



frequency control solutions

YH1310

LOW PHASE NOISE
COMPACT EURO PACKAGE

OCXO

Product Description

Greenray Industries' YH1310 Series OCXOs offer superior stability in a compact, Euro package.

Features

- 36.1 x 26.9mm Euro package
- Frequency Range: 10 - 100 MHz
- Excellent stability
- SC-cut Crystal
- Euro Package CO-8 OCXO
- Sinewave Output (YH1310); CMOS Output (YH1311)



Applications

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

Rev. G



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YH1310 SERIES
10 MHz to 100 MHz



Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	Sinewave CMOS	10		100	MHz	YH1310 YH1311
Frequency Stability (other stability available)	0°C to +50°C		± 20		ppb	B28
	-20°C to +70°C		± 30		ppb	N38
	-40°C to +85°C		± 50		ppb	T58
Aging	1 st year			± 0.1	ppm	
	For 10 years			± 0.5	ppm	
Warm-up Time	Within ± 50 ppb		5		min	
Frequency vs Voltage	For a 5% change			± 5	ppb	
Frequency vs Load	For a 10% change			± 5	ppb	
Electronic Frequency Control	EFC = 0.5 to V _{DD} Positive slope		± 1		ppm	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	
Phase Noise (static) @ 10 MHz nominal Frequency	10		-118		dBc/Hz	
	100		-140		dBc/Hz	
	1k		-150		dBc/Hz	
	10 k		-157		dBc/Hz	
	100 k		-158		dBc/Hz	
	1 M		-160		dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	
Supply Voltage (V _{DD})		4.75	5.0	5.25	VDC	
		11.4	12.0	12.6	VDC	
Supply Current				25	mA	
Input Power	Warm-up, 5 min			6	W	
	Idle, at +25°C			2	W	
RF Outputs available: Sinewave and CMOS						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS Output						YH1311
Load			15		pF	
Level	CMOS	V _{DD} -0.2 "1" level		+0.2 "0" level	VDC	
Sine wave Output						YH1310
Harmonics				- 20	dBc	
Load			50		Ω	
Level	50Ω load	+ 8	+ 10	+ 12	dBm	



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Environmental and Mechanical Specifications

Screenings			
Screening	Standard	Method, Condition	Description
Vibration	MIL-STD-202	204, Cond A	50 g, 20 to 2,000 Hz, swept sine
Shock	MIL-STD-202	213, Cond C	1,500 g, 0.5 ms half-sine
	MIL-STD-810	541, Cond A	

Recommendations and General Information

Conditions	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-45°C to +90°C
Terminal Finish	SnPb 63/37 (non-RoHS)
Package Finish	Stainless Steel and Nickel-plated Kovar
Package Weight	14 grams
Soldering Instruction	Hand or reflow soldering
Shipping	Tray package
Marking	Line 1: Greenray logo Line 2: Model Line 3: Frequency Line 4: Serial Number + Data Code (YYWW)

Ordering Example

YH1310	-	N38	-	5.0	-	10.0MHz	-	E
Model		Stability Code		Input Voltage		Frequency in MHz		Termination finish
YH1310 for Sinewave YH1311 for HCMOS		<u>Refer to Electrical Specs Table*</u> B28 (0 to +50°C) N38 (-20 to +70°C) T58 (-40 to +85°C)		5.0: 5.0 VDC 12.0: 12.0 VDC		From 10 to 100 MHz		E: Gold plated (RoHS), Standard PB: SnPb 63/37 (non-RoHS) LF: SnAg 96.5/3.5 (Lead-free)

*other frequency stabilities available, please contact factory



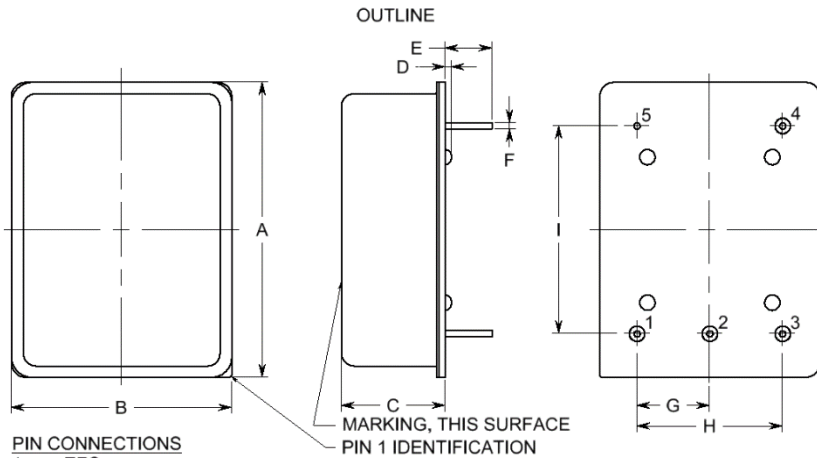
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YH1310 SERIES

10 MHz to 100 MHz



Package information



PIN CONNECTIONS

1. EFC
2. Vref
3. SUPPLY
4. OUTPUT
5. 0V & CASE GND

DIMENSIONS

DIM	TYP.		MAX.	
	inches	mm	inches	mm
A	1.420	36.07	1.620	41.15
B	1.060	26.92	1.260	32.00
C	0.490	12.45	0.510	12.95
D	0.026	0.66	0.032	0.81
E	0.230	5.84	0.260	6.60
F	0.032	0.81	0.034	0.86
G	0.350	8.89	0.360	9.14
H	0.700	17.78	0.710	18.03
I	1.000	25.40	1.010	25.65



ISO 9001
Quality

Quality

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AS9100
Aerospace

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