

# Plug-In Voltage Controlled Oscillator

## POSA-138+

Low Noise 118 to 138 MHz



CASE STYLE: C07  
PRICE: \$ 46.95 ea. QTY (1-9)

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

### Features

- low phase noise, -163 dBc/Hz at 1 MHz offset, typ.
- linear tuning
- excellent harmonic suppression, -40 dBc typ.
- load insensitive
- hermetic metal case

### Applications

- aircraft
- transmitters
- military hi-rel applications

### Electrical Specifications

FREQUENCY (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ.					PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
Min.	Max.	Typ.	Min.	Max.	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Vcc (volts)	Current (mA) Max.
118	138	+5	1	16	-72	-100	-125	-145	-163	0.07	0.03	2.3	-40	-30	2.0	12	25

### Pin Connections

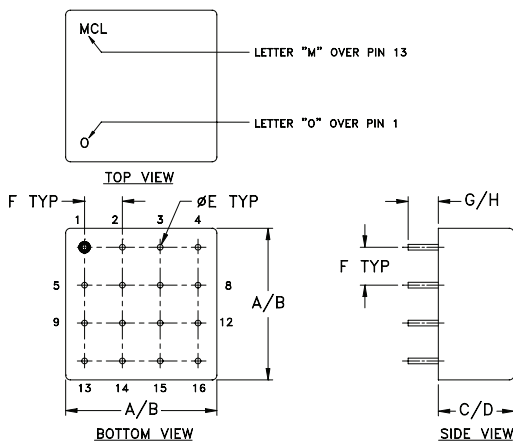
RF OUT	9
VCC	12
V-TUNE	3
GROUND	1,2,4,5,6,7,8,10,11,13,14,15,16
CASE GROUND	2,5,6,7,8,10,11,13,14

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+24V

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	wt
.770	.810	.380	.410	.030	.200	.20	.14	grams
19.56	20.57	9.65	10.41	0.76	5.08	5.08	3.56	11.0

#### Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

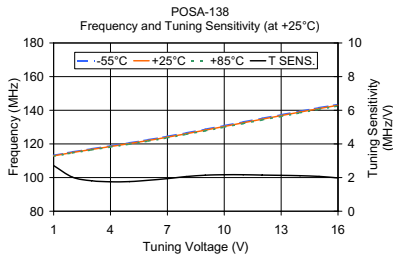


[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 35166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

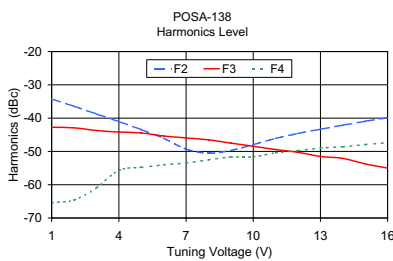
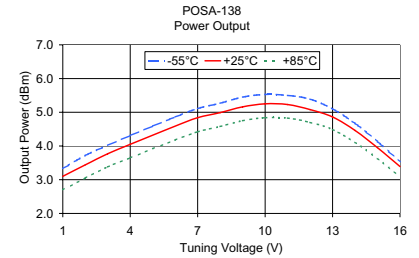
REV. C  
M137599  
POSA-138+  
WD/TD/CP/AM  
120627

# Performance Curves

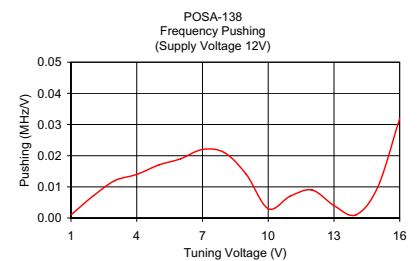
# POSA-138+



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	2.71	113.26	112.87	112.65	3.33	3.10	2.70
2.00	2.02	115.30	114.90	114.64	3.72	3.44	3.05
3.00	1.81	117.13	116.71	116.43	4.02	3.77	3.38
4.00	1.75	118.89	118.46	118.15	4.31	4.05	3.65
5.00	1.76	120.68	120.22	119.89	4.59	4.32	3.92
6.00	1.84	122.54	122.05	121.70	4.86	4.59	4.18
7.00	1.94	124.51	124.00	123.62	5.11	4.84	4.42
8.00	2.06	126.59	126.06	125.66	5.27	4.99	4.58
9.00	2.14	128.73	128.20	127.79	5.45	5.16	4.75
10.00	2.17	130.90	130.37	129.95	5.53	5.25	4.84
11.00	2.17	133.08	132.54	132.12	5.50	5.23	4.83
12.00	2.15	135.24	134.69	134.26	5.39	5.08	4.70
13.00	2.13	137.37	136.81	136.33	5.10	4.86	4.49
14.00	2.11	139.48	138.93	138.49	4.67	4.46	4.11
15.00	2.07	141.54	140.99	140.56	4.13	3.95	3.63
16.00	1.98	143.52	142.97	142.54	3.53	3.39	3.10



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-34.25	-42.75	-65.41	0.00
2.00	-36.42	-42.92	-64.59	0.01
3.00	-38.72	-43.72	-60.89	0.01
4.00	-41.00	-44.17	-55.67	0.01
5.00	-43.44	-44.44	-54.77	0.02
6.00	-46.04	-45.37	-54.04	0.02
7.00	-49.29	-45.96	-53.46	0.02
8.00	-50.51	-46.51	-52.51	0.02
9.00	-49.68	-47.51	-51.68	0.01
10.00	-47.94	-48.44	-51.60	0.00
11.00	-46.08	-49.42	-50.42	0.01
12.00	-44.60	-50.27	-49.77	0.01
13.00	-43.33	-51.50	-49.00	0.00
14.00	-42.10	-52.10	-48.60	0.00
15.00	-40.92	-53.75	-47.92	0.01
16.00	-39.86	-55.03	-47.36	0.03



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