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TM3935DE-ULP-10MHz-A
Low Power Timing Module

Features and Benefits

Frequency: 10MHz
Supply voltage: 5.0V
Steady power consumption: 240mW
Output waveform: Sinewave
Hold over stability: ±13us over 24h
Aging: ±0.3ppb per day
Operating temperature: -40°C to +85°C
Size: 39*34mm

Typical Applications

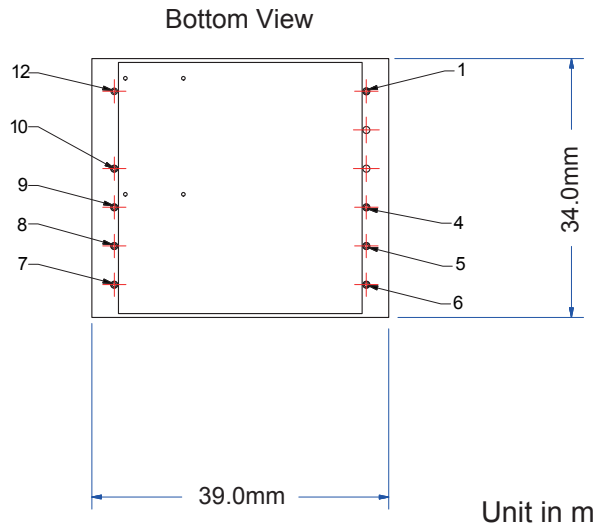
AUV
Ocean bottom node
LBL positioning
Portable test instrument

Description

TM3935DE-ULP-10MHz-A is the high performance and low aging timing module with 10MHz frequency and 1PPS output. Its core low aging and low power consumption makes it ideal for all applications under water or underground.

Mechanical Drawing & Pin Connections

Drawing No: MD220007-1



PIN	FUNCTION
1	Vtune
4	Tune Enable
5	TX
6	RX
7	Vcc
8	GND
9	1PPS IN
10	1PPS OUT
12	RF OUT

Unit in mm
1mm = 0.0394 inches

Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0			10		MHz	
RF Output							
Waveform				Sinewave			
Load	R_L			50		Ohm	
Level			7	9	13	dBm	
Harmonics Level					-25	dBc	
Power Supply							
Voltage	V_{cc}		4.75	5.0	5.25	V	
Power Consumption		Steady state, @+25°C			240	mW	
Warm-up Time	T_F	@+25°C, to df/f=1e-7		60		s	ref.at 15 min
Frequency Stability							
Versus Temperature		Ref 25°C			±50	ppb	
Versus Supply Voltage		Ref V_{CC} typ.		±2		ppb	
Aging – Per day		After 30 days of operation			±0.3	ppb	
Aging – First Year					±0.03	ppm	
Allan Variance		1s	5			e-12	
1PPS and Holdover Stability							
Accuracy after Lock				±25		ns	
Holdover Stability		@25°C, 24h			±13	us	
1PPS Output Parameters							
Load				10		pF	1MOhm
Signal Level-High			4			V	
Signal Level-Low					0.4	V	
1PPS Input Parameters							
Format				Rising edge			
Load				1		MOhm	
Serial Communications							
Protocol				RS232			
Baud Rate				57600			
Environmental Conditions							
Operating Temperature Range		-40°C to +85°C					
Storage Temperature range		-60°C to +85 °C					
PCB cleaning/washing		Not washable					