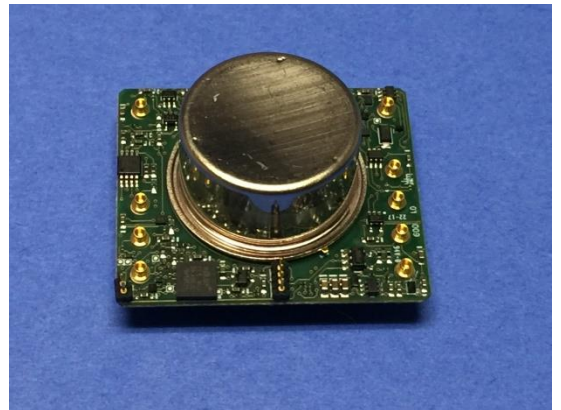


Ultra-Low Power Disciplined Oscillator DTQ-101 Series

Feature:

- ***Ultra-low power consumption 60mW Typical***
- 1pps input and 1pps output for GPS synchronization
- Discipline to 1ns RMS in phase and $<10^{-12}$ in frequency
- 1 Second continuous phase measurement and report system, resolution ≤ 1 ns
- ToD and lock time since warm up
- User accessible memory, optional
- Holdover <1.5 uSec. 24 hours
- 10MHz, 16.384MHz, CMOS output
- RS232 digital interface



Applications:

- Under water sensor and network system
- Telecom
- Low Orbit Satellite
- Oil and Gas exploration
- Smart Power Grid
- Test and measurement equipment
- Battery powered Portable communication systems

ELECTRICAL SPECIFICATIONS

1. RF OUTPUT

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
1.1.	Frequency Output	16.384			MHz	Consult factory for other frequency
1.2.	Amplitude	2.6V CMOS				Consult factory for another waveform
1.3.	Load	10Mohm//10pF				
1.4.	Rise/Fall Time			10	ns	
1.5.	Stability over Temperature			1.0	ppb	Peak to peak, -10°C to 50°C
				1.4	ppb	Peak to peak, -10°C to 70°C
				2.0	ppb	Peak to peak, -40°C to 85°C
1.6.	Allan Deviation	<5E-12 flicker floor				Consult factory for temperature range, stability. Warmup power and warmup time.
1.7.	Acceleration Sensitivity			+/-1	ppb/g	
1.8.	Aging		+/-0.2	+/-0.5	ppb/day	After 30 days
				50	ppb	First year
1.9.	Frequency Control			+/-0.7	ppm	Digital Tuning

2. Time Output

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
2.1	1pps	1			Hz	
2.2	Output Amplitude	3.3V CMOS				
2.3	Pulse Width		20		us	
2.4	Rise/Fall Time			10	ns	
2.5	Load	10Mohm//10pF				

3. Time Input

	Parameter	Reference Std.	Test Condition
3.1.	1pps	1Hz	
3.2.	Timing Edge	Rising edge	
3.3.	Input Amplitude	3.3V CMOS	
3.4.	Input Impedance	10M ohms	

4. Phase Noise (@10MHz)

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
4.1	1 Hz			-95	dBc/Hz	
4.2	10 Hz			-125	dBc/Hz	
4.3	100 Hz			-145	dBc/Hz	
4.4	1 KHz			-155	dBc/Hz	
4.5	10 KHz			-165	dBc/Hz	

5. Supply Voltage

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
5.1	Supply Voltage		3.3		Vdc	
5.2	Power Consumption (at 25°C ambient)			< 60	mW	Referring to 25°C, -10°C to 50°C
				< 80	mW	Referring to 25°C, -10°C to 70°C
				< 100	mW	Referring to 25°C, -40°C to 85°C
5.3	Warm up Power			< 550	mW	Factory configurable
5.4	Warm up Time	1		4	Min.	Factory configurable for fast warm up

6. Digital Communication

	Parameter	Reference Std.	Test Condition
6.1.	Protocol	RS232	
6.2.	Logic Level	3.3V CMOS	
6.3.	Baud rate	57600 bps	

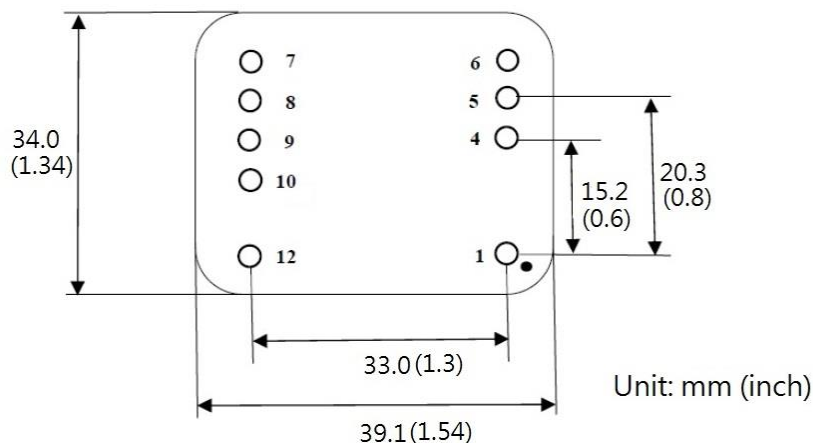
7. Environmental

	Parameter	Reference Std.	Test Condition
7.1.	Mechanical Shock	>100G, 11ms	Mil-STD-202
7.2.	Vibration	5G up to 2KHz	Mil-STD-202

OUTLINE DRAWING

39.1x 34.0x 14.0 (1.54x 1.34x 0.55)

(Top View)



Unit: mm (inch)

Pin Functions

Pin	Function	Pin	Function
#1	NC	#8	GND
#4	Oven Ready	#9	1pps input
#5	TX	#10	1pps output
#6	RX	#12	RF output
#7	+3.3V		