



frequency control solutions

Y1631

LOW PHASE NOISE

ULTRA-LOW G-SENSITIVITY

XO

Product Description

Greenray Industries' Y1631 XO offers good phase noise performance in a compact, rugged package



Features

- Frequency Range: 60MHz to 130MHz
- 17.3mm sq. package
- 5VDC Supply
- Sinewave output
- Random Vibration per MIL-STD-202, Method 214
- Shock per MIL-STD-202, Method 213
- RoHS compliant

Applications

- Telecommunications
- Mobile radio
- Mobile instrumentation
- Airborne communication
- Wireless communication
- Microwave receiver

Rev. D



ISO 9001
Quality

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AS9100
Aerospace



Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	Sinewave	60		130	MHz	
Frequency Stability (other stability available)	-20°C to +70°C		± 15		ppm	N
	-40°C to +85°C		± 20		ppm	T
Aging	1 st year			± 1	ppm	
	10 years (100 MHz)			± 3	ppm	
Acceleration Sensitivity	(note 1)			2.0	ppb/g	SD
				0.5	ppb/g	LG
				0.09	ppb/g	ULG
Frequency vs Voltage	For a 5% change			± 0.1	ppm	
Frequency vs Load	For a 10% change			± 0.1	ppm	
Electronic Frequency Control	EFC = +0.5 to V _{DD} -0.5 Positive slope		± 10		ppm	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	
Phase Noise (static) @ 100 MHz nominal Frequency	10		-83		dBc/Hz	
	100		-120		dBc/Hz	
	1k		-149		dBc/Hz	
	10 k		-160		dBc/Hz	
	100 k		-167		dBc/Hz	
	1 M		-170		dBc/Hz	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	
Supply Voltage (V _{DD})		4.75	5.0	5.25	Vdc	
Supply Current				30	mA	
RF Output: Sinewave						
Parameter	Conditions	Min	Typical	Max	Units	
Harmonics				-45	dBc	
Spurious				-90	dBc	
Load			50		O	
Level	50 O load	+10			dBm	

(1) Acceleration Sensitivity is worst axis tested at 90 Hz, 10 g



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Y1631 SERIES
60 MHz to 130 MHz



Environmental and Mechanical Specifications

Screenings			
Screening	Standard	Method, Condition	Description
Random Vibration	MIL-STD-202	214, Cond I-A	0.3 PSD, 20.7 G rms
Shock	MIL-STD-202	213, Cond C	30 g, 11 ms, sawtooth

Recommendation and General Information

Conditions	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +105°C
Terminal Finish	Gold plating (RoHS) is standard (E). SnPb 63/37 also available
Package Weight	< 3 grams
Soldering Instruction	Hand or reflow soldering
Shipping	Tray pack
Marking	Line 1: Greenray logo Line 2: Model Line 3: Frequency Line 4: Serial Number + Data Code (YYWW) Line 5: Lot Number

Ordering Example

Y1631	-	N	-	80.0MHz	-	E
Model		Stability Code		Frequency in MHz		Termination finish
		Refer to Electrical Specs Table* N (-20 to 70°C) T (-40 to 85°C)		From 60 to 130 MHz		<u>Code: Pads finish</u> 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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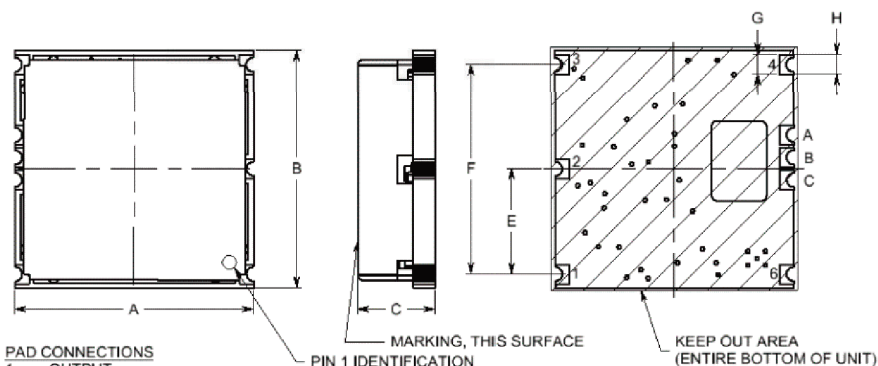
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Package dimensions and Pad Connections



PAD CONNECTIONS

1. OUTPUT
2. NC
3. SUPPLY
4. EFC
6. 0V & CASE GND
- A. COMP V (INTERNAL USE ONLY)
- B. NC (INTERNAL USE ONLY)
- C. V REF (INTERNAL USE ONLY)

DIM	inches	mm	inches	mm
A	0.680	17.27	0.695	17.65
B	0.680	17.27	0.695	17.65
C	0.220	5.58	0.235	6.02
D	0.300	7.62	0.315	8.10
E	0.600	15.24	0.615	15.62
F	0.056	1.42	NA	NA
G	0.056	1.42	NA	NA

