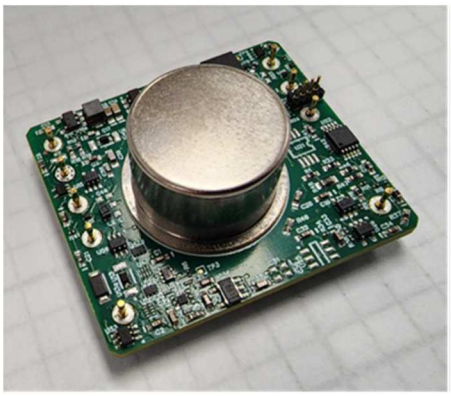
TAITIEN
Our Performance Your Reputation

Ultra-Low Power Disciplined Oscillator DTQ-100A series

Feature:

- ***Ultra-low power consumption 65mW 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 $\leqq$ 1ns
- ToD and lock time since warm up
- User accessible memory, optional
- Timing mode, optional
- 16.384MHz, HCMOS output
- RS232 digital interface



Applications:

- Under water sensor and network system
- Mining and seismic research
- Oil and Gas exploration
- Smart Power
- 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		0.5	1.0	ppb	Peak to peak, -10°C to 50°C	Consult factory for other temperature range, stability. Warmup power and warmup time.
1.6.	Allan Deviation		<5E-12 flicker floor				
1.7.	Acceleration Sensitivity			+/-1	ppb/g		
1.8.	Aging		+/-0.07	+/-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. Supply Voltage

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
5.1	Supply Voltage	3.2	3.3	3.4	Vdc	
5.2	Power Consumption (at 25°C ambient)		65	75	mW	Referring to 25°C
5.3	Warm up Power		< 220		mW	Factory configurable
5.4	Warm up Time	1		4	Min.	Factory configurable for fast warm up

5. Digital Communication

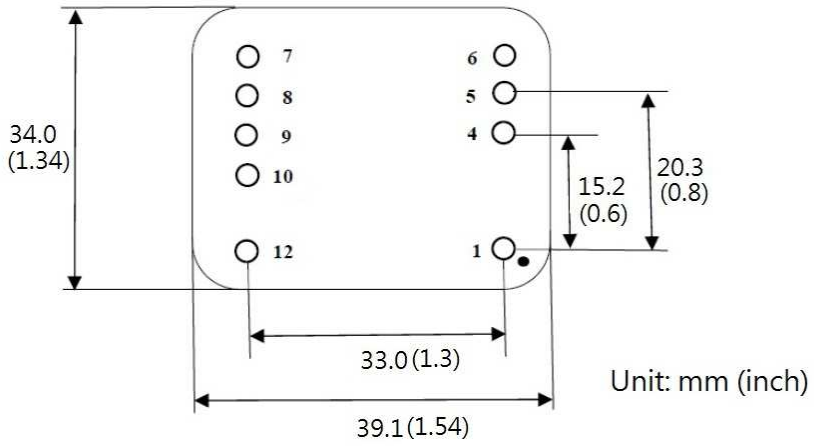
	Parameter	Reference Std.	Test Condition
5.1.	Protocol	RS232	
5.2.	Logic Level	3.3V CMOS	
5.3.	Baud rate	57600 bps	

6. Environmental

	Parameter	Reference Std.	Test Condition
6.1.	Mechanical Shock	Mil-STD-202	>30G, 11ms, half sine
6.2.	Vibration	Mil-STD-202	5G up to 2KHz

OUTLINE DRAWING

39.1x 34.0x 14.0 (1.54x 1.34x 0.55) *(Top View)*



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		