Q200 Satellite Disciplined Oscillator

Key Features

- 1PPS input and 1PPS output for 1PPS synchronization
- Discipline to 1 ns RMS in phase and $<1x10^{-12}$ in frequency
- 1 Second continuous phase measurement and report system, resolution ≤ 1 ns
- ToD (Time of Day)
- RS232 digital interface
- 5 MHz, 8.192 MHz, 10 MHz, HCMOS output
- ±1.5us for 24 hours, ±5C temperature change
- -10c to +70C operation
- Proprietary adaptive algorithm

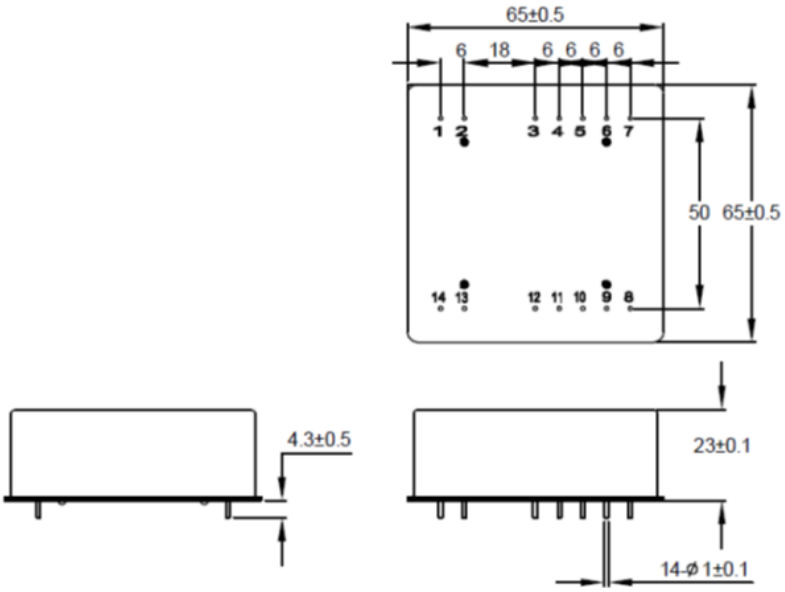


Applications

- Base stations
- Smart power grid
- Test and measurement equipment

Mechanical Specifications

- **Pin Assignment**



Bottom and side view, mm

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Pin # Assignment

1	NC
2	10M
3	1pps out
4	GND
5	Lock
6	Rx in
7	Tx out
8	Enable
9	GND
10	1PPS in
11	GND
12	+5V
13	GND
14	NC

- **Mechanical Dimension** 65 x 65 x 23 mm
  (51 x 51 x 23mm available, other package available, *consulting factory*) *

Electrical & Environmental Specifications (25 °C, +5VDC input unless otherwise specified)

PARAMETERS	Unit	Min	Typ.	Max	Note	Comments
RF Output						
• Frequency	MHz		5,8.192,10			
• Amplitude	V		3.3			CMOS
• Load	MΩ//10 pf		10			
• R/F Time	ns			10		
1PPS Time Output						
• Pulse Width	µs		20			
• Amplitude	V		3.3			CMOS
• R/F Time	ns			10		
• Load	MΩ//10 pf		10			
1PPS Time Input						
• Format			Rising edge			
• Amplitude	V		3.3			CMOS
• Impedance	MΩ		10			
Digital Communication						
• Protocol			RS232			
• Logic Level	V		3.3			CMOS
• Baud Rate			57600			
Power Input						
• DC Input	V		5±0.25			
Steady	W		3			Reference to +25 °C
• Warm up Power	W		9			
• Warm up Time	Minute		5			To ±5ppb

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Environmental

• Temperature Range				-10 °C to +70 °C
• Mechanical Shock				Mil-STD-202, >30 G, 11 ms, half sine
• Vibration				Mil-STD-202, 5 G up to 2 kHz
• Acceleration Sensitivity	/g	$\pm 1 \times 10^{-9}$		Worst direction, consult factory for better sensitivity

Holdover

• 24 *hours*	*us*		±1.5	±5°C temperature 7 days on**, 1day discipline**
			±1.0	Optional

Phase Noise, 10M

-120dBc/Hz	10Hz
-135dBc/Hz	100Hz
-143dBc/Hz	1kHz
-147dBc/Hz	>10kHz

**Consulting factory for other packages*

*** Warm up time and discipline time could be far shorter, consulting factory for fast warmup and shorter discipline time*

****Consult factory for other frequencies; other waveform; temperature range and stability, acceleration sensitivity.*

Order Information

Temperature Range

A	-10C/+70C
B	-20C/+70C

Output

Code	Spec.
C	CMOS
S	Sine

Holdover

Code	Spec.
15	+/-1.5us
10	+/-1.0us

Q200 10 A C

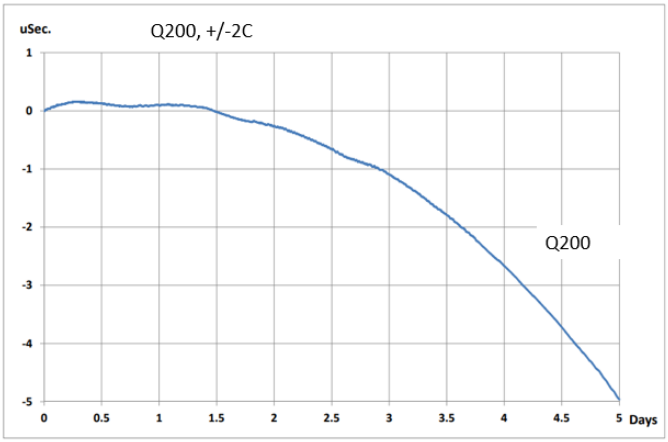
Frequency (MHz)

Code	Spec.
5	5
8	8.192
10	10

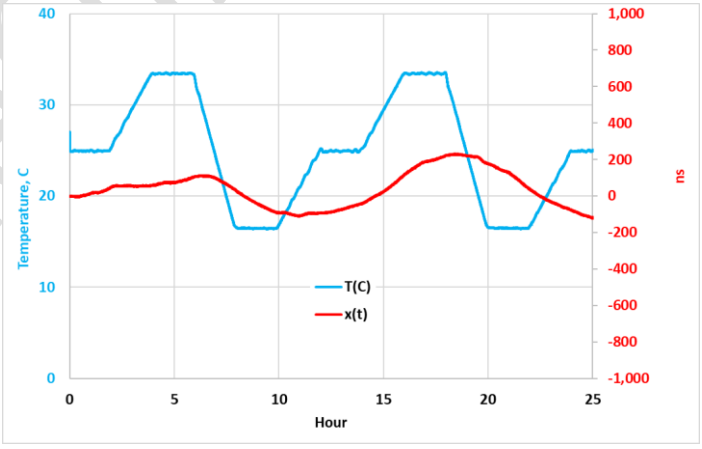
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See Next page for typical performance

T=25C



T=25 ± 10C



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