



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
- 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: G



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Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	10		100	MHz	(FREQ.)
Frequency Stability	0°C to +50°C		± 0.1		ppm	B17
	-10°C to +60°C		± 0.15		ppm	G157
	-20°C to +70°C		± 0.2		ppm	N27
	-40°C to +70°C		± 0.5		ppm	S57
Aging	Per day, after 30 days		± 2.0		ppm	
Frequency vs Voltage	For a 5% change			± 3.0	ppm	
Frequency vs Load	For a 10% change			± 5.0	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 5.0		ppm	
Warm-up Time	Within ± 0.05 ppm		5		min	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 100 MHz Nom. Freq.	10		-80		dBc/Hz	
	100		-110		dBc/Hz	
	1 k		-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	B
		4.75	5.0	5.25	Vdc	E
		11.4	12.0	12.6	Vdc	D
		14.3	15.0	15.7	Vdc	C
Input Power	Warm-up, 5 min			5	W	
	Idle @ +25°C			2	W	
RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS						YH1440
Load			15		pF	
Level		0.8 Vdd "1" Level		0.2 Vdd "0" Level	V	
Symmetry		40	50	60	%	
Sinewave						YH1441
Output Power	50 Ω Load	0			dBm	
Harmonics				-20	dBc	



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 +70°C
Storage Temperature	-45°C to +75°C
Terminal Finish	ENIG (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	8 grams
Package Finish	Stainless Steel and Ni plated Kovar
Soldering Instruction	Hand Solder, Reflow
Shipping	Tray Pack
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example								
YH1440	-	T	-	57	-	B	-	10.0 MHz
Model		Temp. Range		Stability		Supply Voltage		Freq. (MHz)
YH1440: CMOS YH1441: Sinewave		B: 0 to +50°C G: -10 to +60°C N: -20 to +70°C S: -40 to +70°C		17: ±0.1ppm 157: ±0.15ppm 27: ±0.2ppm 37: ±0.3ppm 47: ±0.4ppm 57: ±0.5ppm		B: 3.3V E: 5.0V C: 15V D: 12V		10 to 100

The Order ID (YH1440-T57-B -10.0MHz) is only used to issue the preliminary quote. The Part Number (YH1440-1) 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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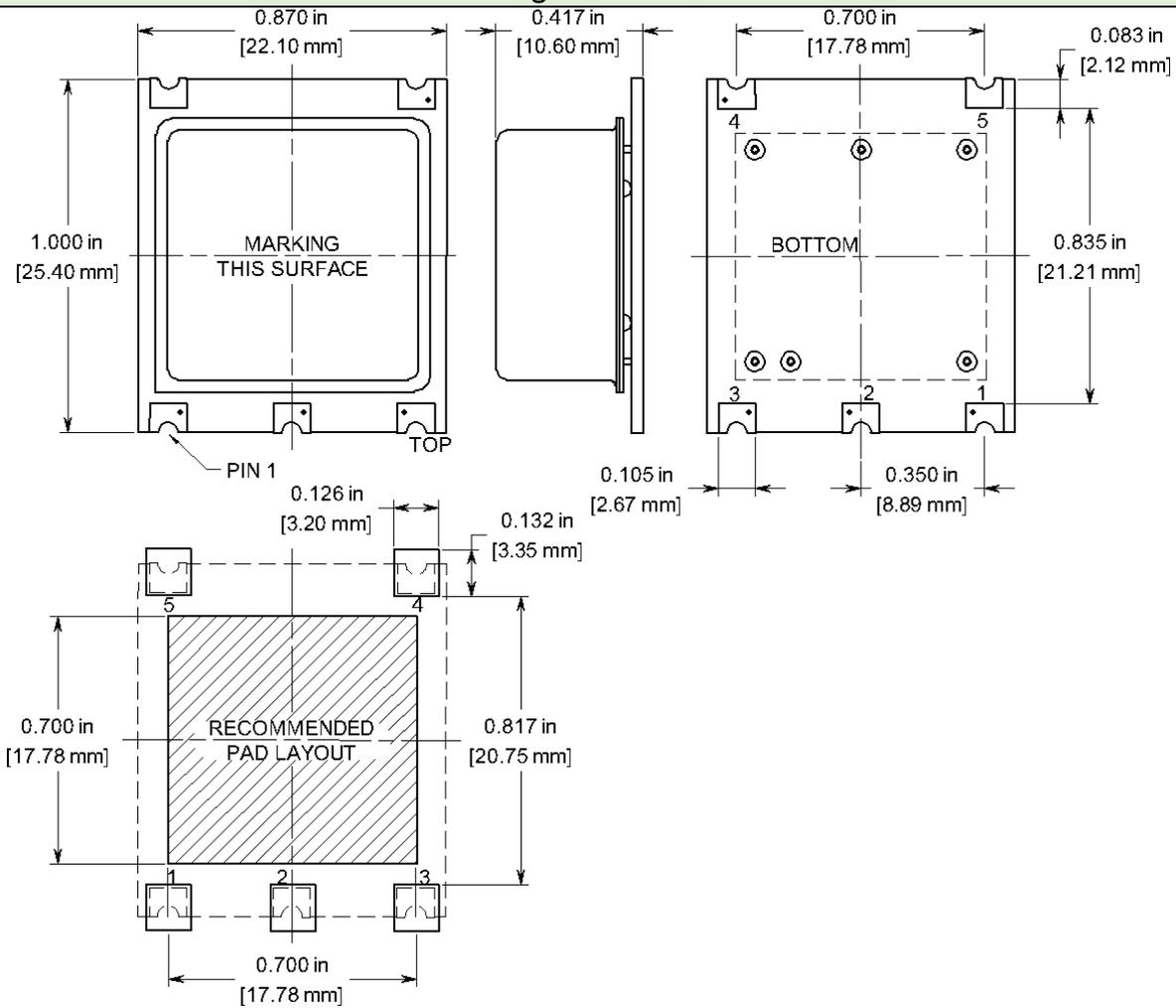


frequency control solutions

**YH1440 SERIES**  
10 MHz to 100 MHz



**Package Information**



PAD/PIN CONNECTIONS	
1	CONTROL VOLTAGE (EFC)
2	NO CONNECT (NC)
3	SUPPLY VOLTAGE (Vdd)
4	OUTPUT
5	GND

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



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