

Surface Mount Voltage Controlled Oscillator

JTOS-535+ JTOS-535

Linear Tuning 300 to 525 MHz

Features

- wide frequency range, 300 to 525 MHz
- linear tuning characteristics
- excellent harmonic suppression, -28 dBc typ.
- low phase noise, -137 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- VHF/UHF
- instrumentation
- signal generators



CASE STYLE: BK377
PRICE: \$ 15.95 ea. QTY (5-49)

+RoHS Compliant

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

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.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Vcc (volts)	Current (mA) Max.
300	525	+9.5	1	16	-75	-97	-117	-137	2.0	0.5	10-24	-28	-20	0.115	12	20

Pin Connections

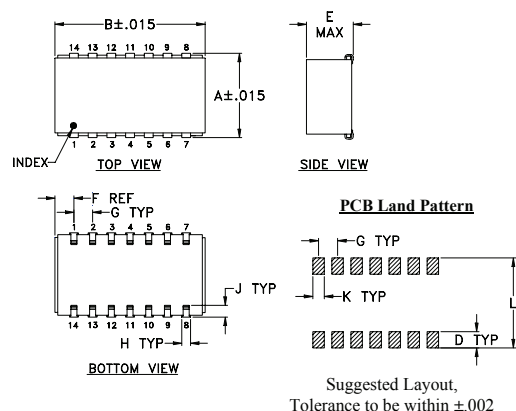
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

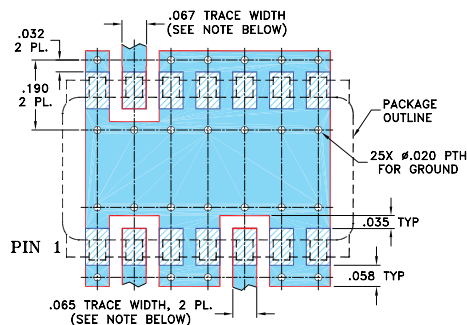
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+16V
Absolute Max. Tuning Voltage (Vtune)	+18V

all specifications: 50 ohm system
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Demo Board MCL PIN: TB-04
Suggested PCB Layout (PL-005)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .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	wt
.505	.800	--	.100	.250	.100	.100	.047	.065	.065	.525	grams
12.83	20.32	--	2.54	6.35	2.54	2.54	1.19	1.65	1.65	13.34	3.0

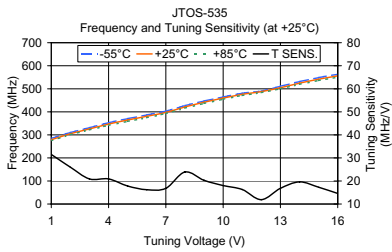
Notes

- A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document 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

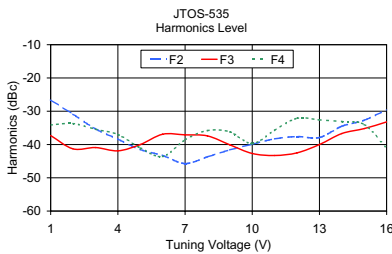
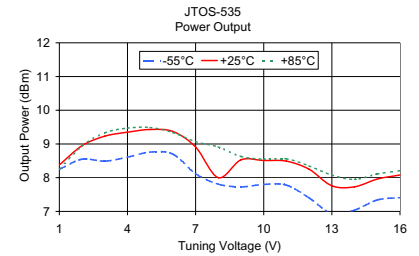


Performance Data & Curves

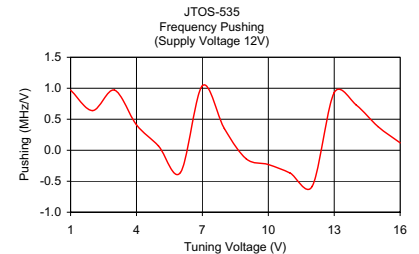
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	31.50	285.03	278.90	274.76	8.25	8.38	8.25
2.00	26.00	310.18	304.90	301.16	8.55	8.95	8.94
3.00	20.90	331.32	325.80	321.53	8.49	9.23	9.33
4.00	20.90	352.76	346.70	341.31	8.61	9.35	9.47
5.00	17.80	370.65	364.50	358.75	8.76	9.43	9.49
6.00	16.20	386.75	380.70	374.87	8.70	9.37	9.34
7.00	16.80	402.92	397.50	393.16	8.12	8.91	9.07
8.00	23.90	427.07	421.30	416.08	7.81	8.00	8.91
9.00	20.30	446.98	441.60	436.50	7.73	8.53	8.63
10.00	18.00	464.80	459.60	454.75	7.80	8.51	8.55
11.00	16.30	480.78	476.00	471.03	7.78	8.49	8.56
12.00	11.90	490.28	487.90	483.67	7.40	8.25	8.35
13.00	16.80	511.07	504.80	500.43	6.94	7.76	8.08
14.00	19.60	531.23	524.40	519.33	7.04	7.73	7.95
15.00	17.30	548.65	541.70	536.06	7.34	7.96	8.11
16.00	14.60	563.30	556.30	550.38	7.41	8.08	8.21



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-26.60	-37.30	-34.10	0.97
2.00	-30.90	-41.30	-33.70	0.64
3.00	-35.30	-40.90	-35.40	0.97
4.00	-38.40	-41.90	-37.00	0.41
5.00	-41.50	-40.00	-41.00	0.07
6.00	-43.30	-36.90	-43.60	-0.36
7.00	-45.70	-37.10	-38.60	1.04
8.00	-43.70	-37.40	-35.80	0.35
9.00	-41.60	-40.10	-36.20	-0.14
10.00	-39.90	-42.70	-39.70	-0.23
11.00	-38.30	-43.30	-35.70	-0.37
12.00	-37.60	-42.50	-32.10	-0.58
13.00	-37.90	-40.00	-32.60	0.93
14.00	-34.50	-36.70	-33.10	0.73
15.00	-32.70	-35.20	-34.00	0.38
16.00	-29.50	-33.20	-41.10	0.12



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