OCXO2525BM-FD-10MHz LVTTL-' 222

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

Features and Benefits

Frequency range: 10MHz Supply voltage: 3.3V Steady state: 1.3W Max Output waveform: LVTTL

Frequency stability vs. operating temperature: ±10ppb

Aging: ±50ppb per year

Phase noise@10KHz: -156dBc/Hz Operating temperature: -40°C to +85°C

Size:25.4x25.4x12.7mm

Typical Applications

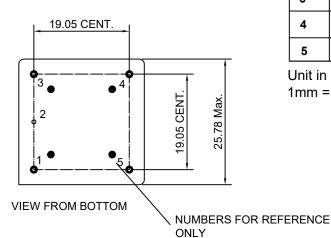
Small Cell, Portable Telecommunication Device Test and Instrumentation Synthesizer, Digital switch, Reference Timing Circuit

Description

OCXO2525BM-FD-10MHz_LVTTL-3222 is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

Mechanical Drawing & Pin Connections

12.7 **GLASS STANDOFF** (4PLACES) 0.8DIA.PIN(5 PLACES)



Drawing No: MD160042-4

PIN Function

Pin	Function
1	R.F. OUTPUT
2	GND
3	Control Votage
4	Reference Voltage
5	Supply Voltage

Unit in mm 1mm = 0.039 inches

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(NOT STAMPED ON UNIT)



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OCXO2525BM-FD-10MHz_LVTTL-' 222 25.4x25.4x12.7mm 10MHz OCXO

Specifications

Control Voltage Page Pag	Oscillator	Course	Condition	Value			Unit	Note	
Rectangular	Specification	Sym	Condition	Min.	Typ.	Max.			
Rectangular	Operational Frequency	F _{nom}			10		MHz		
Level									
Level	Waveform	Rectangular							
Low Level	Level								
Low Level	High Level			+2.4			V		
Duty Cycle						+0.4	V		
RiseFall time	Load	R _L			15pF				
Spurious	Duty Cycle			45	50	55	%		
VCO @ Min. Voltage	Rise/Fall time		10% to 90%			6	ns		
VCO @ Min. Voltage	Spurious					-60	dBc		
Tuning Range VCO @ Max. Voltage	Electrical Frequency Adjustment (PIN =	"VCO INPU	Γ")						
VCO @ Max. Voltage	Tuning Range					-0.5	ppm	frequency at	
Slope			VCO @ Max. Voltage						
Linearity				0		2.8	V		
Input Impedance Reference Voltage (PIN = "Reference Voltage")		1			positive	ı			
Reference Voltage					1	+10			
Versus V				100			Kohm		
December Power Supply Supply Voltage Vs 3.135 3.3 3.465 V	Reference Voltage (PIN = "Reference Vo	oltage")							
Supply Voltage	Voltage			2.7	2.8	2.9	_		
Supply Voltage				9			Kohm		
Steady state									
② turn on	Supply Voltage	Vs		3.135	3.3	3.465			
Per day, at time of shipment									
Versus Operating Temperature Range ref to +25 °C ±10 ppb Initial Frequency Accuracy @ +25 ±1 °C; after turn on power 15 ±1 minutes; <=90 days following date code; VCO Input voltage @ Center Voltage ±0.001V			@ turn on			1000	mA		
Initial Frequency Accuracy									
Initial Frequency Accuracy	Versus Operating Temperature Range		ref to +25°C			±10	ppb		
Versus Load	Initial Frequency Accuracy		after turn on power 15 ±1 minutes; <=90 days following date code; VCO Input voltage @ Center Voltage			±0.1	ppm		
Short Term Per day, at time of shipment ±0.5 ppb/s Root Allan variance Aging Per Day after 30 days ±0.5 ppb Aging 1st Year ±50 ppb Aging 10 Years ±0.3 ppm Warm-up In 10 minutes @25±1°C ±10 ppb Reference to 1 hour 1Hz -95 -90 dBc/Hz 10Hz -125 -120 dBc/Hz 10Hz -140 -135 dBc/Hz 1kHz -144 -145 dBc/Hz 1kHz -148 -145 dBc/Hz 10kHz -156 -155 dBc/Hz 10kHz -156 -155 dBc/Hz 10kHz -156 -155 dBc/Hz 10kHz -156 -155 dBc/Hz 5torage temperature range -40°C to +85°C Storage temperature range -5°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours Vibration (non-operating) MIL-STD-202, Meth						±0.5	ppb		
Aging Per Day Aging Per Day Aging 1st Year	Versus Load		±5% change			±0.5	ppb		
Aging Per Day after 30 days ±0.5 ppb Aging 1st Year ±50 ppb Aging 1o Years ±0.3 ppm Warm-up In 10 minutes @25±1°C ±10 ppb Reference to 1 hour Phase Noise 1Hz -95 -90 dBc/Hz 10Hz -125 -120 dBc/Hz 10Hz -140 -135 dBc/Hz 10kHz -144 -145 dBc/Hz 10kHz -156 -155 dBc/Hz 100kHz -156 -155 dBc/Hz Environmental, Mechanical Conditions -40°C to +85°C Storage temperature range -40°C to +85°C Storage temperature range -40°C to +85°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing, 240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz	Short Term					0.05	ppb/s		
Aging 1st Year ±50 ppb Aging 10 Years ±0.3 ppm Warm-up In 10 minutes @25±1°C ±10 ppb Reference to 1 hour HILZ -95 -90 dBc/Hz 10Hz -125 -120 dBc/Hz 10Hz -140 -135 dBc/Hz 1kHz -148 -145 dBc/Hz 10kHz -156 -155 dBc/Hz 10kHz -156 -155 dBc/Hz Environmental, Mechanical Conditions -40°C to +85°C Storage temperature range -40°C to +85°C Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz	Aging					±0.5	ppb		
Aging 10 Years ±0.3 ppm Warm-up In 10 minutes @25±1°C ±10 ppb Reference to 1 hour Phase Noise 1Hz -95 -90 dBc/Hz 10Hz -125 -120 dBc/Hz 100Hz -140 -135 dBc/Hz 1kHz -148 -145 dBc/Hz 10kHz -156 -155 dBc/Hz 10kHz -158 -155 dBc/Hz Environmental, Mechanical Conditions -40°C to +85°C Storage temperature range -40°C to +85°C Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing, 240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz			after 30 days				ppb		
Warm-up In 10 minutes @25±1°C ±10 ppb Reference to 1 hour Phase Noise 1Hz -95 -90 dBc/Hz -95 -120 dBc/Hz -95 -120 dBc/Hz -95 -120 dBc/Hz -95 -120 dBc/Hz -95 -155 dBc/Hz -95 -155 dBc/Hz -95 -90 -95 -90 -95 -90 -95 -90 -95 -90 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>±50</td><td>ppb</td><td></td></t<>						±50	ppb		
Warm-up @25±1°C ±10 ppb 1 hour Phase Noise 1Hz -95 -90 dBc/Hz 10Hz -125 -120 dBc/Hz 100Hz -140 -135 dBc/Hz 1kHz -148 -145 dBc/Hz 10kHz -156 -155 dBc/Hz Environmental, Mechanical Conditions 10kHz -158 -155 dBc/Hz Operating temperature range -40°C to +85°C -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing, 240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz	Aging 10 Years					±0.3	ppm		
10Hz	Warm-up					±10			
Phase Noise 10Hz -125 -120 dBc/Hz 100Hz -140 -135 dBc/Hz 1kHz -148 -145 dBc/Hz 10kHz -156 -155 dBc/Hz 100kHz -158 -155 dBc/Hz Environmental, Mechanical Conditions Operating temperature range -40°C to +85°C Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing, 240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz					-95	-90	dBc/Hz		
1kHz					-125	-120	dBc/Hz		
1KHZ	Phase Noise								
Interpretation of the properties of the properti	i ilase inuise								
Environmental, Mechanical Conditions Operating temperature range -40°C to +85°C Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz									
Operating temperature range -40°C to +85°C Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz			100kHz		-158	-155	dBc/Hz		
Storage temperature range -55°C to +105°C Humidity MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz									
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Vibration (non-operating) MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz									
						0°C, non-co	ndensing,24	10 hours	
Shock (non-operating) MIL-STD-202, Method 213, test condition J; 30g,11ms, half-sine									
	Shock (non-operating)	MIL-STD-	202, Method 213, test con-	dition J; 30g	g,11ms, half-	sine			