



frequency control solutions

YH1485

ULTRA-LOW PHASE NOISE
LOW G-SENSITIVITY OPTION

OCXO

Product Description

Greenray Industries' YH1485 Series OCXO is an ultra-low phase noise reference for mission critical applications.



Features

- Ultra-low phase noise below -175 dBc/Hz
- 25.4mm sq., low profile, hermetic package
- Excellent short and long-term stability
- Available reduced acceleration sensitivity to 0.5 ppb/g
- +10 dBm Sinewave Output
- EFC for precise tuning or phase locking apps
- Frequency Range: 10 - 100 MHz
- Supply Voltage: 3.3V to 15V

Applications

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

Rev. F



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YH1485 SERIES
10 MHz to 100 MHz



Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	Sinewave	10		100	MHz	
Frequency Stability (other stability available, please contact factory)	-20°C to +70°C		± 0.05		ppm	N58
	-20°C to +70°C		± 0.1		ppm	N17
	-40°C to +85°C		± 0.1		ppm	T17
	-40°C to +85°C		± 0.3		ppm	T37
Aging	1 st year			± 0.1	ppm	
	For 10 years			± 0.5	ppm	
Initial Accuracy	At +25°C, 2.5VDC EFC		± 0.25		ppm	
Warm-up Time	Within ± 0.1 ppm		5		min	
Acceleration Sensitivity	Meas. @ 90 Hz, 10 g, worst Axis			1	ppb/g	SD
				0.5	ppb/g	LG
Frequency vs Voltage	For a 5% change			± 5	ppb	
Frequency vs Load	For a 10% change			± 5	ppb	
Electronic Frequency Control	EFC = 0 to V _{DD} , Positive slope		± 0.75		ppm	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	
Phase Noise (static) @ 100 MHz nominal Frequency	10		-130		dBc/Hz	
	100		-155		dBc/Hz	
	1k		-165		dBc/Hz	
	10 k		-173		dBc/Hz	
	100 k		-176		dBc/Hz	
	1 M		-180		dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage (V _{DD})		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 Output: Sinewave						
Parameter	Conditions	Min	Typical	Max	Units	
Harmonics				- 30	dBc	
Spurious				- 80	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 +105°C
Terminal Finish	Lead Free or Pb
Package Finish	Stainless Steel and Nickel-plated Kovar
Package Weight	8 grams
Soldering Instruction	Hand solder only
Shipping	Tray pack
Marking	Line 1: Greenray logo Line 2: Model Line 3: Frequency Line 4: Serial Number + Data Code (YYWW)

Ordering Example

YH1485	-	T17	-	12.0	-	LG	-	100.0MHz	-	E
Model		Stability Code		Input Voltage		G-Sensitivity Code		Frequency in MHz		Termination finish
		Refer to Electrical Specs Table* N58 (-20°C to +70°C) N17 (-20°C to +70°C) T17 (-40°C to +85°C) T37 (-40°C to +85°C)		3.3: 3.3 VDC 5.0: 5.0 VDC 12.0: 12.0 VDC 15.0: 15.0 VDC		SD: < 1 ppb/g LG: < 0.5 ppb/g HG: Customer-specific		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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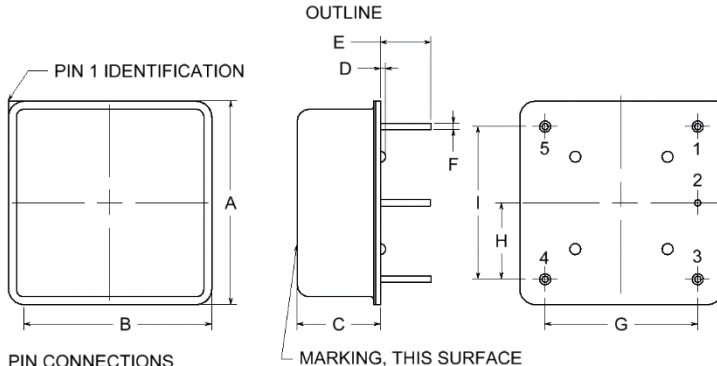
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Package information



- PIN CONNECTIONS**
1. OUTPUT
 2. 0V & CASE GND
 3. EFC
 4. NC
 5. SUPPLY

DIMENSIONS

DIM	TYP.		MAX.	
	inches	mm	inches	mm
A	0.996	25.30	1.000	25.4
B	0.996	25.30	1.000	25.4
C	NA	NA	0.530	13.46
D	0.026	0.65	0.032	0.80
E	0.244	6.20	0.264	6.70
F	NA	NA	∅0.032	∅0.80
G	0.750	19.05	0.758	19.25
H	0.375	9.53	0.382	9.70
I	0.750	19.05	0.758	19.25



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