AN7470

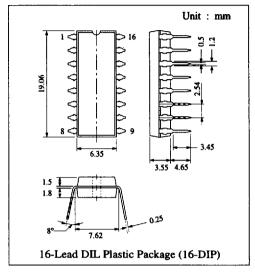
FM Stereo Multiplex Demodulator

Description

The AN7470 is a monolithic integrated circuit designd for FM multiplex demodulator circuit for high-class stereo FM tuners.

■ Features

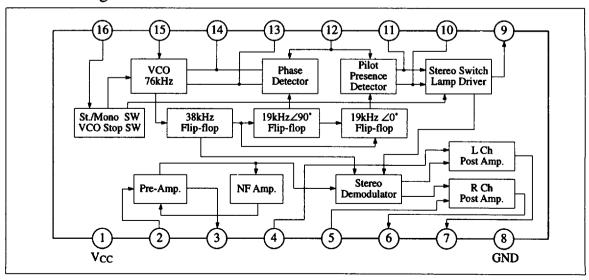
- Small shock noise from switching operation (ON/OFF)
- Perfect synchronization for stereo/monaural switching operation and stereo lamp
- Built-in post amplifier



Pin

Pin No	Pin Name	Pin No	Pin Name	
1	Vcc	9	Stereo Indicator and VCO freq. Monitor	
2	Composite Signal Input	10	Pilot Det. Low-pass Filter	
3	Buffer Amp. Output	11	Pilot Det. Low-pass Filter	
4	L Ch. Amp. Feedback	12	Pilot Signal Input	
5	R Ch. Amp. Feedback	13	PLL Low-pass Filter	
6	R Ch. Amp. Output	14	PLL Low-pass Filter	
7	L Ch. Amp. Output	15	VCO RC Time Const.	
8	GND	16	Forced Mono. VCO Killer	

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

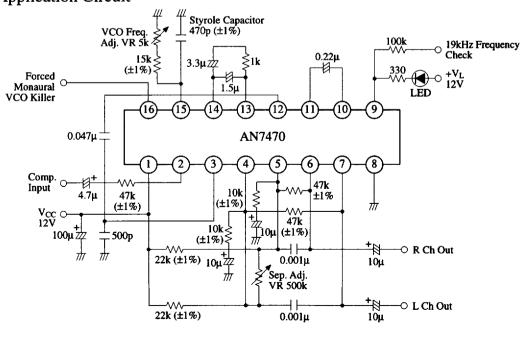
Item	Symbol	Rating	Unit	
Supply Voltage	v _{cc}	V _{CC} 14.4		
Power Dissipation (Ta=75°C)	P _D	430	mW	
Operating Ambient Temperature	Topr	-20 ~ +75	°C	
Storage Temperature	Tstg	-55 ~ +150	°C	

Operating Supply Voltage Range: $V_{CC} = 9.0V \sim 14.0V$

■ Electrical Characteristics (V_{CC}=12V, Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Circuit Current (Lamp OFF)	Iı	Without input signal (Lamp OFF)	10	18	28	mA
Circuit Current (Lamp ON)	II	Pilot signal, V _p = 30mV (Lamp ON)		20		mA
Channel Separation	Sep		45	55		dB
Voltage Gain	Gv	$f_m = 1kHz, L + R = 90\%, Pilot = 10\%,$	10	12	14	dB
Channel Balance	СВ	$V_{(L+R)} = 270 \text{mV}, V_p = 30 \text{mV}$	-1	0	1	dB
Total Harmonic Distortion (Stereo)	THD			0.04	0.1	%
Total Harmonic Distortion (Mono)	THD	$f_m = 1kHz$, $V_{in} = 300mV$		0.02	0.1	%
Carrier Leak	CL	$f_m = 1kHz, L + R = 90\%, Pilot = 10\%, V_{(L+R)} = 270mV$	20	26		dB
Pilot Signal ON Voltage	V _{p(ON)}	Pilot signal 19kHz	6	12	20	mV
Capture Range		Pilot signal 19kHz, V _p = 30mV	±1.5	±3		%
Signal to Noise Ratio	S/N	$f_m = 1 \text{kHz}, V_{in} = 300 \text{mV}, R_g = 0\Omega$	76	85		dB

■ Application Circuit



Characteristics Curve

