Dynamic Engineers Inc.

2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA TEL: 1-281-870-8822 EMAIL:Sales@DynamicEng.com

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Features and Benefits

Ultra-low noise at -175dBc / Hz @ 100 KHz Less than ±200 ppb over -40°C to +70°C Low 150 mA steady state current consumption +12V supply

Typical Applications

Microwave communication systems Test and measurement systems Instrument and clock reference Radar systems

Description

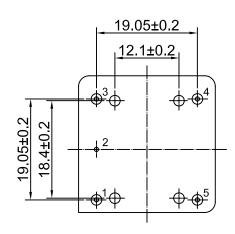
OCXO2525L-100MHz-G-V offers ultra-low noise and high frequency stability with low power consumption all in one simple package.

Mechanical Drawing & Pin Connections

Drawing No:

MD13022-2

Bottom View

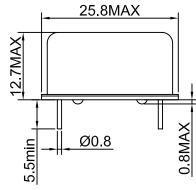


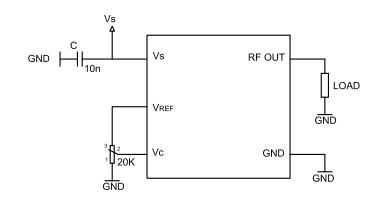
Pin Connections:

PIN#	Symbol CONNECTION			
1	RF OUT	RF Output		
2	GND	Ground,case		
3	Vc	Control Voltage(EFC)		
4	VREF	Reference Voltage		
5	Vs	Supply Voltage		

Unit in mm 1mm = 0.0394 inches









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Specifications

Oscillator		Condition	Value			Unit	Note
Specification	Sym	Condition	Min.	Typ.	Max.	Ullit	Note
Frequency Range			80		125	MHz	
Standard Frequencies	F _N			100.000 / 120.000			
Warm-up Time		$\Delta f_{\text{final}} / f_0 < \pm 0.1 \text{ppm}$		3	5	min	
RF Output			<u> </u>				
Output Waveform			Sine Wave		Э		
Load	R_L	±5%		50		Ω	
Output Level			+7			dBm	Note 2
Harmonics					-30	dBc	
Spurious					-90	dBc	
G-Sensitivity		Per axis			1.0	ppb/g	
Power Supply		1 01 0/10			1.0	рры д	
Reference Voltage VREF Output				10.0		V	Note 3
Supply Voltage	Vs		11.4	12.0	12.6	V	Note 3
	- 3	Steady state @ +25°C			150		
Current Consumption		During warm-up			350	mA	Note 4
Frequency Adjustment Range							
Electronic Frequency Control (EFC)			±1	±2		ppm	
EFC Voltage	Vc		0	VREF/2	VREF	V	
EFC Slope		Δ f/ Δ V $_{C}$	Positive				
EFC Input Impedance			100			kΩ	
Frequency Stability							
Initial Tolerance @ +25°C		V _c @ VREF / 2			±300	ppb	
Vs. Operating Temperature Range		Over -40°C to +70°C		<±200		ppb	
Vs Supply Voltage Variation (pushing)		V _S ±5%			±10	ppb	
Vs Load Change (pulling)		R _L ±5%			±5	ppb	
Long Term Aging per day	After 30 days of continuous operation			±1	±2	ppb	
Long Term Aging first year		•		±100	±200		
		@ 100 Hz @ 1 KHz		<-132		4	
Phase Noise				<-160		dBc/Hz	
	@ 10 KHz @ 100 KHz			<-170 <-175		-	
Environmental Conditions		I W IOU NAZ		<-170			
Operating temperature range	-40°C	to +70°C					
Storage temperature range	-55°C to +125°C						
Enclosure (see drawing) (LxWxH)							
Weight	20 g r		-				

- Note 1: Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
- Note 2: Other output level on request
- Note 3: Other supply and reference voltage available on request
- Note 4: Maybe higher for wide operating temperature range

Absolute Maximum Ratings

Parameter	Sym	Min.	Max.	Unit	Condition
Supply Voltage	Vs	-0.5	V _S + 10%	V	V _s to GND
Control Voltage	V _C	-0.5	15	V	V _c to GND

Handling and Testing

Parameter	Proced	Condition		
Electrostatic Discharge (ESD)				
THD devices	IEC60749-26	HBM	2000V	
SMD devices	IEC60749-27	MM	200V	
Washable	Yes			
RoHS-Compliant	Yes			



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Environment Conditions

Test	IEC	IEC	MIL-STD-	MIL-STD-	MIL-PRF-	Test Conditions (IEC)
	60068	60679-1	202G	810F	55310D	
	Part	Clause	Method	Method	Clause	
Sealing Tests	2-17	5.6.2	112E		3.6.1.2	Gross leak; Test Qc,
(if applicable)						Fine leak; Test Qk
Solderability	2-20	5.6.3	208H		3.6.52	Test Ta method 1
Resistance to	2-58		210F		3.6.48	Test Td₁ method 2
soldering heat						Test Td ₂ method 2
Shock	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axis, 100 g.
						6ms half-sine pulse
Vibration	2-6	5.6.7.1	201A	516.4-4	3.6.38.1	Test Fc, 30 min per axis, 1 oct/min
sinusoidal			204D		3.6.38.2	10 Hz – 55 Hz 0, 75mm, 55 Hz – 2 kHz, 10 g
Vibration random	2-64	5.6.7.3	214A	514.5	3.6.38.3	Test Fdb
					3.6.38.4	
Endurance tests			108A			
- Aging		5.7.1			4.8.35	30 days @ +85°C, OCXO @ +25°C
- Extended		5.7.2				1000 h, 2000 h, 8000 h @ +85°C
aging						