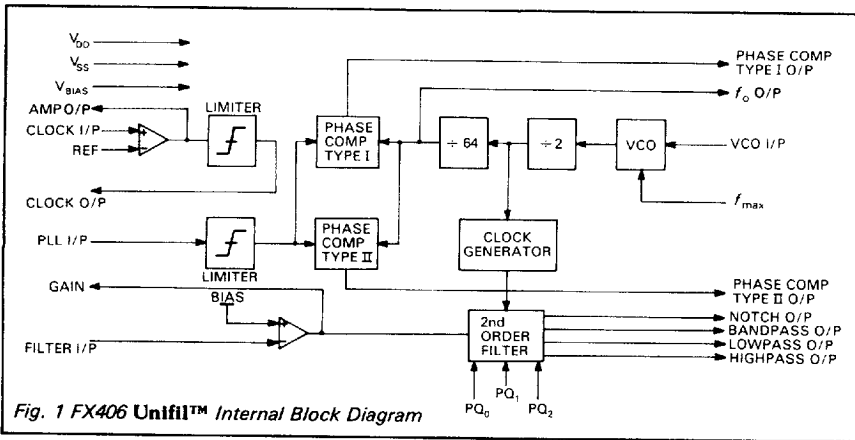


**Features/Applications**

- 2nd Order Multiple Filter
- PLL Clock Generator
- Programmable Q
- $f_c$  set by RC or External Clock
- Gain Adjustment on Inputs
- Single 5 Volt Supply CMOS
- Programmable Filters
- Voltage Controlled Filters
- Sinewave Oscillator
- Tracking Filters/Oscillators
- FSK and PSK Modems
- Square-Sine, Pulse-Sine Converter



**FX406**

**Brief Description**

The FX406 Unifil™ is a CMOS LSI circuit with a wide variety of signal processing applications. The device consists of a switched capacitor second order active filter with a single input and outputs for bandpass, notch, lowpass and highpass frequency responses, together with a clock generator to provide the switched capacitor sampling clock frequency. The centre frequency of the bandpass and notch filters is the same as the cut-off frequency  $f_c$  of the lowpass and highpass filters. The filter sampling clock is

derived from a multiplying phase locked loop whose reference or input frequency is the same as the desired cut-off frequency of the filters. The PLL comprises a voltage controlled oscillator, one of two types of phase comparator, a fixed divider and an external RC loop filter. Facilities are provided to programme the cut-off frequency of the filters by injecting an external signal into the PLL, or by using the on-chip clock oscillator circuit. The filters have gain adjustment on the input and the Q is programmable to eight values between 0.54 and 8.0.

## FX406 - Brief Specification

Function	Universal Analogue Signal Processor	
Supply Voltage Range	4.5 to 5.5 volts	
Supply Current	(5.0V) 4.5 mA typical	
Suggested Applications	Programmable Filters Voltage Controlled Oscillators Sinewave Oscillators Tracking Filters/Oscillators FSK Modems PSK Modems Square-Sine, Pulse-Sine Converters	
Package Styles	22-pin cerdip DIL (FX406J); 24-pin plastic encapsulated bent and cropped (FX406LG)	
Maximum PCB Area	351 sq. mm (FX406J); 244.9sq. mm (FX406LG)	

### Package Styles Available

**FX406J** 22-pin cerdip DIL (J3)

**FX406LG** 24-pin plastic encapsulated bent  
and cropped (L1)

Full details of this product are available from CML or its distributors

CML does not assume any responsibility for the use of any circuitry described. No circuit patent licences are implied and CML reserves the right at any time without notice to change the said circuitry.

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