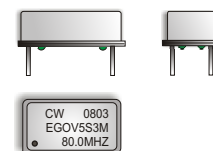


CRYSTAL CONTROLLED OSCILLATORS

14 PIN DIP 5.0V HCMOS STRATUM 3 OCVCXO with OVEN READY MONITOR



EGOV5S3M

DESCRIPTION

The Connor-Winfield EGOV5S3M is a hermetically sealed 14 Pin DIP 5.0V Oven Controlled, Voltage Controlled Crystal Oscillator (OCVCXO) with a Tri-State HCMOS output. The EGOV5S3M features an Oven Ready Monitor and is designed for Stratum 3 applications requiring low jitter and tight frequency stability.

FEATURES

- 5.0V OPERATION
- FREQUENCY ADJUST
- TRI-STATE ENABLE / DISABLE FUNCTION
- LOW JITTER <1pS RMS
- FREQUENCY STABILITY: ± 0.25 ppm
- FREQUENCY TOLERANCE: ± 4.6 ppm
- TEMPERATURE RANGE: 0 to 70°C
- OVEN READY MONITOR
- HERMETICALLY SEALED PACKAGE
- RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

EGOV5S3M - 080.0M

OCXO
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

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ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	
Control Voltage	(Vc)	-0.5	-	7.0	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	40	-	80	MHz	
Frequency Stability		-0.25	-	0.25	ppm	1
Total Frequency Tolerance		-4.6	-	4.6	ppm	2
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Power Consumption (Vcc = 5.0V)		-	-	2.0	W	
Phase Jitter (BW =12KHz to 20MHz)		-	-	1	pS RMS	
Phase Jitter (BW =10Hz to 20MHz)		-	-	3	pS RMS	
Period Jitter		-	-	3	pS RMS	
SSB Phase Noise at 10Hz offset		-	-75	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-130	-	dBc/Hz	
Start Up Time: Oscillator		-	-	10	mS	
Warm Up Time		-	-	1	Minute	3
TDEV @ 1.0 Sec.		-	-	1	nS	
TDEV @ 4.0 Sec.		-	-	2	nS	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Pin 1) (Vc)	0.5	2.5	4.5	Vdc	
Frequency Pullability		+/-18	-	+/-30	ppm	4
Slope of Frequency Adjust		9	-	-	ppm/V	
Input Impedance		100k	-	-	Ohm	
Enable Voltage	(Pin 3) (Vih)	2.0	-	-	Vdc	5
Disable Voltage	(Pin 3) (Vil)	-	-	0.8	Vdc	

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pf	
Voltage (High)	(Voh)	4.0	-	-	Vdc	
(Low)	(Vol)	-	-	0.4	Vdc	
Current (High)	(Ioh)	-4	-	-	mA	
(Low)	(Iol)	-	-	4	mA	
Duty Cycle measured at 1.5V		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	6	nS	
Oven Ready Monitor voltage when oven is cold, not at operating temperature.	Pin 12	-	-	0.4	Vdc	
Oven Ready Monitor voltage when oven is warm, at operating temperature.	Pin 12	3.0	-	-	Vdc	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	14 pin DIP, hermetically sealed, grounded case, welded package
Soldering Process	RoHS compliant, lead free. See solder profile on page 2.

CRYSTAL CONTROLLED OSCILLATORS

Notes:

- 1) Frequency vs. temperature stability, $V_c = 2.50V$.
- 2) Inclusive of calibration, operating temperature range, supply voltage change, load change, shock and vibration, 10 years aging, $V_c = 2.50V$.
- 3) After one minute of operation at $25^\circ C$, the unit will be within $\pm 0.5ppm$ of its final stabilized frequency. The final stabilized frequency is that which is measured after 30 minutes of continuous operation at a stable $25^\circ C$ ambient temperature.
- 4) Referenced to $F_o @ 25^\circ C$, Positive Transfer Characteristic
- 5) Oscillator output is enabled with no connection on pin 3.

ENVIRONMENTAL CHARACTERISTICS

Temperature Cycle: Per MIL-STD-883, Method 1010, Condition B. $-55^\circ C$ to $125^\circ C$, 20 cycles, 10 minute dwell, 1 minute transition.

Gross Leak Test: Per MIL-STD-202, Method 112, Condition D. No bubbles in flourinert (FC-43) at $125^\circ C \pm 5^\circ C$ for 20 seconds.

SOLDERING

Pin Solderability: Per MIL-STD-883, Method 200. 8 hour steam age prior to $254^\circ C \pm 5^\circ C$ Solder pot dip, 95% Coverage.

Resistance to Solder Heat: Per MIL-STD-202, Method 210, Condition C. Wave: Topside board-mount product, $260^\circ C \pm 5^\circ C$ for 20 Seconds.

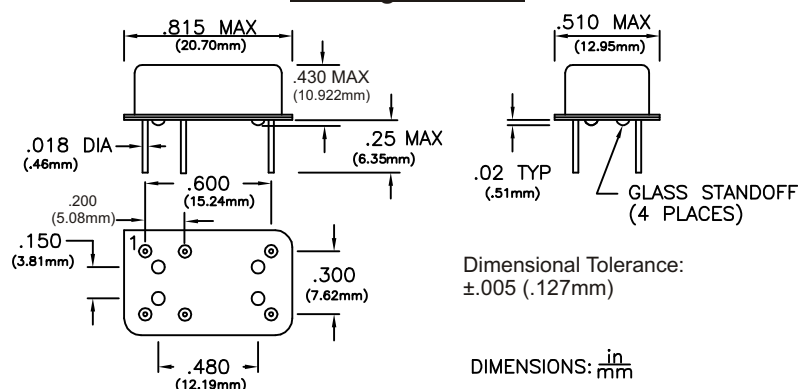
MECHANICAL CHARACTERISTICS

Vibration: Per MIL-STD-202, Method 204, Condition A. 10G's peak, 10Hz to 500Hz, 15minute cycles 12 times each perpendicular axis.

Shock: Per MIL-STD-202, Method 213, Condition D. 500G's, 1ms, halfsine, 3 shocks per direction.

Moisture Resistance: Per MIL-STD-202, Method 106. 95% RH @ $65^\circ C$, 10 cycles $10^\circ C$ to $65^\circ C$.

Package Outline

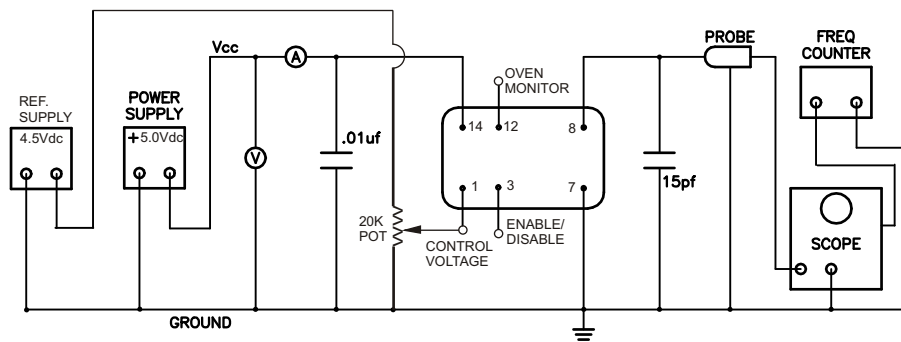


Pin Connections

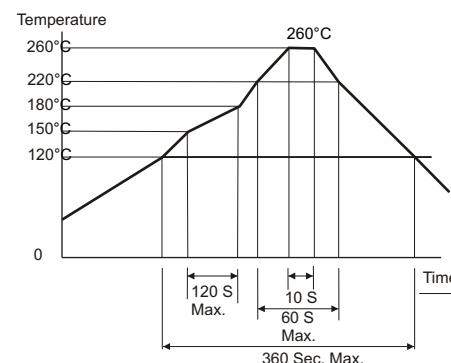
TABLE 6.0

Pin	Connection
1	Control Voltage
3	Enable / Disable
7	Ground (Case)
8	Output
12	Oven Monitor
14	Vcc

Test Circuit



Solder Profile



Specifications subject to change without notice.