



frequency control solutions

## YH1440

MINIATURE SMT PACKAGE  
STRATUM 3 COMPLIANT

# OCXO

### Product Description

Greenray Industries' YH1440/1441 Series OCXOs offer excellent performance in a compact, SMT package.



### Features

- 25.4 x 22.1 mm SMT package
- Phase noise floor of -160 dBc
- Frequency Range: 10 - 100 MHz
- CMOS (YH1440) or Sinewave (Model 1441) Output
- Stratum 3 Compliant
- Ideal for Test & Measurement, Instrumentation application

### 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. F



intertek

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## Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency		10		100	MHz	
Frequency Stability (other stability available, please contact factory)	0°C to +50°C		± 100		ppb	B17
	-10°C to +60°C		± 150		ppb	G157
	-20°C to +70°C		± 200		ppb	N27
	-40°C to +70°C		± 500		ppb	S57
Aging	Per day, after 30 days		± 2		ppb	
Warm-up Time	Within ± 50 ppb		5		min	
Frequency vs Voltage	For a 5% change			± 3	ppb	
Frequency vs Load	For a 10% change			± 5	ppb	
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 @ 100 MHz nominal Frequency	10		-80		dBc/Hz	
	100		-110		dBc/Hz	
	1k		-140		dBc/Hz	
	10 k		-155		dBc/Hz	
	100 k		-160		dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		3.0	3.3	3.6	VDC	3.3
		4.75	5.0	5.25	VDC	5.0
		11.4	12.0	12.6	VDC	12.0
		14.3	15.0	15.7	VDC	15.0
Supply Current				25	mA	
Input Power	Warm-up, 5 min			5	W	
	Idle, at +25°C			2	W	
RF Outputs available: CMOS and Sinewave						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS						YH1440
Load			15		pF	
Level		SUP.-0.2 "1" level		+0.2 "0" level	VDC	
Symmetry		40	50	60	%	
Sine						YH1441
Load			50		Ω	
Level	50Ω load	0			dBm	
Harmonics				- 20	dBc	



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**YH1440 SERIES**  
10 MHz to 100 MHz



## 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

## Recommendations and General Information

Conditions	
Parameter	Notes
Operating Temperature	-40°C to +70°C
Storage Temperature	-45°C to +75°C
Terminal Finish	Gold plated is standard, SnPb 63/37 is available
Package Finish	Stainless Steel and Nickel-plated Kovar
Package Weight	8 grams
Soldering Instruction	Hand solder or reflow soldering
Shipping	Tray pack
Marking	Line 1: Greenray logo Line 2: Model Line 3: Frequency Line 4: Serial Number + Data Code (YYWW)

## Ordering Example

<b>YH1440</b>	-	<b>N27</b>	-	<b>5.0</b>	-	<b>100.0 M Hz</b>	-	<b>E</b>
<b>Model</b>		<b>Stability Code</b>		<b>Input Voltage</b>		<b>Frequency in MHz</b>		<b>Termination finish</b>
YH1440: CMOS YH1441: Sinewave		<a href="#">Refer to Electrical Specs Table*</a> B17 (0°C to 50°C) G157 (-10°C to +60°C) N27 (-20°C to +70°C) S57 (-40°C to +70°C)		3.3: 3.3 VDC 5.0: 5.0 VDC 12.0: 12.0 VDC 15.0: 15.0 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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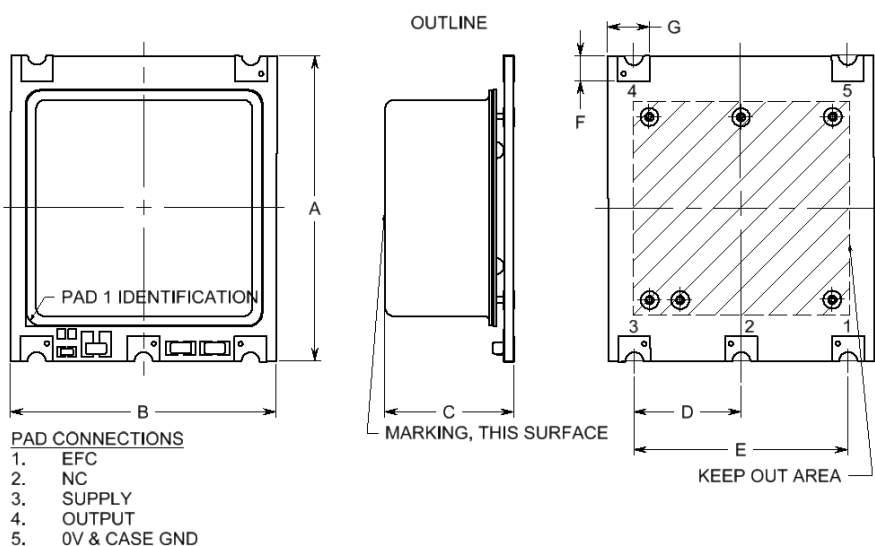
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# YH1440 SERIES

10 MHz to 100 MHz

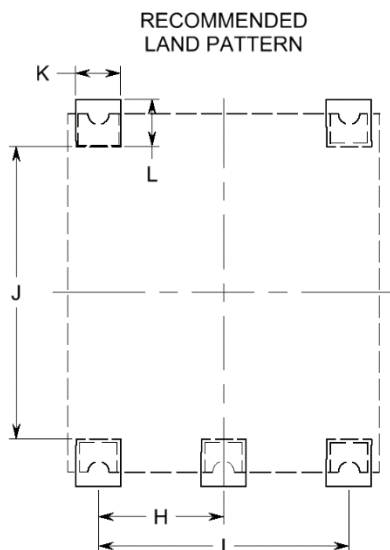


## Package dimensions and Pad Connections



### PART DIMENSIONS

DIM	TYP.		MAX.	
	inches	mm	inches	mm
A	1.000	25.40	1.020	25.91
B	0.870	22.10	0.890	22.61
C	NA	NA	0.450	11.40
D	0.350	8.90	0.360	9.14
E	0.700	17.78	0.710	18.03
F	0.082	2.08	NA	NA
G	0.105	2.67	NA	NA



### LAND PATTERN DIMENSIONS

DIM	TYP.		MAX.	
	inches	mm	inches	mm
H	0.350	8.90	NA	NA
I	0.700	17.78	NA	NA
J	0.817	20.75	NA	NA
K	0.126	3.20	NA	NA
L	0.132	3.35	NA	NA



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