



frequency control solutions

YH1322

LOW PHASE NOISE OPTION
SMA CONNECTOR

OCXO

Product Description

Greenray Industries' YH1322 Series OCXOs offer very low phase noise and are ideal for base station or test equipment applications.

Features

- Typical phase noise of -150 dBc (@ 100 Hz offset)
- Frequency Range: 10 - 120 MHz
- Phase noise floor of -170 dBc
- 50.8 mm sq. package
- Low Phase Noise performance from 10 MHz through 120 MHz
- SMA connector



Applications

- Ground radar
- Air traffic control system
- Clock reference for analyzers or synthesizers
- Emergency wireless communications transceiver
- Ethernet synchronization
- Communication system
- Ground station RF telemetry systems
- Multiband terminal
- Upconverter

REV: L



Greenray Industries, Inc., 840 West Church Road, Mechanicsburg, PA 17055
TEL: 717-766-0223 FAX: 717-790-9509 e-mail: sales@greenrayindustries.com
www.greenrayindustries.com

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YH1322 SERIES
10 MHz to 120 MHz**OCXO**

Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	Sinewave @ +25°C	10		120	MHz	(FREQ.)
Frequency Stability FREQ. < 100 MHz	0°C to +50°C		± 10		ppb	B18
	-10°C to +60°C		± 15		ppb	G158
	-20°C to +70°C		± 20		ppb	N28
	-40°C to +85°C		± 50		ppb	T58
Frequency Stability FREQ. ≥ 100 MHz	0°C to +50°C		± 50		ppb	B58
	-10°C to +60°C		± 70		ppb	G78
	-20°C to +70°C		± 100		ppb	N17
	-40°C to +85°C		± 300		ppb	T37
Aging	1 st year, FREQ. < 100 MHz			± 0.1	ppm	
	1 st year, FREQ. ≥ 100 MHz			± 0.5	ppm	
Frequency vs Voltage	For a 5% change			± 5.0	ppb	
Frequency vs Load	For a 10% change			± 5.0	ppb	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 1.0		ppm	
Warm-up Time	Within ± 50 ppb		5		min	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	STD	UL	Units	Ordering Code
Static @ 10 MHz Nom. Freq. FREQ. < 100 MHz	10		-125	-128	dBc/Hz	
	100		-150	-155	dBc/Hz	
	1 k		-160	-163	dBc/Hz	
	10 k		-165	-168	dBc/Hz	
	100 k		-165	-168	dBc/Hz	
Static @ 10 MHz Nom. Freq. FREQ. ≥ 100 MHz	10		-85	-90	dBc/Hz	
	100		-115	-120	dBc/Hz	
	1 k		-145	-150	dBc/Hz	
	10 k		-160	-165	dBc/Hz	
	100 k		-165	-165	dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		11.4	12.0	12.6	Vdc	D
Supply Current				25	mA	
Input Power	Warm-up, 5 min			6	W	
	Idle @ +25°C			2	W	
RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Sinewave						S
Output Power	50 Ω Load	+ 8	+ 10	+ 12	dBm	
Harmonics				-20	dBc	



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Environmental and Mechanical Specifications

Test	Standard	Method	Condition	Description
Vibration	MIL-STD-202	204	A	50 g, 20 to 2,000 Hz, swept sine
Shock	MIL-STD-202	213	C	1,500 g, 0.5 ms half-sine

Recommendations and General Information

Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-45°C to +90°C
Terminal Finish	Sn 100 (Lead-free), SnPb 63/37 (non-RoHS)
Package Weight	70 grams
Package Finish	Stainless Steel
Soldering Instruction	Hand Solder
Shipping	Tray Pack
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example

YH1322 -	T	37	-	UL	-	10.0 MHz	-	LF
Model	Temp. Range	Stability		Phase Noise		Freq. (MHz)		Term. Finish
	B: 0 to +50°C G: -10 to +60°C N: -20 to +70°C T: -40 to +85°C	18: ±0.01ppm 158: ±0.015ppm 28: ±0.02ppm 38: ±0.03ppm 58: ±0.05ppm 78: ±0.07ppm 17: ±0.1ppm 157: ±0.15ppm 27: ±0.2ppm 37: ±0.3ppm		STD: Standard UL: Ultra-Low		10 to 120		LF: Sn 100 (Lead-free) PB: SnPb 63/37 (non-RoHS)

The Order ID (YH1322-T37-UL-10.0MHz-LF) is only used to issue the preliminary quote. The Part Number (YH1322-1) for the quoted Electrical Characteristics, Screenings, and other options, will be provided with the Greenray Sales Order.

Other specification options are available, please use the contact information below for more information.



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Package Information

OUTLINE				DIMENSIONS			
DIM	inches	mm	inches	mm	TYP.	MAX.	
A	2.000	50.80	2.040	51.82			
B	2.000	50.80	2.040	51.82			
C	0.750	19.05	0.790	20.07			
D	0.500	12.70	0.515	13.08			
E	1.000	25.40	1.015	25.78			
F	1.310	33.27	1.325	33.66			
G	1.620	41.15	1.635	41.53			
H	0.370	9.40	0.385	9.78			
I	0.250	6.35	0.265	6.73			
J	1.500	38.10	1.515	38.48			
K	0.250	6.35	0.265	6.73			
L	1.500	38.10	1.515	38.48			

PIN CONNECTIONS

1. EFC
2. SUPPLY
3. 0V & CASE GND
- J1. OUTPUT



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