

ACF 7302C

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3and Pass Filter and Full Wave Detector

FEATURES

- Low Power Dissipation
- Can be operated from a single ended power system
- 22dB minimum attenuation at stop band frequencies
- 0dB Insertion loss in pass band
- Fixed band width filter
- Internal full wave detector

DESCRIPTION

The ACF 7302C consists of six (6) pole, fixed band width, band pass filter, factory tunable over a center frequency (F_0) range of 2280Hz to 2600Hz, and a full wave detector. This RC active filter and detector is packaged in a dual in line package. Only one external capacitor is required for filtering the detector output, the balance of the circuitry is self contained requiring no additional components for proper operation.

MAXIMUM RATINGS *

V_{CC} (Max)	± 18 Volts
V_{CC} (Min)	± 5 Volts
Input Voltage Range	Power Supply Potential
Storage Temperature Range	-65°C to $+150^{\circ}\text{C}$
Operating Temperature Range	0°C to $+70^{\circ}\text{C}$

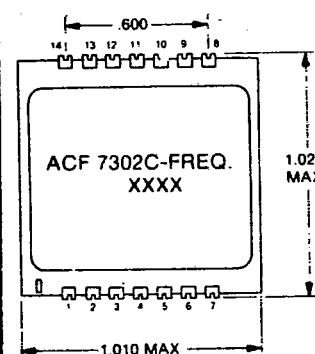
* Exceeding these ratings could cause permanent damage. Functional operation of this device at these conditions is not implied—operating ranges are specified below.

ELECTRICAL CHARACTERISTICS (unless otherwise specified)

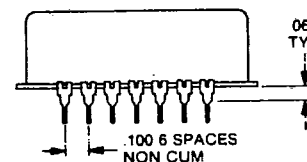
$V_{CC} = \pm 12$ Volts
 0°C to $+70^{\circ}\text{C}$
 Filter and Detector Load Resistance = 5k ohms
 Filter and Detector Source Impedance = 50 Ω

Characteristic	Min	Typ	Max	Units	Conditions
Filter					
Input Impedance	—	2	—	k Ω	See Figure 1. Ideal Center Frequency (F_0) Pass Band ($\pm 15\text{Hz}$ from F_0)* Stop Band ($\pm 120\text{Hz}$ from F_0)*
Voltage Gain	—	0	1.5	$\pm$ dB	
	—	0	1.5	$\pm$ dB	
	-22	—	—	dB	
Input Voltage	5	—	—	V_{RMS}	See Figure 2.
Output Impedance	—	—	25	Ω	
Detector					
Input Impedance	25	—	—	k Ω	
Input Voltage	5	—	—	V_{RMS}	
Voltage Gain	0.95	1.0	1.05	V_{DC}/V_{RMS}	
Output Impedance	—	—	25	Ω	
Output Offset Voltage	—	—	20	mVolts	
Power Supply Current	—	3.0	5.0	mA	

*Referenced to Gain at F_0 .
 Standard factory tuned filters available with the following ideal center frequencies: 2280Hz, 2400Hz, 2600Hz. To order one of the above tuned filters, specify the device as follows: ACF 7302C - Frequency. e.g. ACF 7302C - 2280. Other factory tuned frequencies are available upon request and a nominal set up charge.

PACKAGE INFORMATION
PIN CONFIGURATION

NOTE: For proper operation connect Pin 4 to Pin 5 and Pin 7 to Pin 14



PIN FUNCTION

PIN	FUNCTION
1	Filter Input
2	Test Point 1
3	GND Potential
4	Output Stage 1
5	Input Stage 2
6	Test Point 2
7	Output Filter
8	Detector Output
9	Filtering Capacitor Input
10	Minus Potential
11	Test Point 3
12	Positive Potential
13	Test Point 4
14	Detector Input

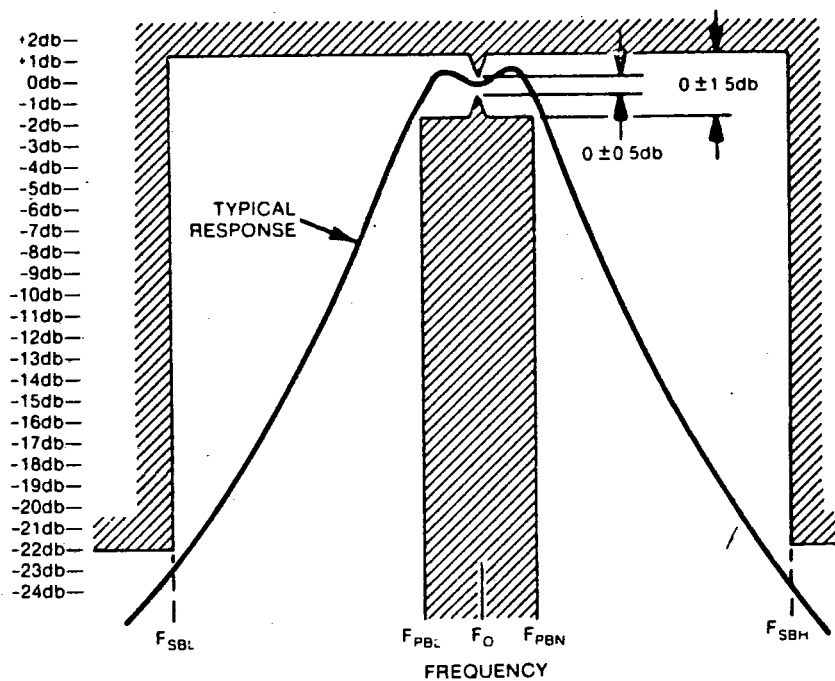


Fig.1 FREQUENCY RESPONSE

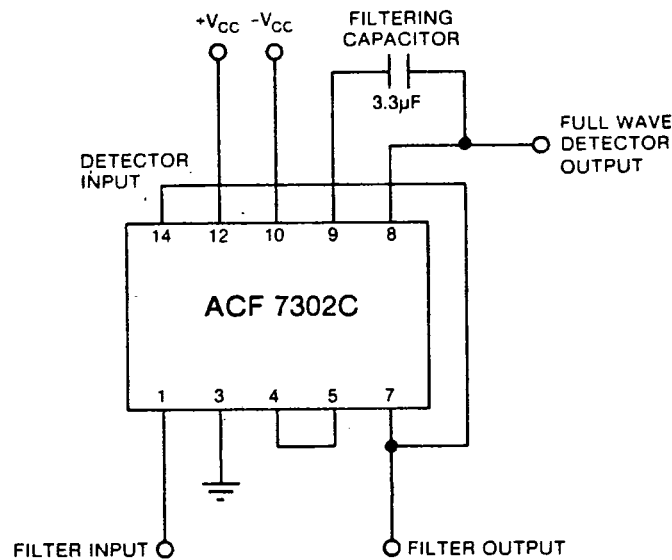


Fig.2 TYPICAL APPLICATION

Table I

Center Frequency (FO) (Hz)	Low Stop Band Frequency (FSBL) (Hz)	Low Pass Band Frequency (FPBL) (Hz)	High Pass Band Frequency (FPBH) (Hz)	High Stop Band Frequency (FBBH) (Hz)
2280	2160	2265	2295	2400
2400	2280	2385	2415	2520
2600	2480	2585	2615	2720