

# AN7205/S

## FM Front-end Circuit for Radios and Radio / Cassette Tape Recorders (3V Operation)

### ■ Description

The AN7205/S are the monolithic integrated circuit designed for FM front-end IC suitable for radios and radio cassette tape recorders at 3V operation. Together with IC for FM - AM IF (AN7227) and IC for MPX (AN7420N), a high sensitivity series can be obtained.

### ■ Features

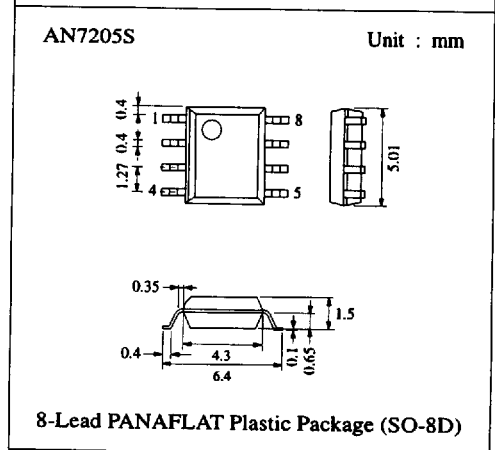
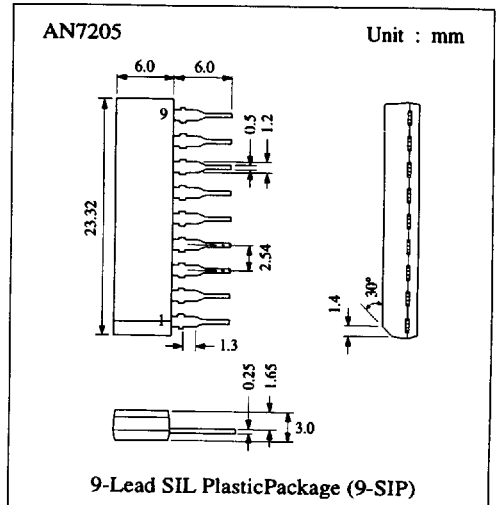
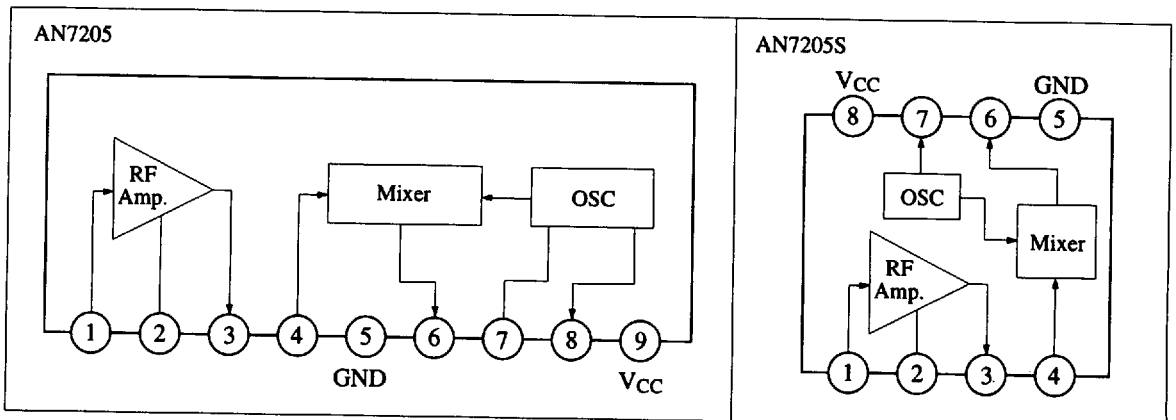
- Good intermodulation characteristics
- Frequency drift of local oscillator is small against supply voltage fluctuation and strong input signals
- Good AM rejection characteristics
- High sensitivity
- Built-in clamping diode for the mixer output

### ■ Pin

Pin No.	Pin Name
1 (1)	RF Input
2 (2)	RF By-pass Capacitor
3 (3)	RF Output
4 (4)	Mixer Input
5 (5)	GND
6 (6)	Mixer Output
7 (7)	Oscillator
8	Oscillator Tank
9 (8)	Vcc

Note) The pin number in ( ) are for AN7205S.

### ■ Block Diagram



## ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit	
Supply Voltage	V <sub>CC</sub>	7	V	
Supply Current	I <sub>CC</sub>	13	mA	
Power Dissipation	P <sub>D</sub>	100	mW	
Operating Ambient Temperature	Topr	-20 ~ +75	°C	
Storage Temperature	AN7205	Tstg	-55 ~ +150	°C
	AN7205S	Tstg	-55 ~ +125	°C

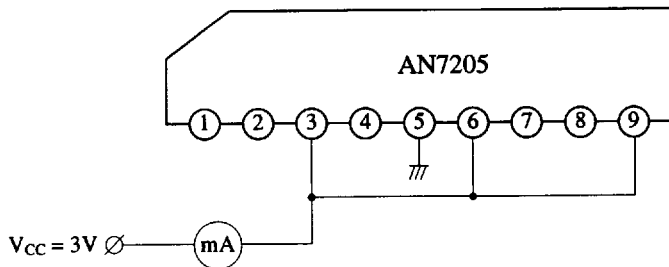
Operating Supply Voltage Range: V<sub>CC</sub> = 1.5V ~ 7.0V

## ■ Electrical Characteristics (Ta=25°C)

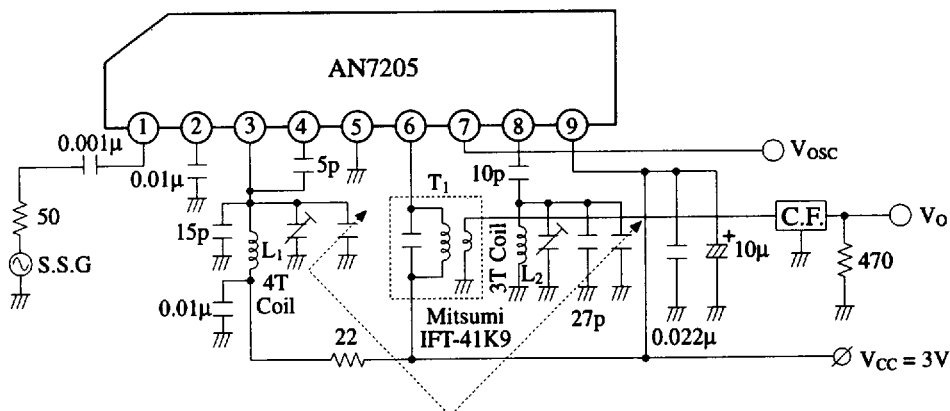
Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Quiescent Current	I <sub>CQ</sub>	1	V <sub>CC</sub> = 3V, without signal	3.50		8.25	mA
Output Voltage	V <sub>O</sub>	2	V <sub>CC</sub> = 3V, V <sub>in</sub> = 55dBμ, 106MHz*	10.6		25.6	mV
Local Oscillation Voltage	V <sub>OSC</sub>	2	V <sub>CC</sub> = 1.5V, f <sub>osc</sub> = 116.7MHz	72.8			mV

\* Max. output voltage value is obtained by changing input signal frequency  $\pm\Delta f$  at 106MHz

### Test Circuit 1

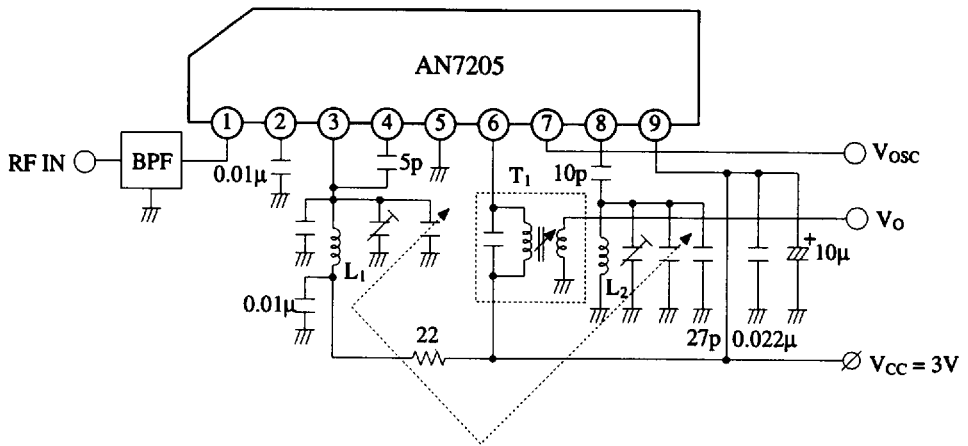


### Test Circuit 2



Note : Coil data for T<sub>1</sub>, L<sub>1</sub> and L<sub>2</sub>, please refer to AN7204.

■ Application Circuit



■ Characteristics Curve

