



### Features and Benefits

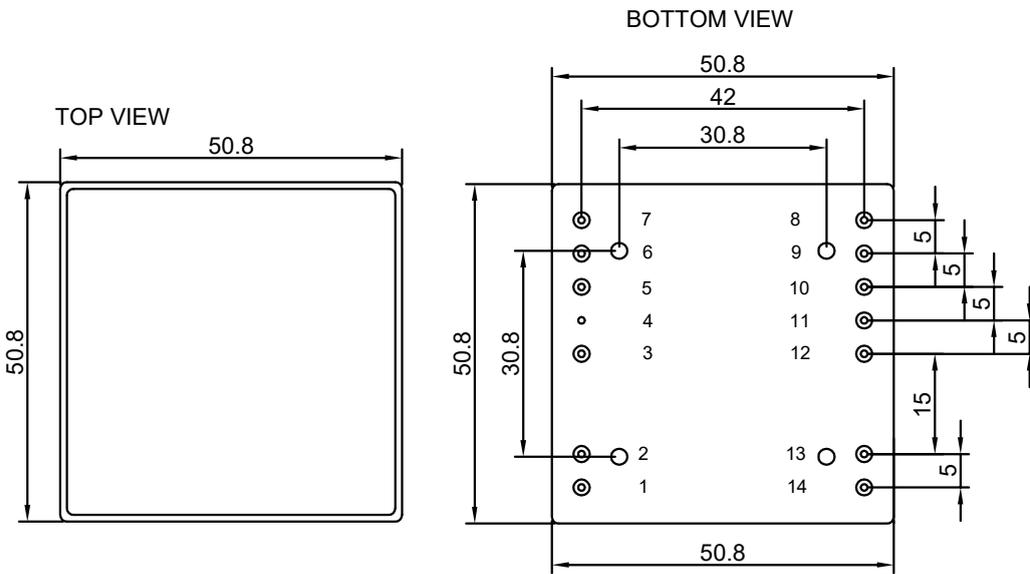
- Frequency: 10MHz
- Supply voltage: 3.3V
- Warm-up power: 8.8W Max
- Output waveform: CMOS
- Temperature stability:  $\pm 0.1$ ppb
- Accuracy:  $\pm 1 \times 10^{-12}$
- Operating temperature:  $-10^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Size: 50.8x50.8x24.0mm

### Typical Applications

- 5G Telecommunication, Base Station
- Smart Power Grid
- Test and Measurement Equipment

### Mechanical Drawing & Pin Connections

**Drawing No:** MD220041-1



Pin Connections:

Pin#	Function
1	N.C.
2	N.C.
3	Vcc
4	GND
5	1PPS Lock Indicator 1=Lock; 0= Not Locked
6	RX
7	TX
8	Enable 1=1PPS good, enable discipline 0=1PPS not good, do not discipline
9	N.C.
10	1PPS Input
11	GND
12	1PPS Output
13	GND
14	RF Output

Unit in mm  
1mm = 0.0394 inches



**Specifications**

Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F <sub>nom</sub>			10		MHz	5MHz is available
<b>RF Output</b>							
Output wave form			3.3V CMOS				
Output Level	V <sub>OL</sub>				0.4	V	
	V <sub>OH</sub>		2.7			V	
Duty Cycle			40		60	%	
Rise/Fall time					10	ns	
Load			10Mohm//10pF				
<b>1 PPS Time Output</b>							
1 PPS				1		Hz	
Output amplitude			3.3V CMOS				
Pulse width				20		us	
Rise/Fall time					10	ns	
Load			10Mohm//10pF				
<b>1 PPS Time Input</b>							
1 PPS				1		Hz	
Input amplitude			3.3V CMOS				
Input impedance			10Mohm//10pF				
Timing edge			Rising edge				
<b>Digital Communications</b>							
Protocol			RS-232				
Logic level			3.3V CMOS				
Baud Rate			57600			bps	
<b>Power Supply</b>							
Supply Voltage			4.75	5.0	5.25	V	
Warm-up power					8.8	W	
Steady power		At 25°C ambient			2.55	W	
Warm-up Time		To ±5ppb			5	min	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		-10°C to +70°C			±0.1	ppb	
Frequency Accuracy		24 hours average, locked to 1pps			±1	10 <sup>-12</sup>	
24 hours Holdover		±10°C, after 7 days power on and 1 day discipline. Temperature variance below 1°C/minute			1.5	us	
Acceleration Sensitivity					±1	ppb/g	
Phase noise		1Hz			-100	dBc/Hz	
		10Hz			-125	dBc/Hz	
		100Hz			-135	dBc/Hz	
		1KHz			-145	dBc/Hz	
		10KHz			-150	dBc/Hz	
<b>Environmental, Mechanical Conditions</b>							
<b>Parameter</b>	<b>Reference STD.</b>			<b>Test Condition</b>			
Mechanical shock	>30G, 11ms half sine			MIL-STD-202			
Vibration	5G up to 2KHz			MIL-STD-202			