

AN7220

AM Tuner, FM-AM IF Amplifier Circuit

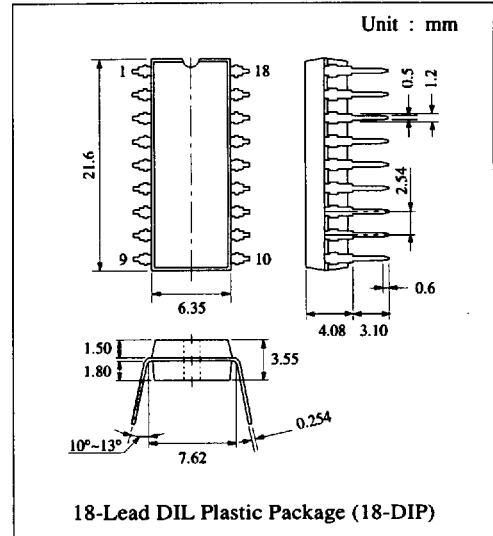
■ Description

The AN7220 is a monolithic integrated circuit designed for AM tuner, FM-AM IF Amp. in low voltage radio and radio/cassette tape recorder.

■ Features

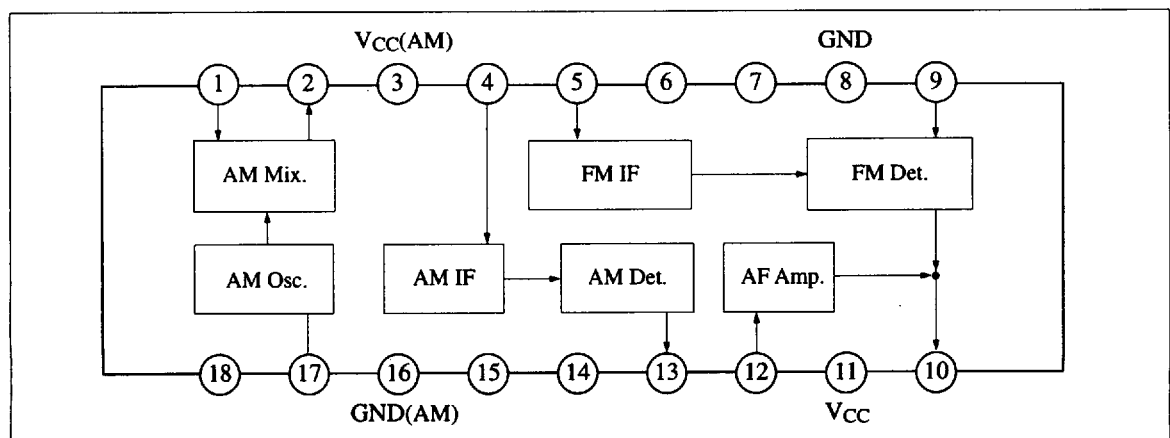
- Few external components
- Low power consumption
- Common IF Amp. for FM and AM

■ Pin



Pin No.	Pin Name	Pin No.	Pin Name
1	AM RF Amp. Input	10	AF Output
2	AM Mix Output	11	V _{cc}
3	V _{cc} (AM)	12	AM AF Amp. Input
4	AM IF Amp. Input	13	AM Detector Output
5	FM IF Amp. Input	14	Tuning Indicator
6	IF By-pass	15	AGC Input
7	IF By-pass	16	GND (AM)
8	GND	17	Oscillator Coil
9	FM Detector Coil	18	AGC

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

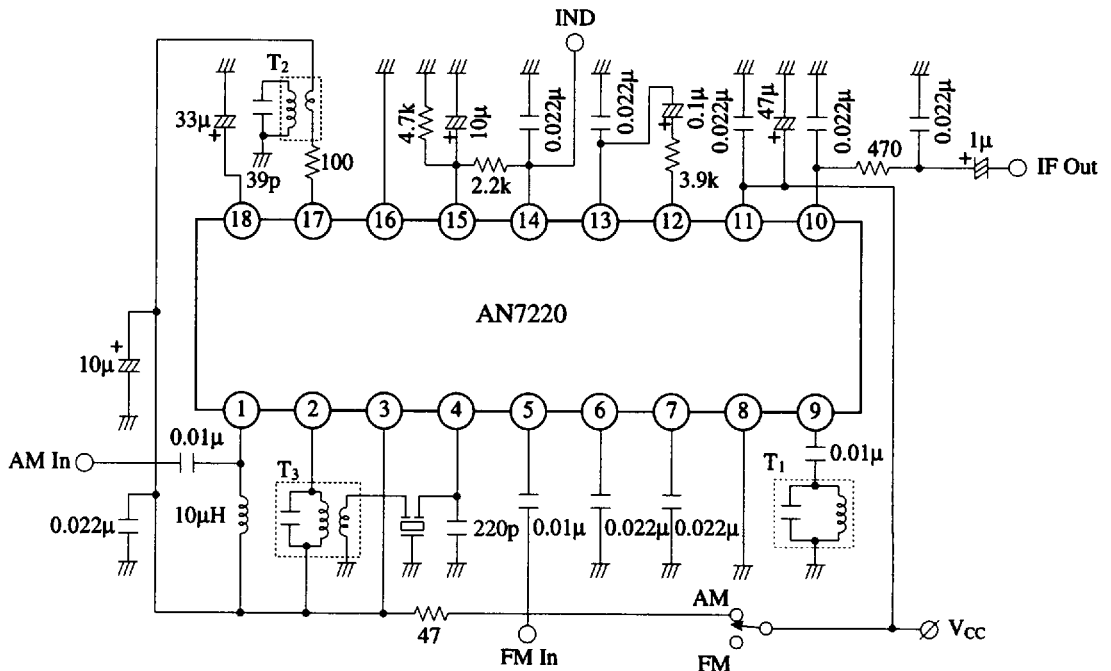
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	6.6	V
Supply Current	I _{CC}	10	mA
Power Dissipation	P _D	66	mW
Operating Ambient Temperature	Topr	-20 ~ +75	°C
Storage Temperature	Tstg	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 2.0V ~ 6.6V

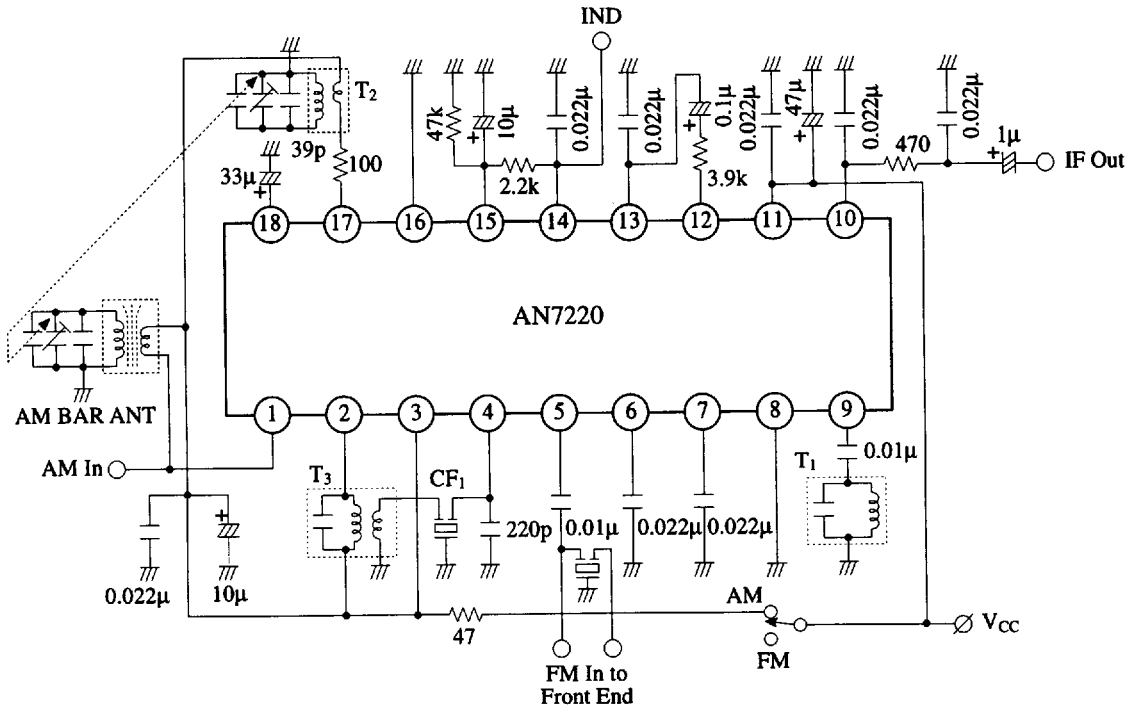
■ Electrical Characteristics (V_{CC}=3V, Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
FM	Detector Output Voltage	V _O V _{in} = 60dBμ, f = 10.7MHz, f _{dev} = 22.5kHz, f _m = 400Hz	16	21	26.5	mV
	Limiting Sensitivity	V _{in(lim)} V _O = -3dB	35	38	41	dBμ
AM	Detector Output	V _O V _{in} = 60dBμ, f = 1MHz, Mod = 30%, f _m = 400Hz	18.3	28.7	45.7	mV
	Maximum Sensitivity	S _{max} V _{in} = 20dBμ	3.3	6.5	11.2	mV
	Indicator Voltage	V ₁₄₋₈ Without Signal		450	630	mV

Test Circuit



■ Application Circuit



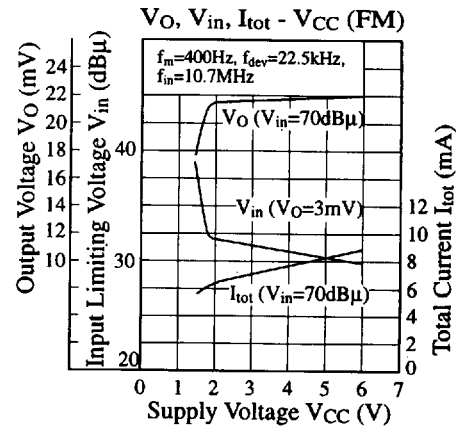
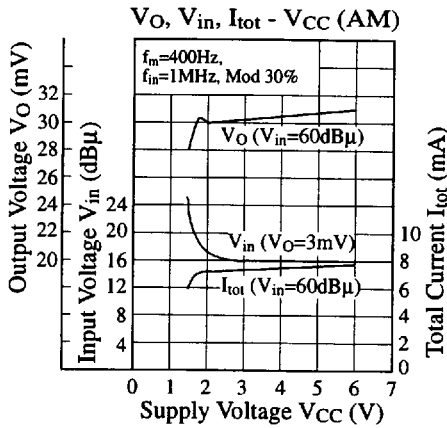
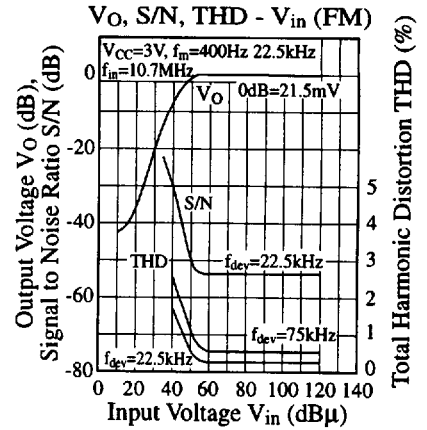
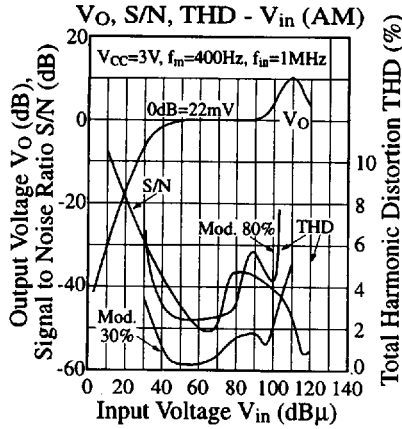
■ Coil Specifications

Symbol	Use, Freq.	Type No.	Maker	Connection Diagram	Number of Turns	Tuning Cap.	Unloaded Q
T ₁	FM Quad Coil 10.7MHz	EIF-7S752A	Matsushita		①...② 8T ②...③ 5T ④...⑥ 3T	100pF	90±20%
T ₂	AM MW OSC Coil	ELL-7S754	Matsushita		①...② 4T ②...③ 125T ④...⑥ 7T	-	95±20%
T ₃	AM Mix. Output 455kHz	EIA-7S802A	Matsushita		③...② 35T ⑥...④ 10T ②...① 19T	1500pF	60±30%

■ Ceramic Filter Specification

Symbol	Use	Type No.	Maker	Center Freq.	Bandwidth	Loss
CF ₁	AM IF	CFM2-455B	Toko	455kHz	7kHz (-6dB)	2.6dB

■ Characteristics Curve



■ Printed Circuit Board Layout (Scale: 1:1)

