

AN7220, AN7221S

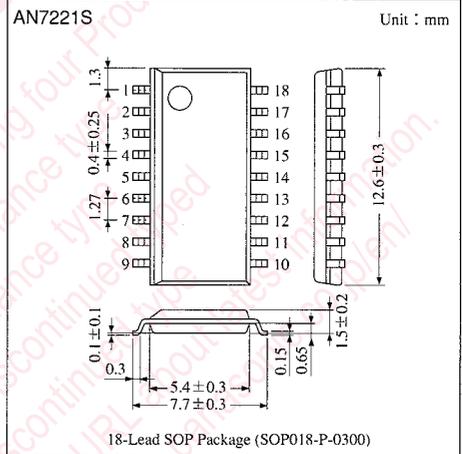
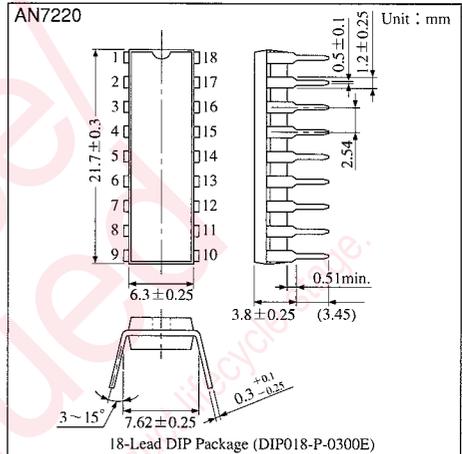
AM Tuner, FM/AM IF Amplifier Circuits

Overview

The AN7220 and the AN7221S are the ICs designed for FM-IF amplifier, AM tuner and AM IF amplifier most suitably used for low voltage operated FM/AM radio and radio cassette tape recorder.

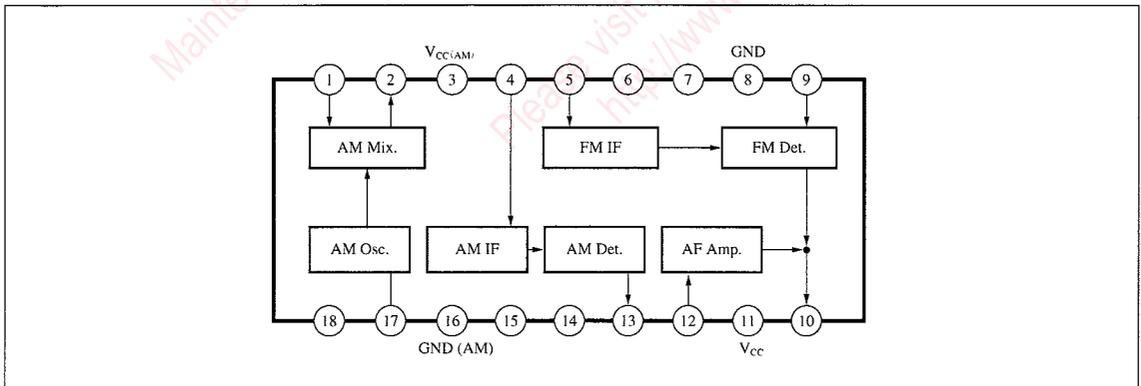
Features

- Fewer external parts
- Low power consumption
- Common IF-Amp. for FM and AM



ICs for Tuner

Block Diagram



Pin Descriptions

Pin No.	Pin Name	Pin No.	Pin Name
1	AM RF Amp. Input	10	AF Output
2	AM Mixer Output	11	V _{CC}
3	V _{CC} (AM)	12	AM AF Amp. Input
4	AM IF Amp. Input	13	AM Detection 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	Oscillation Coil
9	FM Detection Coil	18	AGC

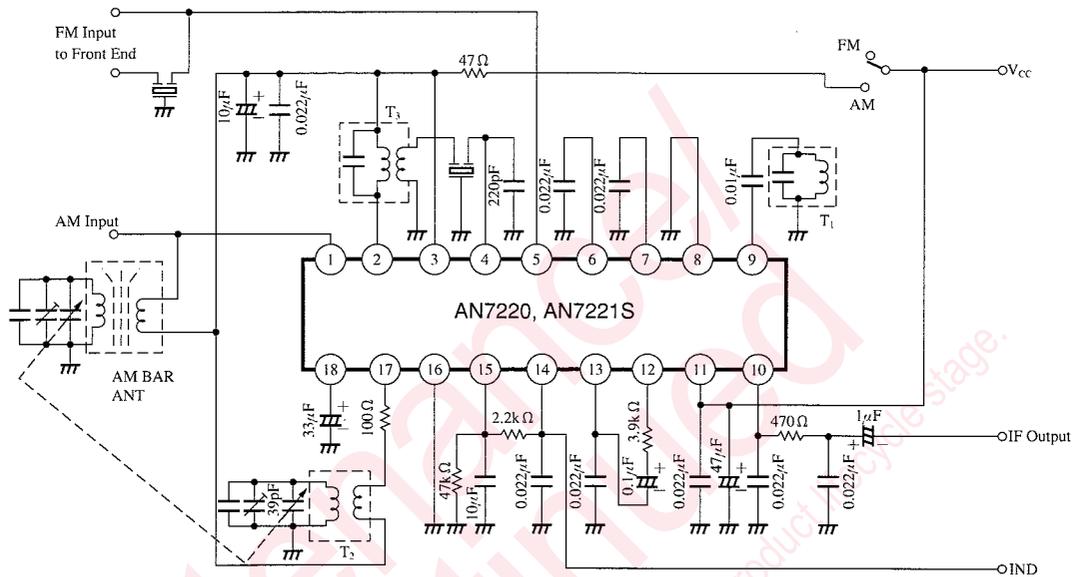
Absolute Maximum Ratings (T_a = 25°C)

Parameter	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	T _{opr}	-20 ~ +75	°C
Storage Temperature	AN7220	T _{stg}	°C
	AN7221S		
		-55 ~ +125	

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

Parameter	Symbol	Condition	min.	typ.	max.	Unit	
FM	Demodulation Output Level	V _O	V _i = 60dBμ, f = 10.7MHz, f _{dev.} = 22.5kHz, f _m = 400Hz	16	21	26.5	mV
	Limiting Sensitivity	V _{i(lim)}	Input at V _O = -3dB	35	38	41	dBμ
AM	Detection Output Level	V _O	V _i = 60dBμ, f = 1MHz, Mod. = 30%, f _m = 400Hz	18.3	28.7	45.7	mV
	Maximum Sensitivity	S _{max.}	V _i = 20dBμ	3.3	6.5	11.2	mV
	Indicator Voltage	V _{I4-8}	Without signal	—	450	630	mV

■ 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		①-②8T ②-③5T ④-⑥3T	100pF	90 ± 20%
T ₂	AM MW Osc. Coil	ELL-7S754	MATSUSHITA		①-②4T ②-③125T ④-⑥7T	—	95 ± 20%
T ₃	AM Mix. Output 455kHz	EIA-7S802A	MATSUSHITA		③-②35T ⑥-④10T ②-①19T	1500pF	60 ± 30%

ICs for Tuner

■ Ceramic Filter Specification

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

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