

AN7205, AN7205S

FM Front-end Circuit (3V Operation)

Overview

The AN7205 and AN7205S are the FM front-end circuit most suitably designed for 3V operating radio and radio cassette recorder, and characteristics against strong input signal is improved.

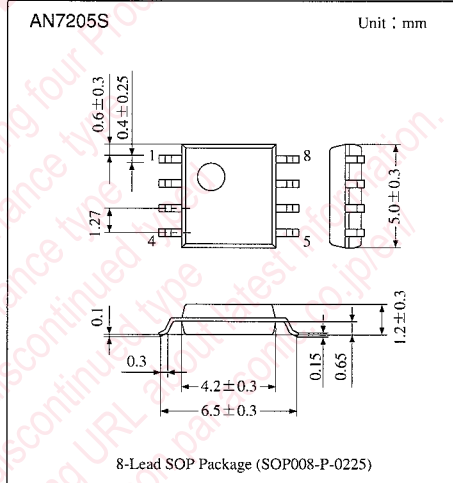
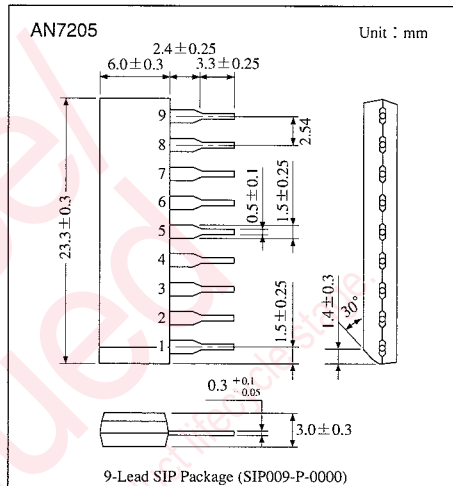
High sensitive series can be realized by the combination with FM-AM IF IC (AN7221S) and MPX IC (AN7421).

Features

- Good inter modulation characteristics
- Frequency drift of local oscillator is small for the variation of power supply.
- Good AM-rejection characteristics
- High sensitivity

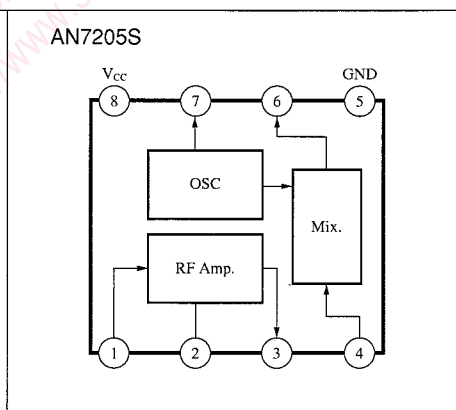
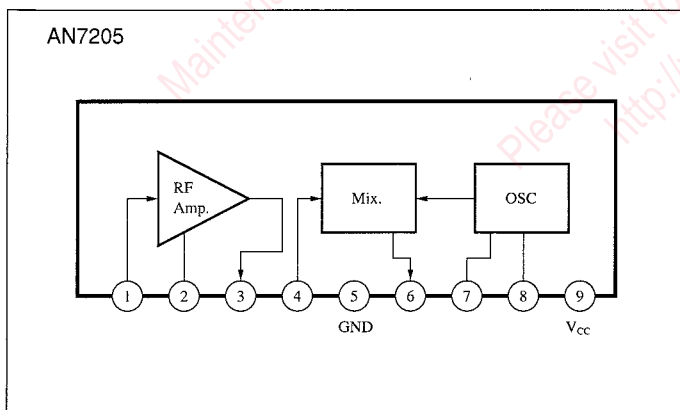
Pin Descriptions

Pin No.	AN7205	AN7205S
1	RF Input	RF Input
2	RF By-pass Capacitor	RF By-pass Capacitor
3	RF Output	RF Output
4	Mix. Input	Mix. Input
5	GND	GND
6	Mix. Output	Mix. Output
7	OSC.	OSC.
8	OSC.	V _{CC}
9	V _{CC}	—



ICs for Tuner

Block Diagrams



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit	
Supply Voltage	V _{CC}	7	V	
Supply Current	I _{CC}	13	mA	
Power Dissipation	P _D	100	mW	
Operating Ambient Temperature	T _{opr}	-20 ~ +75	°C	
Storage Temperature	AN7205	T _{stg}	-55 ~ +150	°C
	AN7205S			

■ Recommended Operating Range (Ta=25°C)

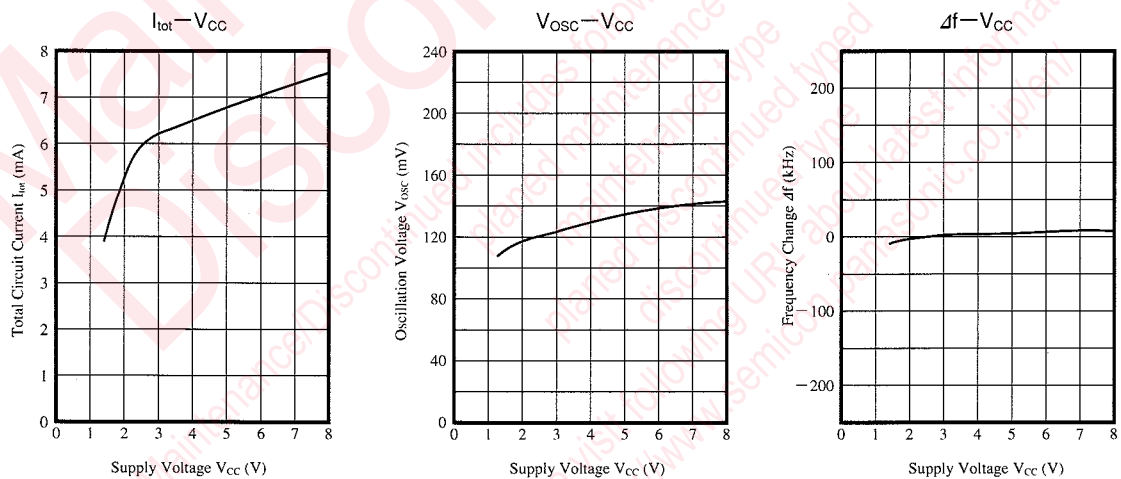
Parameter	Symbol	Range
Operating Supply Voltage Range	V _{CC (opr)}	1.5 ~ 7V

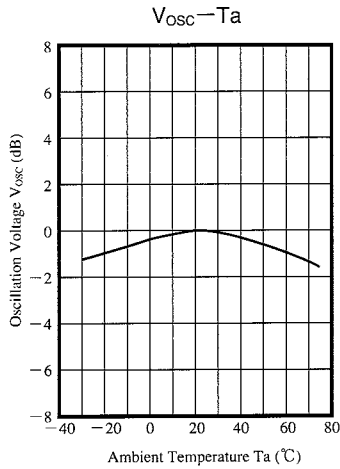
■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Total Circuit Current	I _{tot}	V _{CC} =3V, No signal	3.50	—	8.25	mA
Output Voltage	V _O *	V _{CC} =3V, V _{in} =55dBμ, 106MHz	10.6	—	25.6	mV
Local Oscillation Voltage	V _{OSC}	V _{CC} =1.5V, f _{osc} =116.7MHz	72.8	—	—	mV

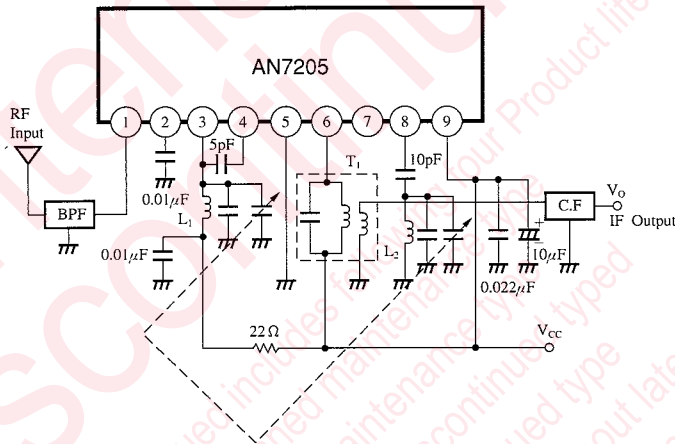
* Maximum output value should be read by changing input signal frequency by 106MHz ± Δf.

■ Characteristics Curve





■ Application Circuit



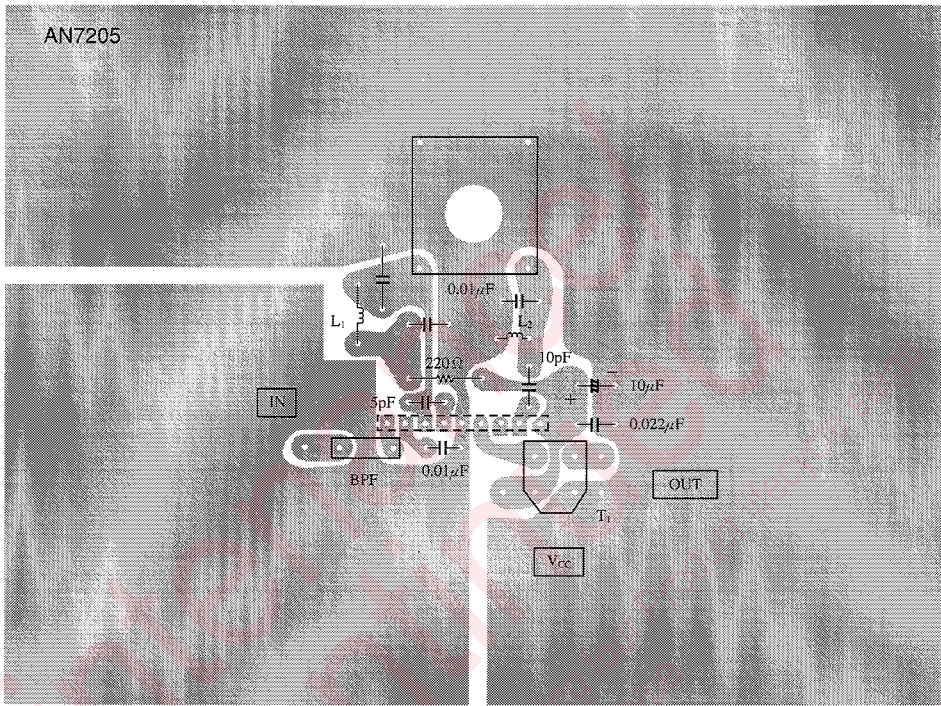
ICs for Tuner

■ Coil Specifications

Symbol	Use, Freq.	Type No.	Maker	Connection Diagram	Number of Turns	L Value/ C Value	Unloaded Q
L ₁	RF Coil		OE INDUSTRY		4T Space Winding	0.102μH f=25.2MHz	77 f=25.2MHz
L ₂	OSC Coil		OE INDUSTRY		3T Space Winding	0.086μH f=25.2MHz	73 f=25.2MHz
T ₁	FM IFT 10.7MHz	IFT-41K9	MITSUMI		①-②7T ②-③4T ④-⑥2T	110pF	100

- Band pass filter : SOSHIN DENKI BPWB 5
- Variable capacitor : MITSUMI PVC-2LXT-L

■ Printed Circuit Board Layout



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