GREENRAY
frequency control solutions

T79

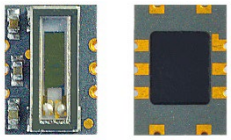
TIGHT STABILITY
LOW ACCELERATION SENSITIVITY

tcxo

Product Description

Greenray Industries' T79 Series TCXO has been developed as a reference oscillator for timing applications requiring very low g-Sensitivity performance and tight temperature stability.

Features



- Frequency Range: 10 to 52MHz
- g-Sensitivity to $<3 \times 10^{-10}/g$
- Shock to 30,000g
- Temperature Stability to ±0.1ppm over −20 to +70°C
- Rugged 5.0 x 7.0 mm package
- Low g-Sensitivity and Tight Stability in a compact, SMT package
- Industry Standard Footprint
- +5.0V or +3.3V Options

Applications

- Telecommunications
- High-shock electronics
- Mobile instrumentation
- Airborne communications
- Wireless communications
- Microwave receivers
- Smart munitions

REV: A

Greenray Industries, Inc., 840 West Church Road, Mechanicsburg, PA 17055
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www.greenrayindustries.com

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Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	10		52	MHz	(FREQ.)
Frequency Stability	-40°C to +85°C		± 0.5	± 1.0	ppm	T15
	-20°C to +70°C		± 0.3	± 0.5	ppm	N57
Aging	1st year		± 1.0	± 3.0	ppm	
	10 years		± 5.0		Ppm	
Acceleration Sensitivity	Worst axis tested @ 90 Hz, 10 g			2.5	ppb/g	SG
				1.0	ppb/g	LG
			0.5	0.7	ppb/g	ULG
Frequency vs Reflow	After 24 hrs recovery			1.0	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 8		ppm	

Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	
Static @ 20 MHz Nom. Freq.	10		-80		dBc/Hz	
	100		-112		dBc/Hz	
	1 k		-133		dBc/Hz	
	10 k		-145		dBc/Hz	
	100 k		-149		dBc/Hz	
	Floor		-150		dBc/Hz	

DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		4.75	5.0	5.25	Vdc	5.0
Supply Current	CMOS			6	mA	
	Clipped Sine			3	mA	

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	
Symmetry		40	50	60	%	
Clipped Sine						CS
Output Voltage		+ 0.8			V p-p	
Load			10 pF // 10k Ω			

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Environmental and Mechanical Specifications				
Test	Standard	Method	Condition	Description
Vibration	MIL-STD-202G	204	D	20g, 20Hz to 2kHz, Swept Sine
Shock	MIL-STD-202G	213	D	Shock available up to 30,000

Recommendations and General Information	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +105°C
Terminal Finish	Au (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	< 0.1 gram
Soldering Instruction	Reflow
Shipping	Tray Pack, Tape & Reel
Marking	NONE

Ordering Example

T79 - N 57 - CS - B - SG - 10.0 MHz

Model	Temp. Range	Stability	Output	Supply Voltage	G-Sensitivity	Freq. (MHz)
	N: -20 to +70°C T: -40 to +85°C	57: ±0.5ppm 16: ±1ppm 26: ±2ppm	C: CMOS CS: Clipped Sine	B: 3.3V E: 5V	SG: < 2.0 ppb/g LG: < 0.8 ppb/g ULG: < 0.5 ppb/g HG: Customer-specific	10 to 52

The Order ID (T79-N57-CS-B-SG-10.0MHz) is only used to issue the preliminary quote. The Part Number (T79-1) 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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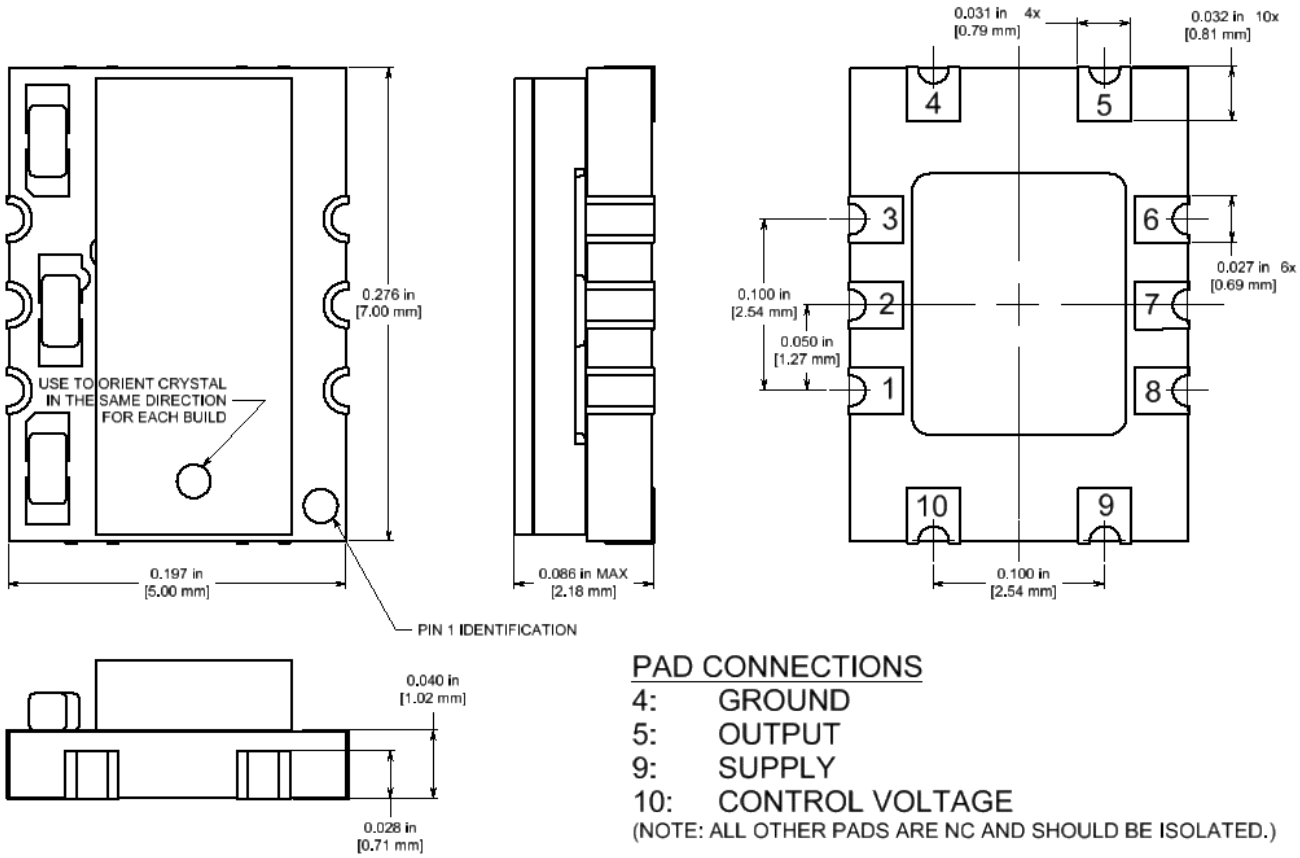
Package Information



PAD CONNECTIONS

4: GROUND
5: OUTPUT
9: SUPPLY
10: CONTROL VOLTAGE

(NOTE: ALL OTHER PADS ARE NC AND SHOULD BE ISOLATED.)

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