

AN7470

FM Stereo Multiplex Demodulator

■ Description

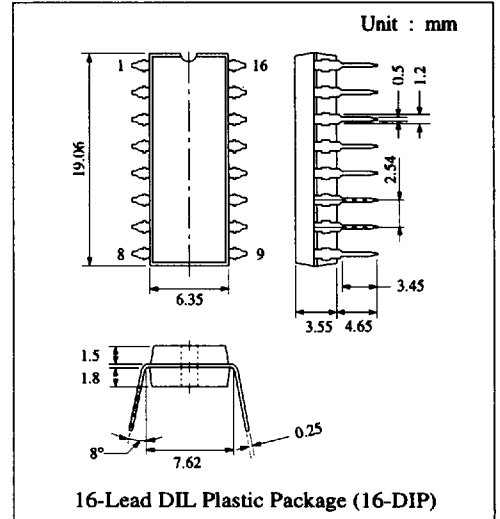
The AN7470 is a monolithic integrated circuit designed for FM multiplex demodulator circuit for high-class stereo FM tuners.

■ Features

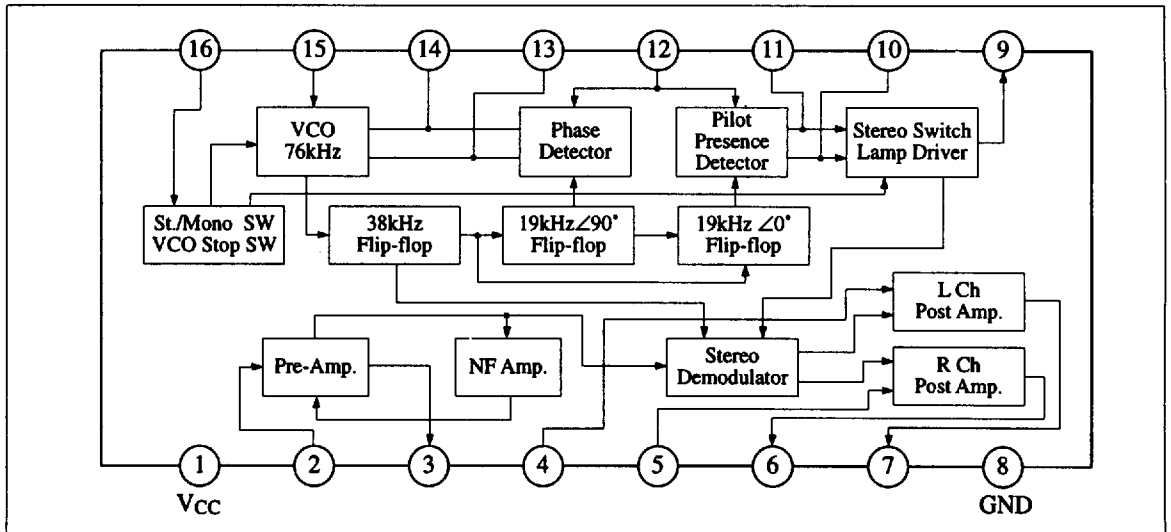
- Small shock noise from switching operation (ON/OFF)
- Perfect synchronization for stereo/monaural switching operation and stereo lamp
- Built-in post amplifier

■ Pin

Pin No	Pin Name	Pin No	Pin Name
1	V _{CC}	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)

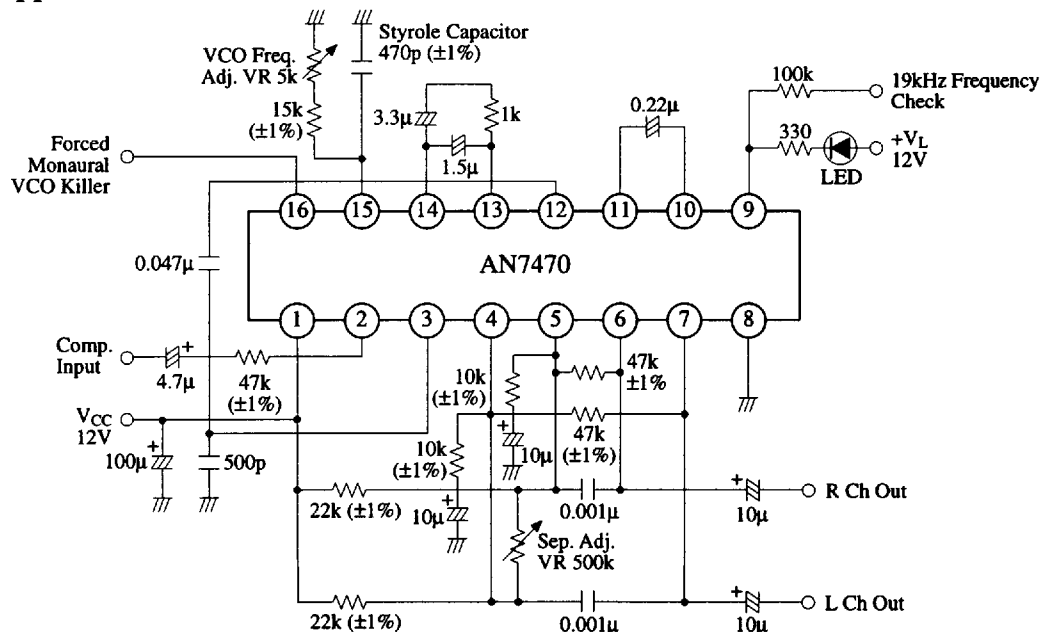
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	14.4	V
Power Dissipation (Ta=75°C)	P _D	430	mW
Operating Ambient Temperature	Topr	-20 ~ +75	°C
Storage Temperature	Tstg	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 9.0V ~ 14.0V

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Circuit Current (Lamp OFF)	I _I	Without input signal (Lamp OFF)	10	18	28	mA
Circuit Current (Lamp ON)	I _I	Pilot signal, V _p = 30mV (Lamp ON)		20		mA
Channel Separation	Sep	f _m = 1kHz, L + R = 90%, Pilot = 10%, V _(L+R) = 270mV, V _p = 30mV	45	55		dB
Voltage Gain	G _v		10	12	14	dB
Channel Balance	CB		-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	CR	Pilot signal 19kHz, V _p = 30mV	±1.5	±3		%
Signal to Noise Ratio	S/N	f _m = 1kHz, V _{in} = 300mV, R _g = 0Ω	76	85		dB

■ Application Circuit



■ Characteristics Curve

