVC11007 	60 - 120	DC - 18.5	11	15	-114	-20	0.2	0.1	0.5 x 0.5 x 0.13
FMVC11008 	75 - 150	DC - 18	11	15	-110	-20	0.2	0.4	0.5 x 0.5 x 0.13
FMVC11009 	100 - 200	DC - 18	11	15	-113	-12	0.2	0.1	0.5 x 0.5 x 0.13
FMVC11010 	150 - 300	DC - 20	11	15	-108	-14	1	2	0.5 x 0.5 x 0.13
FMVC11011 	200 - 400	DC - 20	11	15	-106	-14	0.4	0.2	0.5 x 0.5 x 0.13
FMVC11012 	300 - 400	DC - 9	11	15	-102	-18	0.6	0.5	0.5 x 0.5 x 0.13
FMVC11013 	400 - 600	DC - 15	11	15	-102	-15	1	1.5	0.5 x 0.5 x 0.13
FMVC11014 	400 - 800	DC - 9	8	5	-96	-14	3	1.3	0.5 x 0.5 x 0.13
FMVC11015 	500 - 900	DC - 11.5	12	12	-95	-14	1.5	1.5	0.5 x 0.5 x 0.13
FMVC11016 	600 - 1,000	DC - 20	12.5	15	-96	-15	0.8	0.7	0.5 x 0.5 x 0.13

* Phase Noise measured at 10 KHz offset frequency

0.5" Surface Mount Packaged VCO Continued








FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC11017 	800 - 1,200	DC - 20	11.5	15	-95	-12	0.8	2.5	0.5 x 0.5 x 0.13
FMVC11018 	1,200 - 1,800	DC - 20	11	15	-89	-12	0.5	3	0.5 x 0.5 x 0.13
FMVC11019 	1,350 - 1,650	DC - 18	10	15		-12	1.5		0.5 x 0.5 x 0.13
FMVC11020 	1,500 - 2,100	DC - 18	10	15		-12			0.5 x 0.5 x 0.13
FMVC11021 	1,500 - 2,500	DC - 16	10	15		-12			0.5 x 0.5 x 0.13
FMVC11022 	2,000 - 2,750	DC - 10	7	11		-12			0.5 x 0.5 x 0.13
FMVC11023 	2,570 - 3,300	DC - 10	5	11		-15			0.5 x 0.5 x 0.13
FMVC11024 	3,000 - 3,500	DC - 10	10	11	-81	-16	2.5	12	0.5 x 0.5 x 0.13
FMVC11025 	3,120 - 3,870	DC - 10	5	11		-15			0.5 x 0.5 x 0.13
FMVC11026 	4,000 - 5,000	DC - 15	8	15		-18			0.5 x 0.5 x 0.13
FMVC11027 	4,260 - 5,000	DC - 10	7	11		-18			0.5 x 0.5 x 0.13

0.5" Surface Mount Packaged VCO w/ Modulation Input Port







FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC12000 	130 - 175	DC - 15	6.5	5	-125	-25	0.1	0.2	0.5 x 0.5 x 0.162
FMVC12001 	195 - 240	DC - 15	8.5	5	-125	-15	0.2	0.05	0.5 x 0.5 x 0.162

* Phase Noise measured at 10 KHz offset frequency

0.5" Surface Mount Packaged VCO Continued






FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC12002 	243 - 270	DC - 9.5	10	8	-120	-38	0.05	0.2	0.5 x 0.5 x 0.162
FMVC12003 	260 - 280	DC - 10	8	5	-123	-15	0.1	0.1	0.5 x 0.5 x 0.162
FMVC12004 	380 - 400	DC - 10	4.5	5	-124	-20	0.2	0.1	0.5 x 0.5 x 0.162
FMVC12005 	400 - 430	DC - 10	3.5	5	-123	-25	0.1	0.05	0.5 x 0.5 x 0.162
FMVC12006 	430 - 470	DC - 10	3.5	5	-122	-25	0.2	0.05	0.5 x 0.5 x 0.162
FMVC12007 	465 - 525	DC - 15	3.5	5	-122	-18	0.1	0.2	0.5 x 0.5 x 0.162
FMVC12008 	650 - 700	DC - 10	7.5	8	-121	-25	0.2	0.1	0.5 x 0.5 x 0.162

0.5" Surface Mount Packaged VCO w/ Integrated Buffer Amps



FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC14000 	510 - 550	DC - 3.5	6.5	5	-106	-22	1.5	0.8	0.5 x 0.5 x 0.125
FMVC14001 	950 - 1,100	DC - 4.5	9	5	-104	-18	0.8	0.3	0.5 x 0.5 x 0.125
FMVC14002 	1,570 - 1,850	DC - 4.5	5	5	-101	-18	1.8	0.2	0.5 x 0.5 x 0.125
FMVC14003 	1,600 - 3,200	DC - 20	6	5	-89	-14	4	10	0.5 x 0.5 x 0.125
FMVC14004 	1,700 - 1,850	DC - 4.5	3.5	5	-100	-40	0.8	0.2	0.5 x 0.5 x 0.125
FMVC14005 	1,800 - 2,000	DC - 4.5	4.5	5	-100	-20	1.5	0.6	0.5 x 0.5 x 0.125

* Phase Noise measured at 10 KHz offset frequency





0.5" Surface Mount Packaged VCO w/ Modulation Input Port Continued

FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC14006 	1,900 - 2,100	DC - 4.5	4.5	5	-102	-40	3	0.3	0.5 x 0.5 x 0.125
FMVC14007 	2,100 - 2,300	DC - 4.5	4.5	5	-101	-35	2.5	0.3	0.5 x 0.5 x 0.125
FMVC14008 	2,800 - 3,000	DC - 4.5	-2	5	-93	-25	2	0.8	0.5 x 0.5 x 0.125
FMVC14009 	4,130 - 4,350	DC - 8	7.5	8	-98	-30	4	6	0.5 x 0.5 x 0.125
FMVC14010 	4,770 - 5,010	DC - 7.5	5	8	-98	-20	4	4	0.5 x 0.5 x 0.125

0.5" Surface Mount Packaged VCO w/ Low Noise











FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC15000 	305 - 425	DC - 19.5	8	5	-117	-40	1.5	4	0.5 x 0.5 x 0.125
FMVC15001 	850 - 900	DC - 4.5	1.5	5	-113	-45	0.3	0.2	0.5 x 0.5 x 0.125

0.5" Hermetically Sealed MIL Grade Surface Mount Packaged VCO




FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC13001 	18 - 30	DC - 12	12	12	-120	-13	0.03	0.07	0.5 x 0.5 x 0.215
FMVC13002 	25 - 50	0.5 - 20	11.5	15	-114	-10	0.1	0.1	0.5 x 0.5 x 0.215
FMVC13003 	30 - 60	DC - 15	11	15	-119	-14	0.05	0.05	0.5 x 0.5 x 0.215
FMVC13004 	40 - 80	DC - 20	12	15	-117	-14	0.05	0.05	0.5 x 0.5 x 0.215

* Phase Noise measured at 10 KHz offset frequency

0.5" Hermetically Sealed MIL Grade Surface Mount Packaged VCO Continued
















FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC13005 	40 - 100	DC - 20	11.5	15	-118	-14	0.2	0.1	0.5 x 0.5 x 0.215
FMVC13006 	50 - 100	DC - 20	12	15	-115	-12	0.05	0.1	0.5 x 0.5 x 0.215
FMVC13007 	60 - 120	DC - 18.5	11	15	-114	-20	0.2	0.1	0.5 x 0.5 x 0.215
FMVC13009 	100 - 200	DC - 18	11	15	-113	-12	0.2	0.1	0.5 x 0.5 x 0.215
FMVC13010 	150 - 300	DC - 20	11	15	-108	-14	1	2	0.5 x 0.5 x 0.215
FMVC13011 	200 - 400	DC - 20	11	15	-106	-14	0.4	0.2	0.5 x 0.5 x 0.215
FMVC13012 	400 - 800	DC - 9	8	5	-96	-14	3	1.3	0.5 x 0.5 x 0.215
FMVC13013 	1,200 - 1,800	DC - 20	11	15	-89	-12	0.5	3	0.5 x 0.5 x 0.215
FMVC13014 	3,000 - 3,500	DC - 10	10	11	-81	-16	2.5	12	0.5 x 0.5 x 0.215
FMVC13015 	3,700 - 4,350	DC - 7.5	4	8	-83	-25	6	15	0.5 x 0.5 x 0.215

Connectorized Packaged VCO w/ Field Replaceable Connectors

FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ. (MHz)	Pulling Typ. (MHz)	Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC34000 	4,000 - 8,000	DC - 18	20	12	-75	-10	0.2	1	SMA Female	0.64 x 0.7 x 0.29
FMVC34001 	5,000 - 10,000	DC - 20	20	12	-64	-15	0.2	1	SMA Female	0.64 x 0.7 x 0.29
FMVC34003 	38,400 - 43,200	DC - 13	13	5	-74	-30	40	0.01	2.4mm Female	0.65 x 0.65 x 0.23





* Phase Noise measured at 10 KHz offset frequency

Connectorized Packaged VCO w/ Field Replaceable Connectors Continued







FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ.(MHz)	Pulling Typ.(MHz)	Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC31001 	25 - 50	0.5 - 15	11.5	15	-120	-12	0.05	0.03	SMA Female	0.95 x 0.95 x 0.285
FMVC31002 	30 - 60	0.5 - 15	11	15	-119	-14	0.05	0.05	SMA Female	0.95 x 0.95 x 0.285
FMVC31003 	40 - 80	0.5 - 20	12	15	-117	-14	0.05	0.05	SMA Female	0.95 x 0.95 x 0.285
FMVC31005 	50 - 100	0.5 - 20	12	15	-115	-12	0.05	0.1	SMA Female	0.95 x 0.95 x 0.285
FMVC31015 	230 - 290	0.5 - 4.5	2	12	-107	-8.5			SMA Female	
FMVC31017 	620 - 660	0.5 - 4.5	0	12	-110	-13		2	SMA Female	
FMVC31016 	500 - 600	0.5 - 4.5	-2	12	-105	-20			SMA Female	
FMVC31018 	850 - 890	DC - 5	8	12	-99	-5		5	SMA Female	
FMVC31019 	900 - 960	0.5 - 4	5.5	12	-110	-15		5	SMA Female	
FMVC31020 	1,070 - 1,210	0.5 - 4.5	1.5	12	-109	-16		1	SMA Female	
FMVC31021 	1,435 - 1,650	0.5 - 5	7	12	-90	-7		35	SMA Female	
FMVC31022 	1,550 - 1,850	0.25 - 4.75	1.5	12	-99	-20		2	SMA Female	
FMVC31023 	1,700 - 1,850	0.5 - 4.5	0	12	-96	-15		13	SMA Female	
FMVC31024 	2,165 - 2,360	0.5 - 10	5	12	-99	-10		10	SMA Female	
FMVC31025 	2,300 - 2,450	0.5 - 4.5	3	12	-101	-15		2	SMA Female	

* Phase Noise measured at 10 KHz offset frequency

Connectorized Packaged VCO w/ Field Replaceable Connectors Continued
















FM P/N	Frequency (MHz)	Tuning Voltage (Vdc)	Output Power Typ. (dBm)	Supply Voltage (Vdc)	Phase Noise* (dBc/Hz)	2nd Harmonics Typ. (dBc)	Pushing Typ.(MHz)	Pulling Typ.(MHz)	Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMVC31026 	2,400 - 2,800	1 - 11	9	12	-92	-10		50	SMA Female	
FMVC31027 	3,200 - 3,400	0.5 - 4.5	5	12	-88	-15		25	SMA Female	
FMVC31028 	4,245 - 4,335	0.5 - 8	0.5	12	-87	-13		10	SMA Female	
FMVC31029 	5,220 - 5,420	0.5 - 4.5	-1	12	-83	-25		10	SMA Female	

Reference Oscillators






FM P/N	Loop Type	Output Freq. (MHz)	Reference Type	Output Power Typ. (dBm)	2nd Harmonic Typ. (dBc)	Spurious Typ. (dBc)	Phase Noise @10kHz Offset Typ. (dBc/Hz)	Supply Voltage (Vdc)	Package Type	Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMXR1000 	Free Running	10	Internal	+7	-20	-70	-145	5	Surface Mount		0.9 x 0.9 x 0.21
FMXR1003 	Free Running	10	Internal	+7	-25	-70	-150	12	Connectorized	SMA	2 x 1.5 x 0.6
FMXR1001 	Free Running	50	Internal	+7	-20	-70	-150	5	Surface Mount		0.9 x 0.9 x 0.21
FMXR1004 	Free Running	50	Internal	+7	-25	-70	-150	12	Connectorized	SMA	2 x 1.5 x 0.6
FMXR1002 	Free Running	100	Internal	+7	-20	-70	-155	5	Surface Mount		0.9 x 0.9 x 0.21
FMXR1005 	Free Running	100	Internal	+7	-25	-70	-150	12	Connectorized	SMA	2 x 1.5 x 0.6

* Phase Noise measured at 10 KHz offset frequency





Phase Locked Oscillators

FM P/N	Loop Type	Output Frequency (MHz)	Reference Type	Reference Input Freq. (MHz)	Output Power Typ. (dBm)	2nd Harmonic Typ. (dBc)	Spurious Typ. (dBc)	Phase Noise @10kHz Offset Typ. (dBc/Hz)	Supply Voltage (Vdc)	Package Type	Input - Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMXC7000 	Phase Locked	500	External	10	7	-35	-70	-110	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXC7005 	Phase Locked	500	External	100	7	-25	-70	-110	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5004 	Phase Locked	500	External	10	7	-25	-70	-105	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5009 	Phase Locked	500	External	100	7	-25	-70	-110	5	Surface Mount		0.9 x 0.9 x 0.21
FMXC7001 	Phase Locked	1000	External	10	7	-25	-70	-105	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXC7006 	Phase Locked	1000	External	100	7	-25	-70	-110	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5005 	Phase Locked	1000	External	10	7	-25	-70	-100	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5010 	Phase Locked	1000	External	100	7	-25	-70	-110	5	Surface Mount		0.9 x 0.9 x 0.21
FMXC7002 	Phase Locked	2000	External	10	7	-25	-70	-100	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXC7007 	Phase Locked	2000	External	100	7	-25	-70	-110	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5006 	Phase Locked	2000	External	10	7	-25	-70	-100	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5011 	Phase Locked	2000	External	100	7	-25	-70	-110	5	Surface Mount		0.9 x 0.9 x 0.21
FMXC7003 	Phase Locked	4000	External	10	7	-35	-70	-90	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXC7008 	Phase Locked	4000	External	100	7	-25	-70	-110	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5007 	Phase Locked	4000	External	10	7	-25	-70	-98	5	Surface Mount		0.9 x 0.9 x 0.21







Phase Locked Oscillators Continued

FM P/N	Loop Type	Output Frequency (MHz)	Reference Type	Reference Input Freq. (MHz)	Output Power Typ. (dBm)	2nd Harmonic Typ. (dBc)	Spurious Typ. (dBc)	Phase Noise @10kHz Offset Typ. (dBc/Hz)	Supply Voltage (Vdc)	Package Type	Input - Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMXP5012 	Phase Locked	4000	External	100	7	-25	-70	-110	5	Surface Mount		0.9 x 0.9 x 0.21
FMXC7004 	Phase Locked	6000	External	10	7	-25	-70	-95	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXC7009 	Phase Locked	6000	External	100	7	-25	-70	-90	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5008 	Phase Locked	6000	External	10	7	-25	-70	-90	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5013 	Phase Locked	6000	External	100	7	-25	-70	-90	5	Surface Mount		0.9 x 0.9 x 0.21





Phase Locked Crystal Oscillators

FM P/N	Loop Type	Output Frequency (MHz)	Reference Type	Reference Input Freq. (MHz)	Output Power Typ. (dBm)	2nd Harmonic Typ. (dBc)	Spurious Typ. (dBc)	Phase Noise @10kHz Offset Typ. (dBc/Hz)	Supply Voltage (Vdc)	Package Type	Input - Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMXP5000 	Phase-Locked Crystal	50	External	10	+7	-20	-70	-155	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5002 	Phase-Locked Crystal	50	External	10	+7	-20	-70	-155	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6
FMXP5001 	Phase-Locked Crystal	100	External	10	+7	-20	-70	-150	5	Surface Mount		0.9 x 0.9 x 0.21
FMXP5003 	Phase-Locked Crystal	100	External	10	+7	-20	-70	-150	12	Connectorized	SMA-SMA	2 x 1.5 x 0.6

Synthesizers

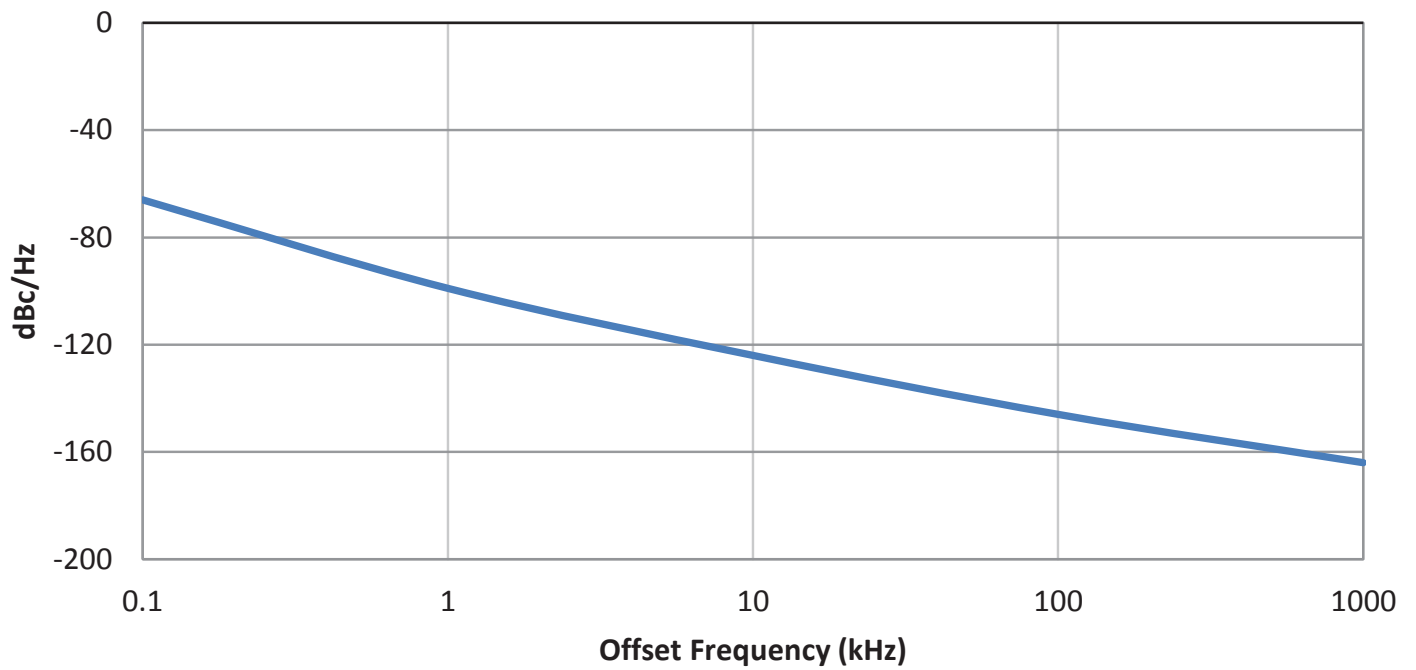
FM P/N	Synthesizer Type	Frequency (MHz)	Typ Ref. Freq. (MHz)	Phase Noise @100kHz Offset (dBc/Hz)	Output Power (dBm)	2nd Harmonic	Output Connector	Mechanical Dimensions L (in) x W (in) x H (in)
FMSN3901 	USB	25 - 6,000	50	-86	-40 to 20	-25	SMA Female	4.1 x 0.9 x 0.645
FMSN3900 	USB	35 - 4,400	50	-103	-20 to 10	-30	SMA Female	3.3 x 0.9 x 0.6
FMSN3902 	USB	5,000 - 10,000	50	-72	-15 to 18	-25	SMA Female	4.1 x 0.9 x 0.645
FMSN3903 	USB	10,000 - 20,000	50	-80	-19 to 18	-15	SMA Female	4.1 x 0.9 x 0.645
FM11S3904 	USB	21,000 - 24,000	50	-88	-17 to 17	-22	SMA Female	4.1 x 0.9 x 0.645
FM11S3905 	USB	24,000 - 27,000	50	-75	14 to 17	-22	SMA Female	4.1 x 0.9 x 0.645

Waveguide Gunn Oscillators

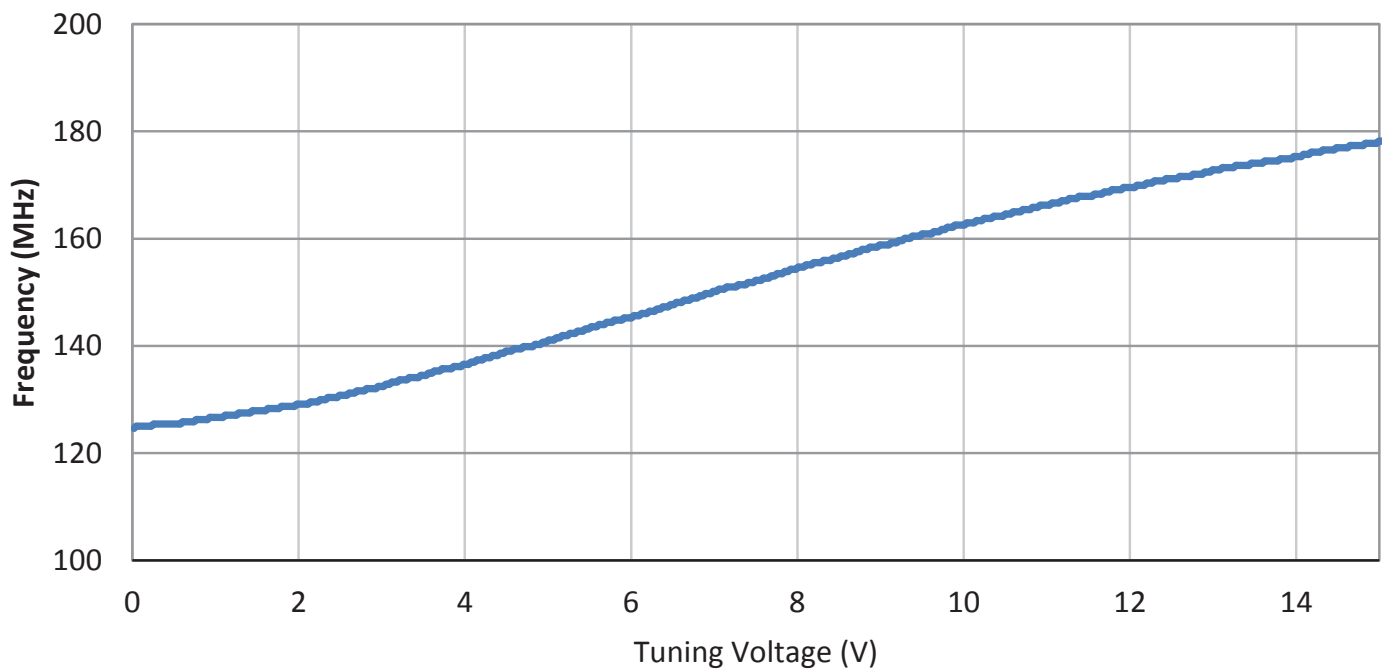
FM P/N	Waveguide Type	Center Frequency (GHz)	Tuning Range (GHz)	Frequency Stability (MHz/deg C)	Phase Noise (dBc/Hz)	Output Power (dBm)	Flange Type	ECCN
FMWGN1010 	WR-28	35	+/- 3		-95	13	Square Cover UG-599/U	EAR99
FMWGN1011 	WR-28	35	+/- 3		-95	13	Square Cover UG-599/U	EAR99
FMWGN1012 	WR-42	24.125	+/- 1	-0.8	-98	10	Square Cover UG-595/U	EAR99
FMWGN1013 	WR-90	9.375	+/- 0.25		-105	10	Square Cover UG-39/U	EAR99

Examples of Typical Phase Noise and Tuning Voltage Performance

Phase Noise



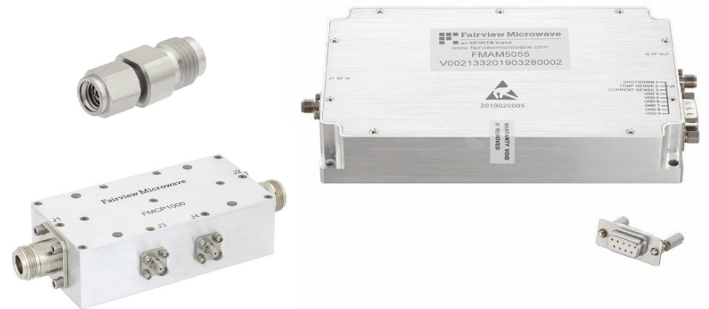
Frequency vs Tuning Voltage



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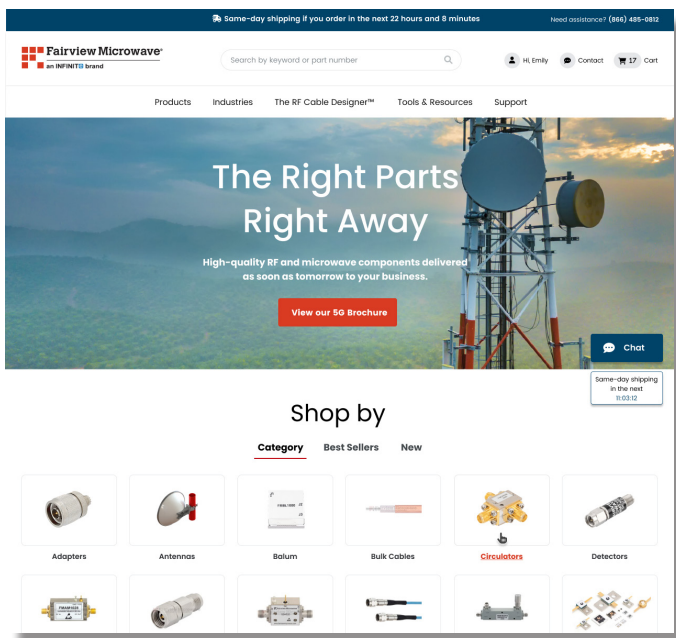


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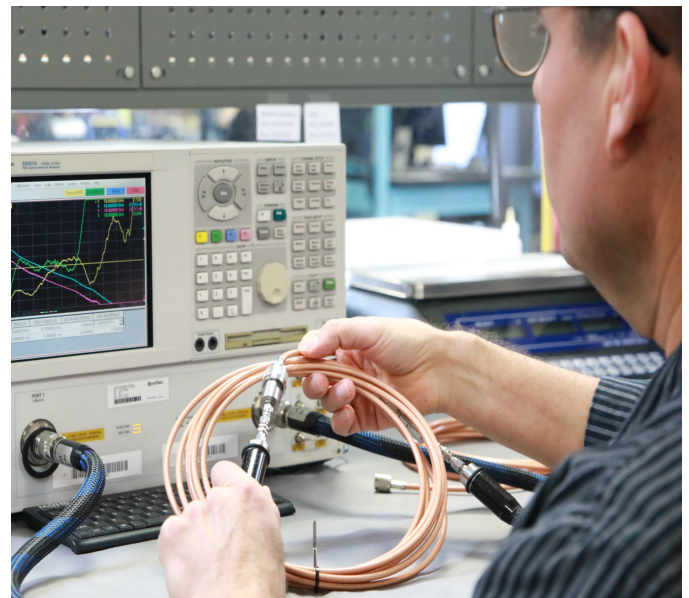
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