



frequency control solutions

## YH1300

LOW PHASE NOISE  
ULTRA-LOW ACCELERATION SENSITIVITY

# OCXO

### Product Description

Greenray Industries' YH1300 Series OCXOs offer superior g-sensitivity in a compact package.

### Features

- 20.3 x 12.7 mm package
- Frequency Range: 10 - 50 MHz
- Excellent g-sensitivity to  $<7 \times 10^{-11}$  per g
- CMOS or Sinewave Output



### Applications

- Mobile GPS systems
- System reference for airborne
- Ethernet synchronization
- Airborne data router
- Communication system
- RF telemetry systems
- Multiband terminal
- Upconverter

Rev. J



intertek

Greenray Industries, Inc., 840 West Church Road, Mechanicsburg, PA 17055  
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**YH1300 SERIES**  
10 MHz to 50 MHz



## Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency		10		50	MHz	
Frequency Stability (other stability available)	0°C to +50°C			0.10	ppm	B17
	-20°C to +70°C			0.30	ppm	N37
	-40°C to +85°C			0.50	ppm	T57
Aging	1 <sup>st</sup> year		0.5	± 1.0	ppm	
	For 10 years			± 3.0	ppm	
Warm-up Time	Within ± 100 ppb		5		min	
Frequency vs Voltage	For a 5% change			± 50	ppb	
Frequency vs Load	For a 10% change			± 50	ppb	
Acceleration Sensitivity	Worst Axis: Tested at 90Hz, 10g			0.20	ppb/g	LG
				0.07		ULG
Electronic Frequency Control	EFC = 0 to SUP. Positive slope		± 5		ppm	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 10 MHz nominal Frequency	10		-100		dBc/Hz	
	100		-125		dBc/Hz	
	1k		-148		dBc/Hz	
	10 k		-152		dBc/Hz	
	100 k		-153		dBc/Hz	
	1 M		-160		dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		4.75	5.0	5.25	VDC	5.0
Supply Current			150		mA	
Input Power	Warm-up, 5 min			3	W	
	Idle, at +25°C			0.75	W	
RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS						C
Load			15		pF	
Level		SUP.-0.2 "1" level		+0.2 "0" level	VDC	
Sine						S
Harmonics				- 20	dBc	
Load			50		Ω	
Power	50Ω load	+ 1	+ 3		dBm	



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## Environmental and Mechanical Specifications

Ratings			
Test	Standard	Method, Condition	Description
Vibration	MIL-STD-202	204, Cond A	10 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	See Options below
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

YH1300	T57	5.0	C	10.0 MHz	PB
Model	Stability Code	Input Voltage	Output	Frequency (MHz)	Termination finish
YH1300	Refer to Electrical Specs Table* B17 (0 to +50°C) N37 (-20 to +70°C) T57 (-40 to +85°C)	5.0: 5.0 VDC	CMOS: C Sine: S	From 10 to 50 MHz	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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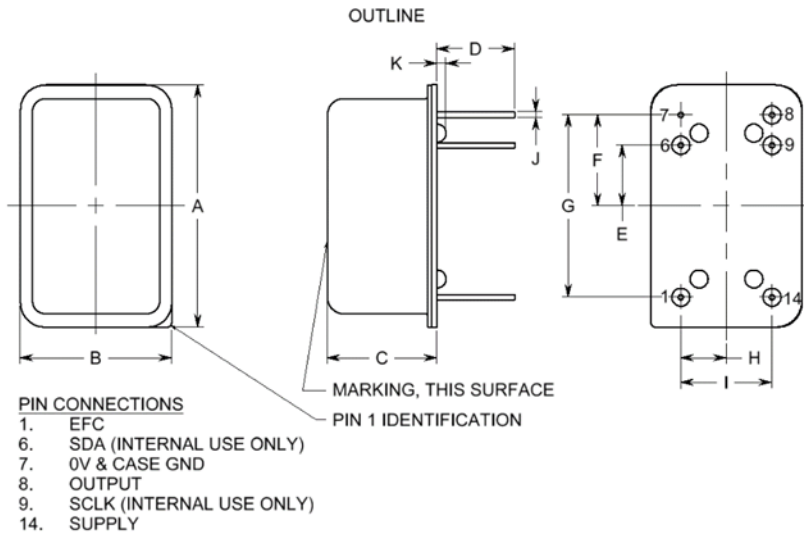


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