



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Description

- Sub 1ppm performance TCXO/VCTCXO, a single chip oscillator and analogue compensation circuit operating over an extended temperature range. Its ability to function down to a supply voltage of 2.4V and low power consumption make it particularly suitable for mobile applications.
- No ref voltage, ageing adj option
- Model CFPT-9006-1A
- Model Issue number 14

Frequency Parameters

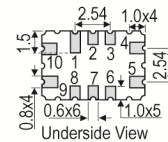
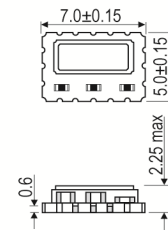
- Frequency 40.0MHz
- Frequency Tolerance ±1.00ppm
- Tolerance Condition @ 25°C
- Frequency Stability ±1.00ppm
- Operating Temperature Range -40.00 to 85.00°C
- Acceleration sensitivity (Gamma vector, 3-axes, 30-1500Hz): <2 ppb/g typ
- Ageing:
 - ±1ppm max in 1st year, frequency ≤20MHz
 - ±3ppm max for 10 years (including the 1st year), frequency ≤20MHz
 - ±2ppm max in 1st year, frequency >20MHz
 - ±5ppm max for 10 years (including the 1st year), frequency >20MHz
- Supply Voltage Variation (±10% change reference to frequency at nominal supply voltage): ±0.2ppm typ
- Load Variation (±5pF change reference to frequency at nominal load): ±0.2ppm typ
- After Reflow: ±1ppm max

Electrical Parameters

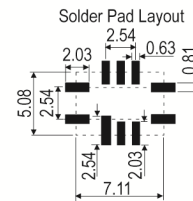
- Supply Voltage 3.3V ±10%
- Current Draw:
 - 1+Frequency(MHz)*Supply(V)*{Load(pF)+15}*10⁻³ mA
 - e.g. 20MHz, 3.3V, 15pF ≈ 2mA



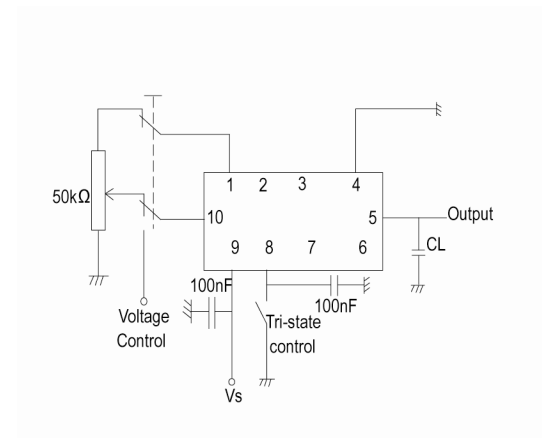
Outline (mm)



- Pad Connections
- Vref (N/C if not required)
 - N/C
 - Do not connect
 - GND
 - Output
 - N/C
 - N/C
 - Tri-state Control (Enable)
 - +Vs
 - Voltage Control or N/C



Test Circuit



Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: 0800 1808 443

France: 0800 901 383
USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com

Frequency Adjustment

- Optional reference voltage output on pad 1, suitable for potentiometer supply or DAC reference:
 - No output (standard option)
 - 2.2V for min $V_s > 2.4V$
 - 2.7V for min $V_s > 3.0V$Maximum load current (mA) = $V_{ref}/10$
- For manual frequency adjustment connect an external 50k Ω potentiometer between pad 1 (Reference Voltage) and pad 4 (GND) with wiper connected to pad 10 (Voltage Control). Please specify reference voltage as part of the ordering code.
- Standard Voltage Control Ranges:
 - Without Reference Voltage $V_s = 3.3V$ 1.65V \pm 1.0V
 - With Reference Voltage $V_s = 0V$ to V_{ref}
- Linearity: 1% max
- Slope: Positive
- Input Impedance: 100k Ω min
- Modulation Bandwidth: 2kHz min
- A. Standard Pulling Adjustment:
 - $\pm 5ppm$ min, frequency $\leq 20MHz$
 - $\pm 7ppm$ min, frequency $> 20MHz$
- B. No frequency adjustment initial calibration @ 25°C $\leq \pm 1.0ppm$
- C. High Pulling $\pm 10ppm$ to $\pm 20ppm$ can be available depending on frequency and stability options (please contact an IQD Sales Office)

Output Details

- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle 45/55%
- VoL: <10% V_s
- VoH: >90% V_s

Output Control

- Tri-state Operation:
 - Logic '1' (>60% V_s) or no connection to pad 8 enables output
 - Logic '0' (<20% V_s) to pad 8 disables outputThe tristate control (enable) pin has a internal 100k Ω pull up resistor which allows the pin to be left unconnected if not required. When in tristate mode, the output stage is disabled, but the oscillator and compensation circuit are still active (current consumption typ. $\leq 1.0mA$).

Noise Parameters

- Phase Noise (typical @ 13.0MHz):
 - 65dBc/Hz @ 1Hz
 - 95dBc/Hz @ 10Hz
 - 120dBc/Hz @ 100Hz
 - 135dBc/Hz @ 1kHz
 - 140dBc/Hz @ 10kHz
 - 145dBc/Hz @ 100kHz

Environmental Parameters

- Shock: IEC 60068-2-27, Test Ea: 1500g acceleration for 0.5ms, 1/2 sine pulse, 3 shocks in each of 3 mutually perpendicular axes.
- Vibration: IEC 60068-2-6, Test Fc, 10Hz-60Hz at 10g 30mins in 3 mutually perpendicular axes at 1 octave per minute.
- Solderability: MIL-STD-202, Method 208, Category 3
- Storage Temperature Range: -55 to 125°C

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Manufacturing Details

- Pb-free Reflow Soldering: 260°C max for 30sec max
- RoHS Terminations NiCoAu
- RoHS Reflow Temp 260degC 30s

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACh Status Compliant
- MSL Rating (JDEC-STD-033): 1

Packaging Details

- Pack Style: Bulk Bulk pack
Pack Size: 10
- *Alternative packing option available*

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