Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

TM6565BM-10MHz-A
Ultra high Precision Disciplined Oscillator

Features and Benefits

Frequency: 10MHz
Supply voltage: 5.0V
Warm-up power: 8.8W
Output waveform: CMOS
Hold over stability: ±1.5us over 24h
Accuracy: $\pm 1 \times 10^{-12}$
Operating temperature: -10°C to +70°C
Size: 65x65x23mm

Typical Applications

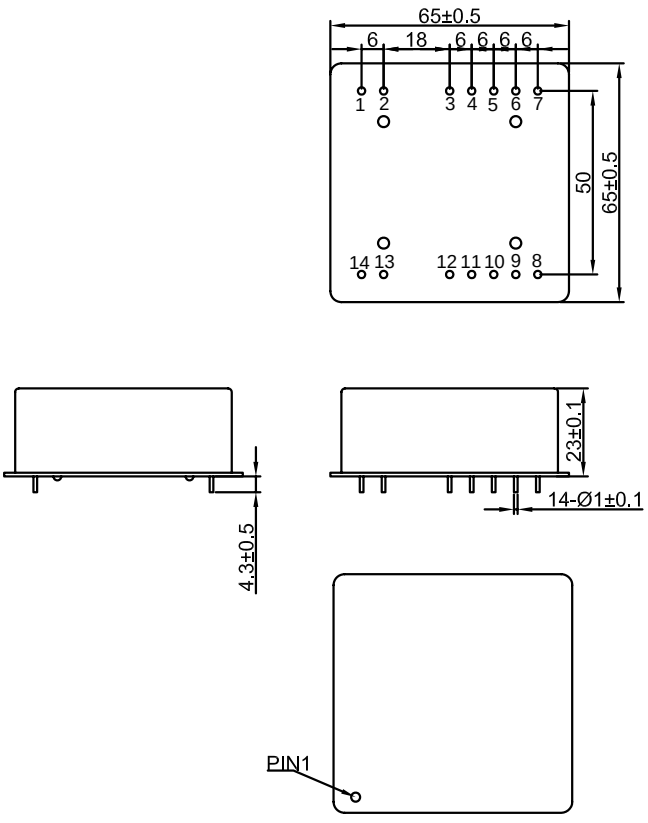
5G Telecommunication, Base Station
Smart Power Grid
Test and measurement equipment

Description

Ultra-High Precision Disciplined Oscillator is a range of advanced clock modules which provide electrical timing functionality for telecommunication network systems to synchronize timing. These units primarily revolve around the 1PPS (pulse per second) timing synchronization signal and utilize the best performing oscillators with our proprietary algorithms to achieve the performance of atomic based oscillator.

Mechanical Drawing & Pin Connections

Drawing No: MD210011-1



Pin Connections:

Pin#	Name	Description
2	10MHz Output	10MHz OCXO frequency Output
3	1PPS Output	The clock module 1PSS output
5	State Output	State output. Output high level when the CM is locked and stable, others low level
6	RX Input	Asynchronous serial data input. 9600-n-8-1
7	TX Output	Asynchronous serial data input. 9600-n-8-1
8	State Input	H:Lock Enable. (The work state is set to normal operation when the state input is high level) L:Lock Disable.(The module cannot be locked when the state input is low level)
10	1PPS Input	1PPS reference input
12	VCC	Power supply input, 4.75V to 5.25V
1&14	N.C.	Not connected
4&9&11 &13	GND	GND

Unit in mm
1mm = 0.0394 inches

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Specifications

Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}			10		MHz	
RF Output							
Output wave form				3.3V CMOS			
Output Level	V_{OL}				0.4	V	
	V_{OH}		2.7			V	
Duty Cycle			40		60	%	
Rise/Fall time					10	ns	
Load				10Mohm//10pF			
1 PPS Time Output							
1 PPS				1		Hz	
Output amplitude				3.3V CMOS			
Pulse width				20		us	
Rise/Fall time					10	ns	
Load				10Mohm//10pF			
1 PPS Time Input							
1 PPS				1		Hz	
Input amplitude				3.3V CMOS			
Timing edge				Rising edge			
Input impedance				10Mohm//10pF			
Digital Communications							
Protocol				RS-232			
Logic level				3.3V CMOS			
Baud Rate				57600		bps	
Power Supply							
Supply Voltage			4.75	5.0	5.25	V	
Warm-up power					8.8	W	
Steady power		@ 25°C			2.55	W	
Warm-up Time		to ± 5 ppb			300	sec	
Frequency Stability							
Versus Operating Temperature Range		-10°C to +70°C			±0.1	ppb	
Frequency accuracy		24 hours average. Locked to 1pps.			±1	10^{-12}	
24 hours holdover		±10°C, after 7 days power on and 1 days discipline. Temperature variance below 1°C/Minute			1.5	us	
Acceleration sensitivity		Worst direction			±1.0	ppb/G	
Phase noise		1Hz			-100	dBc/Hz	
		10Hz			-125	dBc/Hz	
		100Hz			-140	dBc/Hz	
		1KHz			-145	dBc/Hz	
		10KHz			-150	dBc/Hz	
Environmental,Mechanical Conditions							
Mechanical shock	>30G,11ms half sine; MIL-STD-202						
Vibration	5G up to 2KHz; MIL-STD-202						