



Features and Benefits

- Frequency: 10MHz
- Supply voltage: 5.0V
- Steady current: 120mA Typ.
- Output waveform: Sinewave
- Hold over stability: ±5us over 24h
- Aging: ±0.5ppb per day
- Operating temperature: -30°C to +70°C
- Size: 39*34*14.4mm

Typical Applications

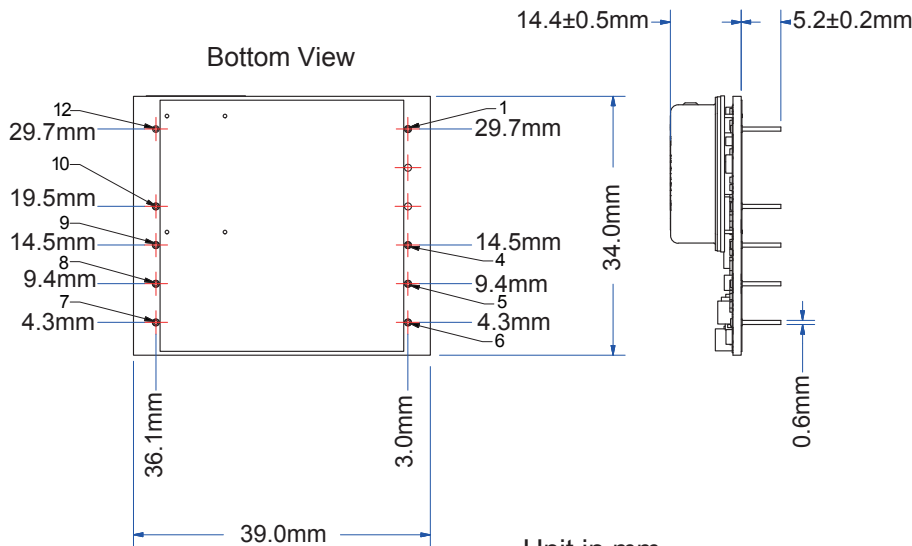
General Industry

Description

TM3934CJ-HP-10MHz-A is a low aging Timing module delivering a PPS, sine 50Ω or HCMOS output with a standard frequency of 10 MHz. Its core low aging and low power consumption makes it ideal for all applications with drastic precision timing constraints under GNSS denied area. The module consumes less than 550 mW at 25°C and shows a thermal sensitivity less than 15ppb across the full temperature range. A specific firmware brings its thermal sensitivity to ±1ppb (typ.) on demand.

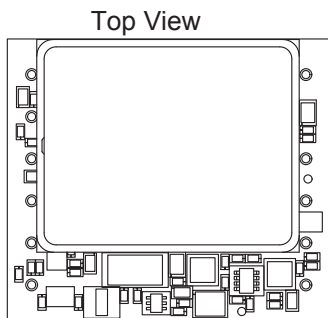
Mechanical Drawing & Pin Connections

Drawing No: MD21000) -&



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

Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F _{nom}			10		MHz	
RF Output							
Output wave form				Sinewave			HCMOS on request
Output power			7	9	13	dBm	
Harmonics					-35	dBc	
Load			50ohm				
1 PPS Output Parameters							
H-level voltage			4			V	
L-level voltage					0.4	V	
Level			0		5.0	V	3.3V on request
Rise/Fall time		10% - 80%			8	ns	
Load			10pF				1 MΩ
1 PPS Input Parameters							
H-level voltage					2.4	V	
L-level voltage			0.4			V	
Rise time					12	ns	
Format			Rising edge				
Load			1 MΩ				
Serial Communications							
Protocol			RS-232				
Format			0		5		CMOS;3.3V on request
Baud Rate			57600				
Power Supply							
Supply Voltage	V _{cc}		4.75	5.0	5.25	V	+3.3V on request
Supply Current							
Warm-up		During 20s max @ 25°C / 40s max @ 5°C		0.5	0.7	A	
Steady state / -30°C				170	190	mA	
Steady state / +25°C				110	120	mA	
Warm-up Time	T _{up}	to ± 1 ppm of final frequency (1 hour) at 25°C		60	120	s	
		to ± 100 ppb of final frequency (1 hour) at 25°C		10	15	min	
Frequency Stability							
Versus Operating Temperature Range		-30°C to +70°C		±10	±15	ppb	
Initial frequency accuracy		+25°C referred to nominal frequency		±0.05	±0.1	ppm	
Versus supply voltage		±5%			±2	ppb	
Versus load		10kΩ // 15 pF load ±10%			±5	ppb	
1 PPS accuracy 1σ				±10		ns	
Hold over stability		+25°C		±2.5	±5	us	Over 24h and after 4 days power On with PPS-in-signal
		+25°C±5°C		±2.5	±5	us	Over 24h for CT version and after 4 days power On with PPS-in-signal
		+25°C±20°C		±3	±6	us	Over 24h for CT version and after 4 days power On with PPS-in-signal
		+25°C±20°C		±150	±250	us	Over 15 days
Short-term		τ = 0.1s		0.5	1	10 ⁻¹¹	
		τ = 1s		0.8	5	10 ⁻¹¹	



Dynamic Engineers Inc.

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

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Low Aging and Low Power Timing Module for Industry

Versus acceleration		Worst direction			±1.0	ppb/G	
Retrace		24h work after 24 off			±10	ppb	
Aging Per Day		After 30 days of operation		±0.2	±0.5	ppb	
Aging 1 st Year					±50	ppb	
Aging After 10 years					±300	ppb	
Environmental, Mechanical Conditions							
Operating temperature range	-30°C to +70°C						
Soldering instructions	Hand soldering only, with recommended pins soldering temperature: 235°C ±5°C, t=10s ±0.5s (260°C max for 5s max) Reflow soldering and other soldering methods are prohibited						
PCB cleaning/washing	Not washable						

Notes: Parameter guaranteed by design and characterization