

Engineering Development Model

Voltage Controlled Oscillator

JCOS-ED4735/1

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : BG419

ELECTRICAL SPECIFICATIONS 50Ω				
Parameter	Min.	Typ.	Max.	Units
Frequency	1062		1132	MHz
Tuning Voltage	1		8	V
Power Output		+7		dBm
Phase Noise				
at 1 kHz offset		-88		dBc/Hz
at 10 KHz offset		-112		dBc/Hz
at 100 KHz offset		-132		dBc/Hz
at 1000 kHz offset		-152		dBc/Hz
Pulling at 12 dBm PK-PK all phases		1.9		MHz
Pushing at Vcc=5V±0.25V		0.6		MHz/V
Tuning Sensitivity		10 - 20		MHz/V
Harmonic Suppression		-30		dBc
3 dB Modulation Bandwidth		2000		kHz
Supply Voltage		8		V
Supply Current			35	mA

MAXIMUM RATINGS	
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Supply Voltage (Vcc)	+10V
Absolute Tuning Voltage (Vtune)	+10V

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

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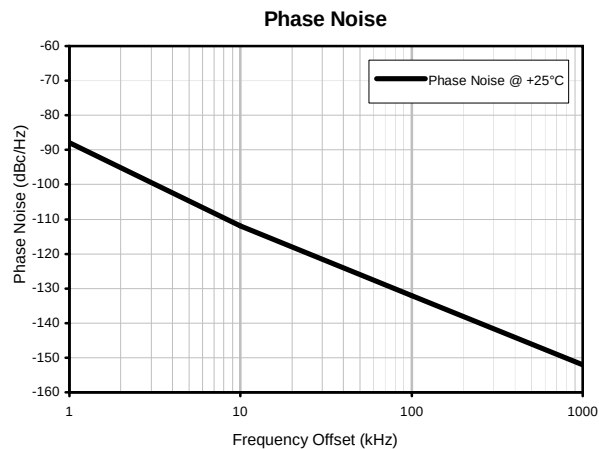
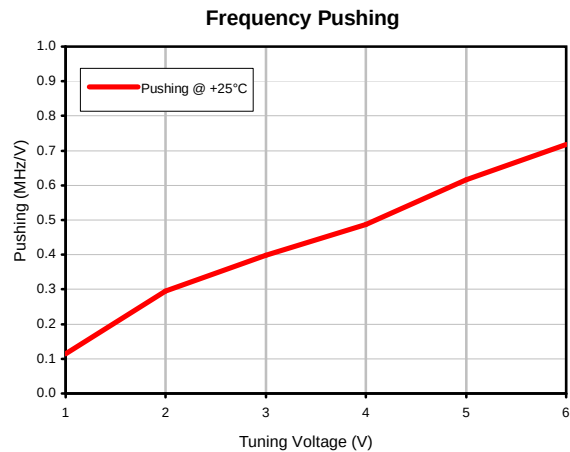
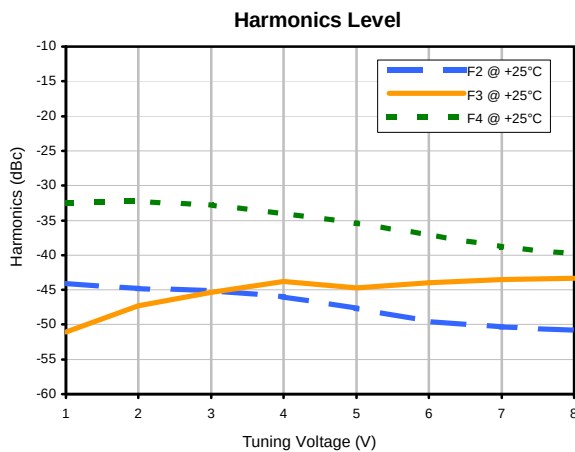
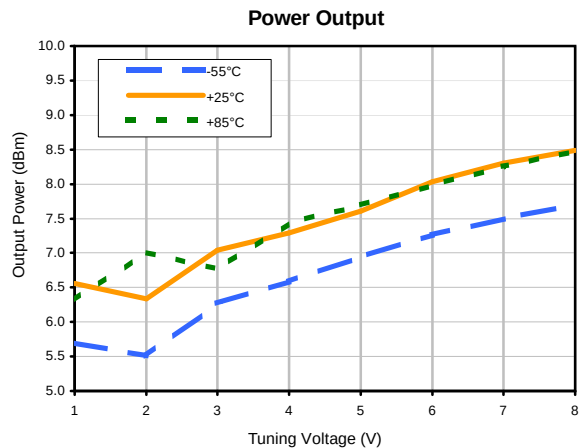
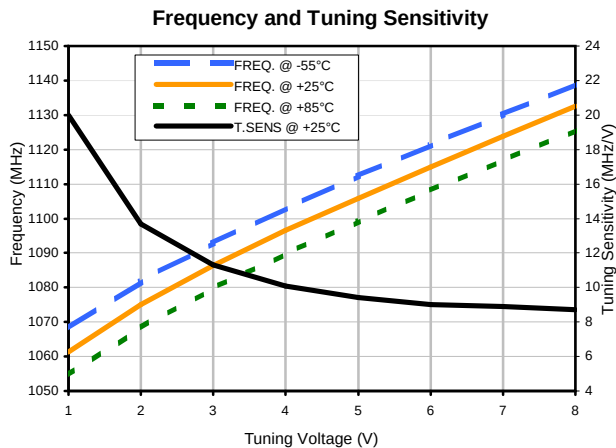
Typical Performance Data

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ OFFSET (KHz)	PHASE NOISE (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C	F2	F3	F4			
1.0	20.00	1068.3	1061.4	1054.6	5.70	6.56	6.32	-44.1	-51.1	-32.5	0.11	1	-88
2.0	13.70	1081.7	1075.1	1068.4	5.51	6.34	7.01	-44.8	-47.3	-32.3	0.30	10	-112
3.0	11.30	1092.9	1086.4	1079.7	6.27	7.04	6.76	-45.1	-45.4	-32.7	0.40	100	-132
4.0	10.10	1102.9	1096.5	1089.8	6.59	7.29	7.44	-46.0	-43.8	-34.0	0.49	1000	-152
5.0	9.40	1112.3	1105.9	1099.1	6.94	7.61	7.69	-47.7	-44.7	-35.4	0.62		
6.0	9.00	1121.3	1114.9	1108.1	7.26	8.03	7.98	-49.5	-44.0	-37.1	0.72		
7.0	8.90	1130.2	1123.8	1116.8	7.50	8.30	8.26	-50.3	-43.5	-38.8			
8.0	8.70	1138.9	1132.5	1125.5	7.70	8.49	8.47	-50.8	-43.3	-39.8			

Voltage Controlled Oscillator

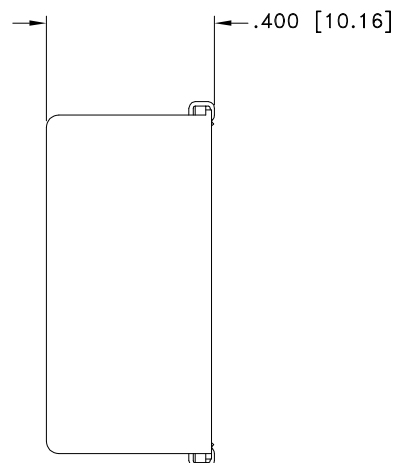
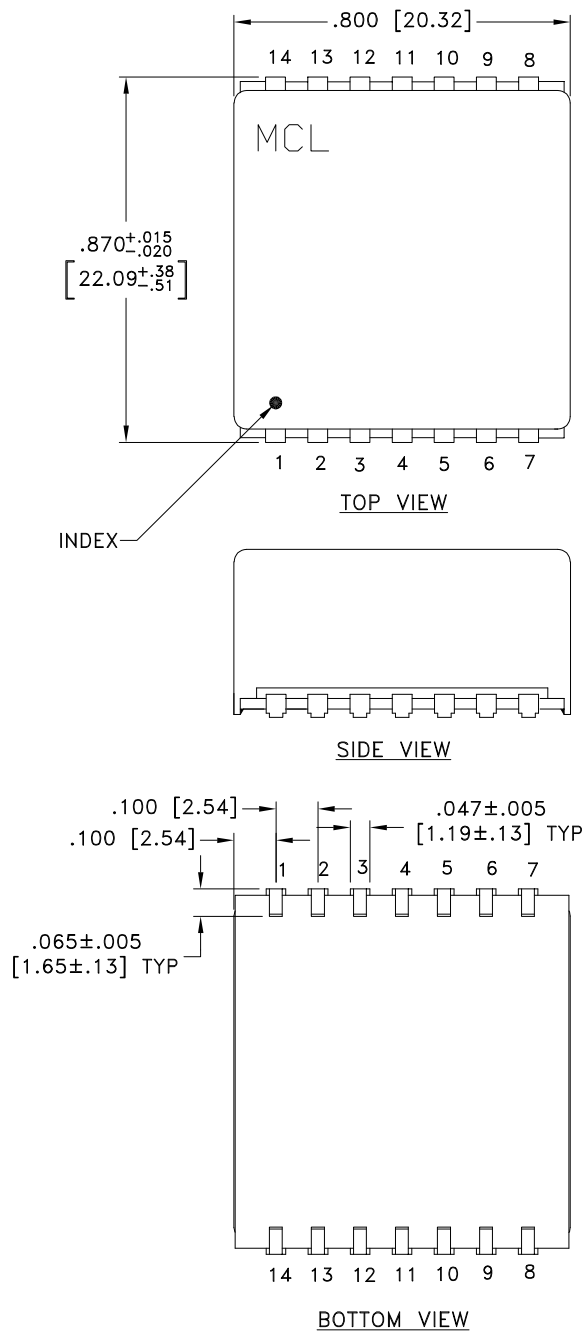
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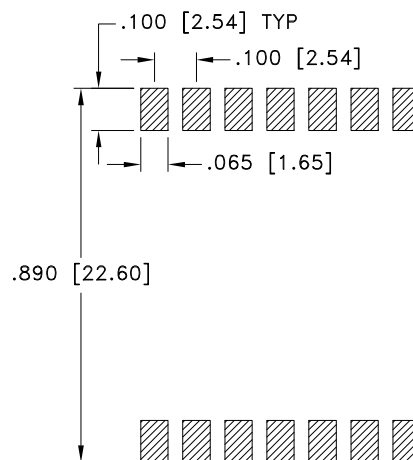


Outline Dimensions

BG419



SIDE VIEW



SUGGESTED LAYOUT
FOR PCB LAND PATTERN
(TOL $\pm$.002)

DENOTES METALLIZATION

Weight: 4 gram

Dimensions are in inches[mm]. Tolerances: 2PL $\pm$ 0.03[0.76]; 3 PL $\pm$ 0.015 [0.381] inches[mm], unless otherwise specified

Notes:

1. Case material: Copper-Nickel alloy.
2. Base material: Printed wiring laminate.
3. Termination finish:

For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.

For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

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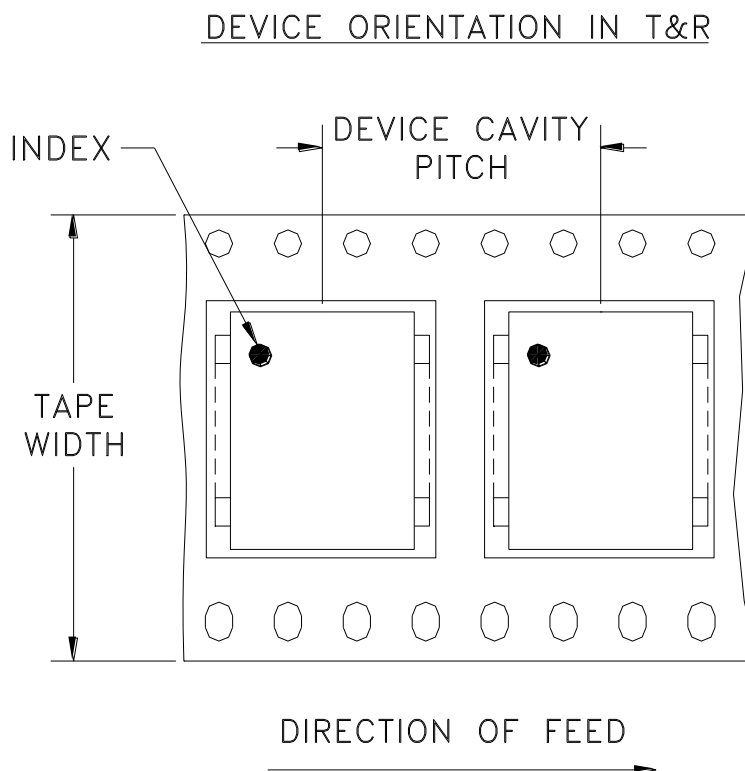
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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F25



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel	
44	32	13	Small quantity standards (see note)	20
				50
				100
			Standard	125

Note: Please consult individual model data sheet to determine device per reel availability.

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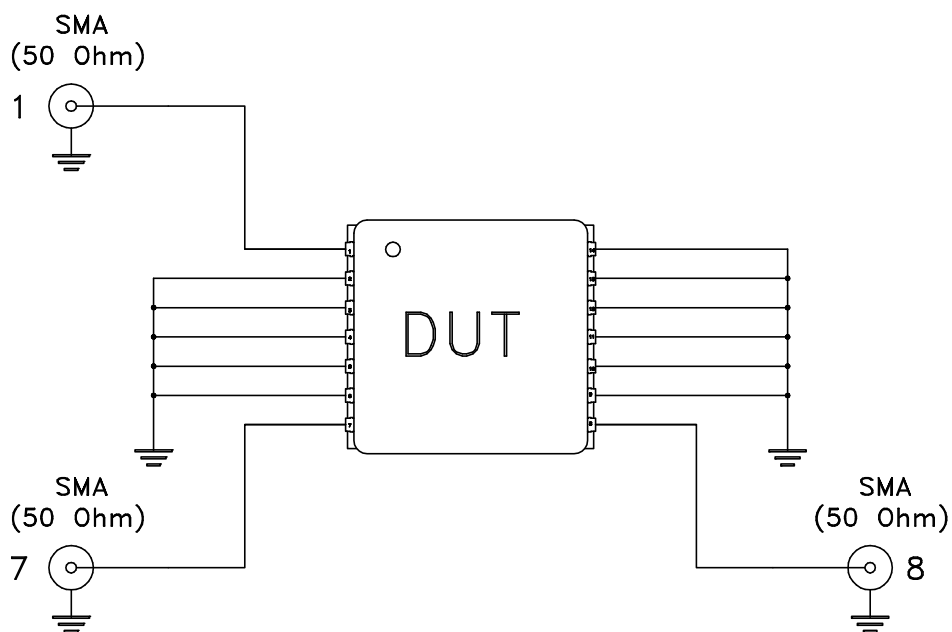
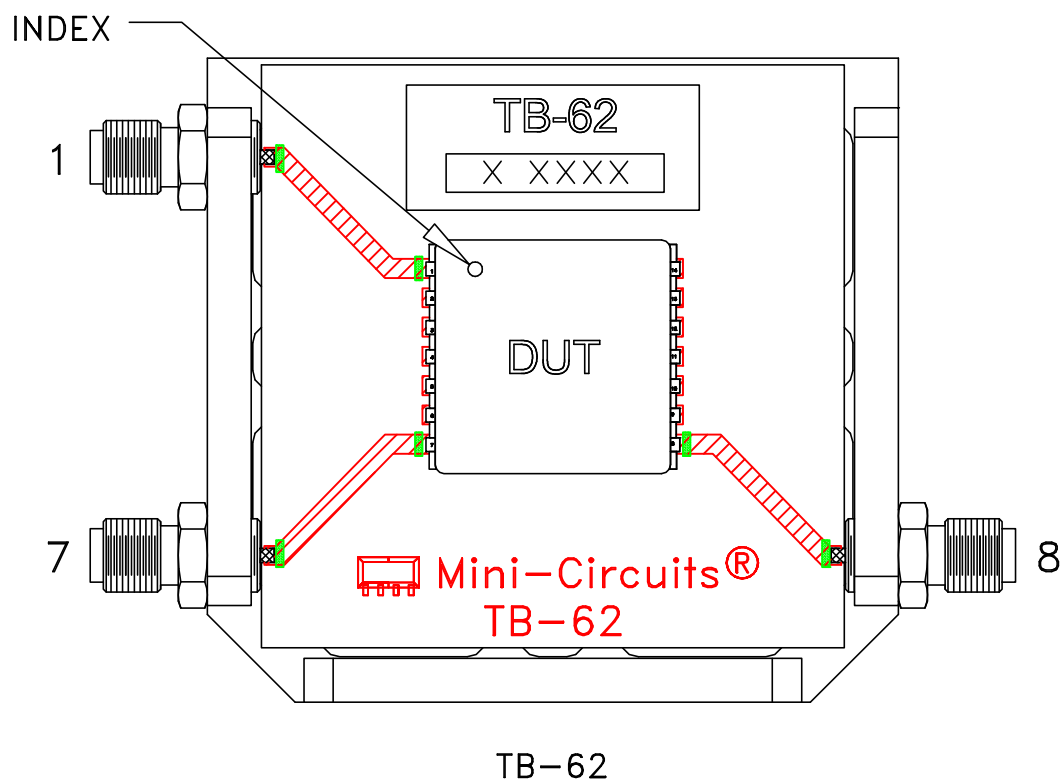
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Evaluation Board and Circuit

For Pin Connection Refer to
Data Sheet of the DUT



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.



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Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 20-2000 Hz, 4 times in each of three axes (total 12)	MIL-STD-883, Method 2007.3, Condition A
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215