



frequency control solutions

**YH1400**

**VERY LOW ACCELERATION SENSITIVITY**

**OCXO**



## Product Description

Greenray Industries' YH1400 Series OCXO is a very low acceleration sensitivity reference for mission critical applications.

## Features

- Acceleration sensitivity as low as 0.09 ppb/g
- 25.4 mm sq., low profile, hermetic package
- CMOS or +5 dBm Sinewave Output
- Voltage Control for precise tuning or phase locking apps
- Frequency Range: 10 - 125 MHz

## Applications

- High acceleration/vibration GPS system
- System reference for airborne
- Ethernet synchronization
- Airborne data router
- Communication system
- RF telemetry systems
- Multiband terminal
- Upconverter

REV: B



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## YH1400 SERIES

10 MHz to 125 MHz



Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	Sinewave @ +25°C	10		125	MHz	(FREQ.)
Frequency Stability	-40°C to +85°C		± 0.1	± 0.2	ppm	T17
Aging	Per day (4 days avg.)			± 5.0	ppb	
	Per year			± 0.5	ppm	
Acceleration Sensitivity	Worst axis tested @ 90 Hz, 10 g			1.0	ppb/g	SG
				0.2	ppb/g	LG
				0.09	ppb/g	ULG
Frequency vs Voltage	V ± 2%		± 0.1	± 0.05	ppm	
Frequency vs Load	± 5%		± 0.1	± 0.05	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 3.0	± 5.0	ppm	
Short-term Stability	ADEV, T=1 sec.		0.08	0.1	ppb	
Warm-up Time	Within ± 0.1 ppm		2	4	min	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 50 MHz Nom. Freq.	10		-95		dBc/Hz	
	100		-122		dBc/Hz	
	1 k		-138		dBc/Hz	
	10 k		-155		dBc/Hz	
	100 k		-158		dBc/Hz	
	1 M		-163		dBc/Hz	
Integrated Jitter	1 kHz to 5 MHz		100		x10 <sup>-15</sup> Sec	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage	± 5%		5.0		Vdc	E
Input Power	Warm-up, 4 min			3.5	W	
	Idle @ +25°C			2	W	
RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS						C
Load			15		pF	
Level		0.8 Vdd "1" Level		0.2 Vdd "0" Level	V	
Sinewave						S
Output Power	50 Ω Load	+ 5	+ 7	+ 9	dBm	
Harmonics				-25	dBc	
Spurious				-85	dBc	



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Environmental and Mechanical Specifications				
Test	Standard	Method	Condition	Description
Vibration	MIL-STD-202	204	B	10 g, 10 to 500 Hz, swept sine
Shock	MIL-STD-202	213	A	50 g, 11 ms half-sine

Recommendations and General Information	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +105°C
Terminal Finish	Sn 100 (Lead-free), SnPb 63/37 (non-RoHS)
Package Weight	3 grams
Package Finish	Stainless Steel and Ni plated Kovar
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						
YH1400 -	T	17	-	C	-	SG - 10.0 MHz - LF
Model	Temp. Range	Stability	Output	G-Sensitivity	Freq. (MHz)	Term. Finish
	B: 0 to +50°C D: -30 to +70°C E: -40 to +95°C F: 0 to +60°C G: -10 to +60°C H: -10 to +50°C K: 0 to +70°C M: -20 to +60°C N: -20 to +70°C O: -25 to +70°C P: -30 to +80°C Q: -35 to +85°C R: -40 to +60°C S: -40 to +70°C T: -40 to +85°C Y: -20 to +60°C	17: ±0.1ppm 157: ±0.15ppm 27: ±0.2ppm 37: ±0.3ppm 47: ±0.4ppm 57: ±0.5ppm	C: CMOS S: Sinewave	SG: < 1.0 ppb/g LG: < 0.2 ppb/g ULG: < 0.09 ppb/g HG: Customer-specific	10 to 125	LF: Sn 100 (Lead-free) PB: SnPb 63/37 (non-RoHS)

The Order ID (YH1400-T17-C-SG-10.0MHz-LF) is only used to issue the preliminary quote. The Part Number (YH1400-1) 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.



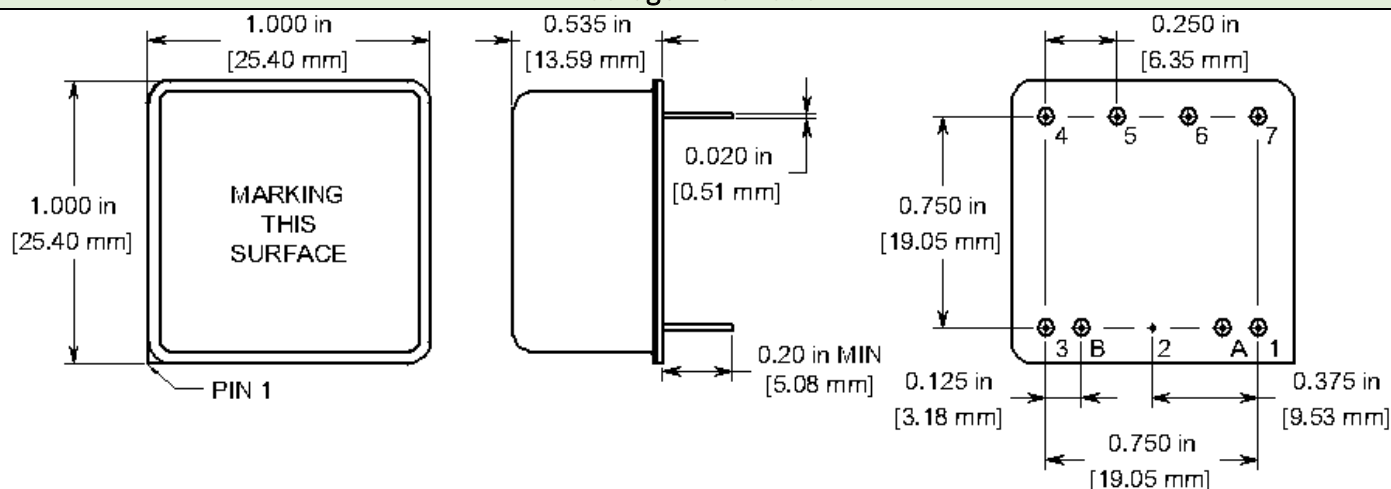
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### Package Information



#### PIN CONNECTIONS

1	OUTPUT
2	GND
3	CONTROL VOLTAGE (EFC)
4	V-REF OUTPUT
5	NO CONNECT (NC)
6	NO CONNECT (NC)
7	SUPPLY VOLTAGE
A	NO CONNECT (NC)
B	NO CONNECT (NC)

(NC Pins may have internal connections and should be isolated)



intertek

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