

# AN7254

## FM Front-end Circuit for Car Radio

### ■ Description

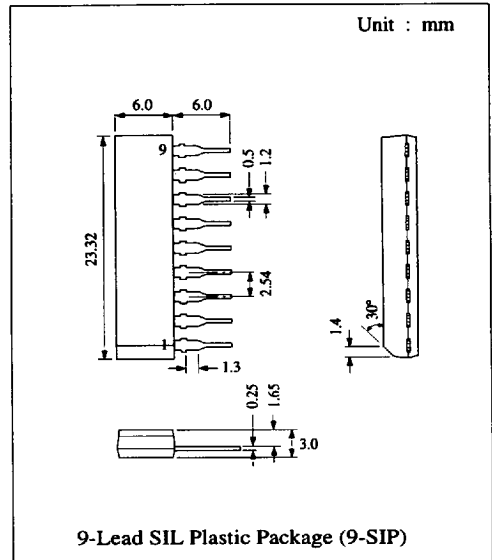
The AN7254 is a monolithic FM front-end integrated circuit, excluding RF amplifier, designed for car radio. The chip comprises mixer, local oscillator, IF amplifier and AGC amplifier.

### ■ Features

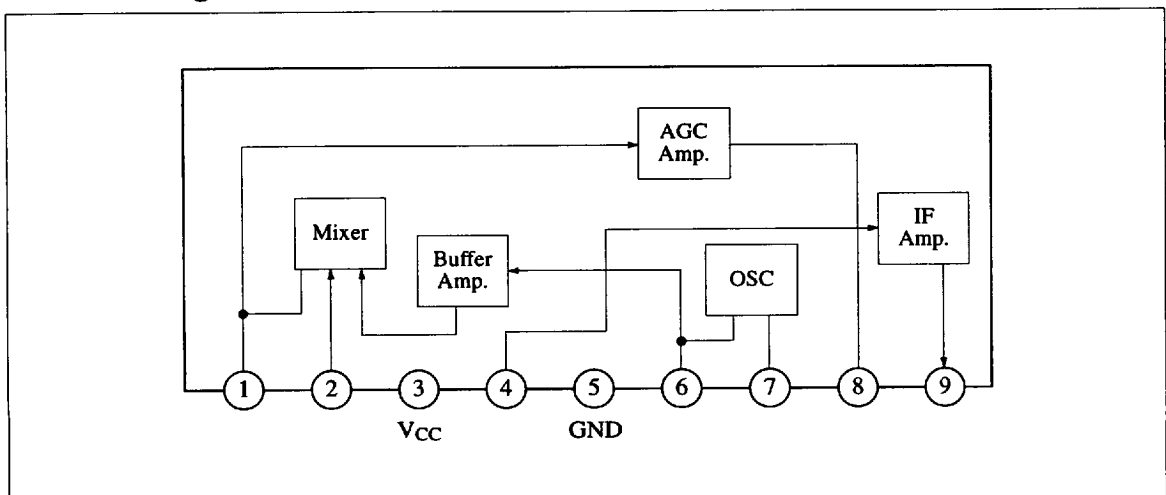
- Small characteristics fluctuation and high stability
- High gain by built-in IF amplifier
- Fewer external parts allow simple assembling operation and high reliability

### ■ Pin

Pin No.	Pin Name
1	Mixer Output
2	Mixer Input
3	V <sub>CC</sub>
4	IF Amp. Input
5	GND
6	OSC Base
7	OSC Emitter
8	AGC Output
9	IF Amp. Output



### ■ Block Diagram



■ 6932852 0013912 456 ■

293

Panasonic

■ Absolute Maximum Ratings (Ta=25°C)

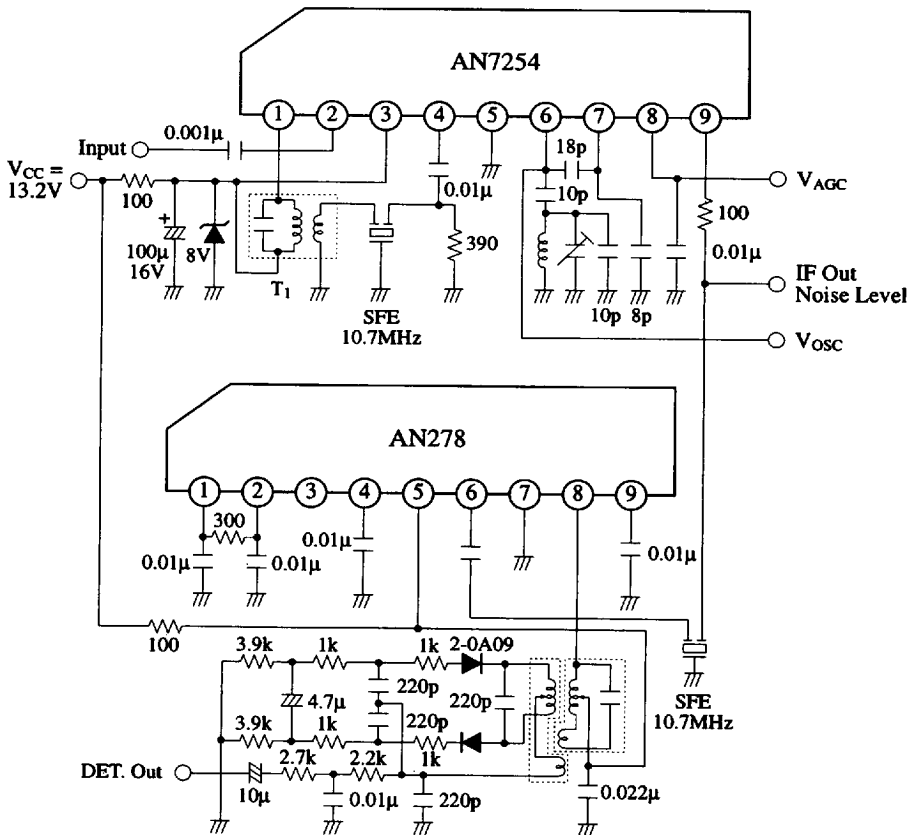
Item	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	9.8	V
Supply Current	I <sub>CC</sub>	28	mA
Power Dissipation	P <sub>D</sub>	275	mW
Operating Ambient Temperature	T <sub>opr</sub>	-30 ~ +75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

Operating Supply Voltage Range: V<sub>CC</sub> = 6.5V ~ 9.8V

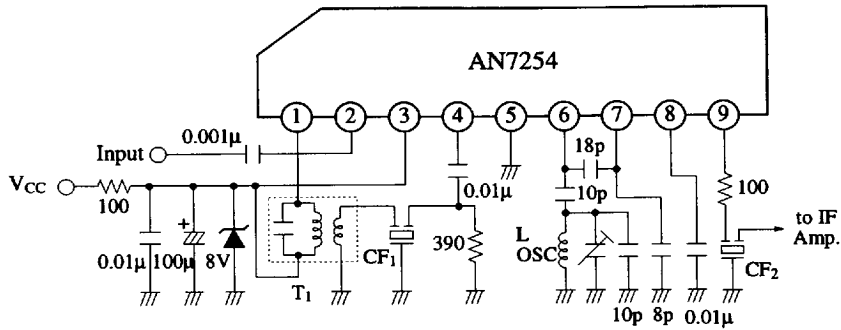
■ Electrical Characteristics (V<sub>CC</sub>=8V, f<sub>in</sub>=98MHz, f<sub>m</sub>=400Hz, Mod 30%, Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Oscillation Voltage	V <sub>osc</sub>	f <sub>osc</sub> = 108.7MHz	308		463	mV
AGC Voltage	V <sub>AGC</sub>	V <sub>in</sub> = 85dBμ			1	V
Sensitivity	S	V <sub>in</sub> = 20dBμ, 0dB at input 54dB	-5.4	-3.7	-2	dB
Signal to Noise Ratio	S/N	V <sub>in</sub> = 20dBμ	19			dB

Test Circuit



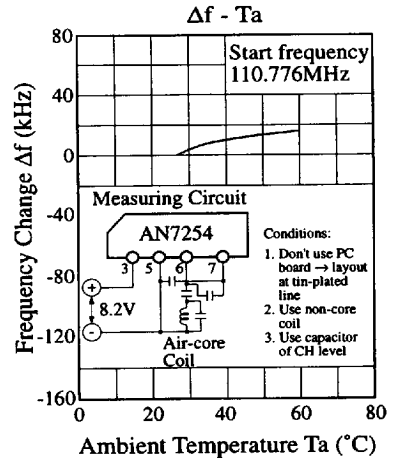
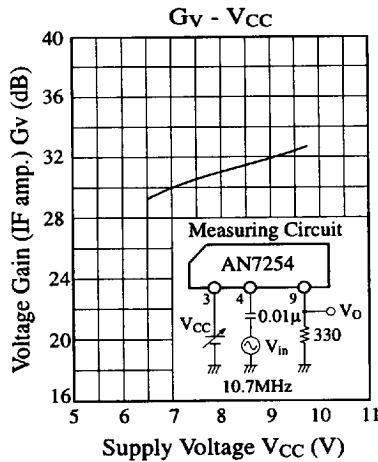
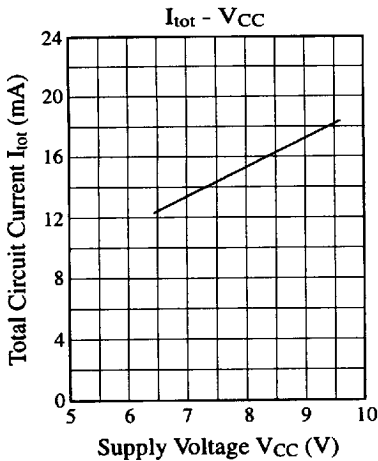
■ Application Circuit



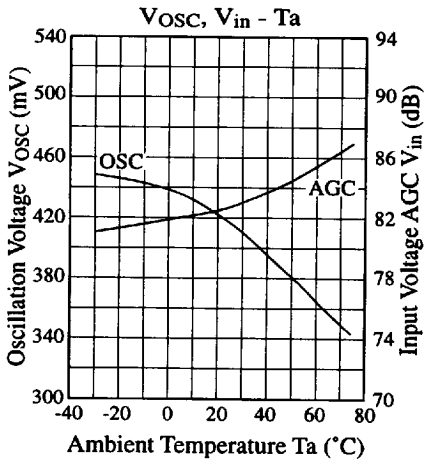
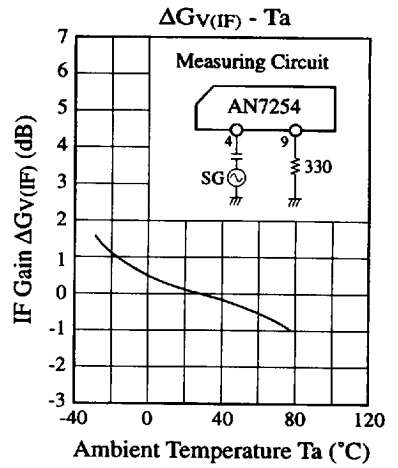
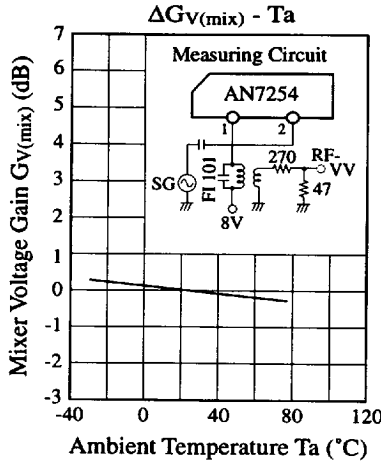
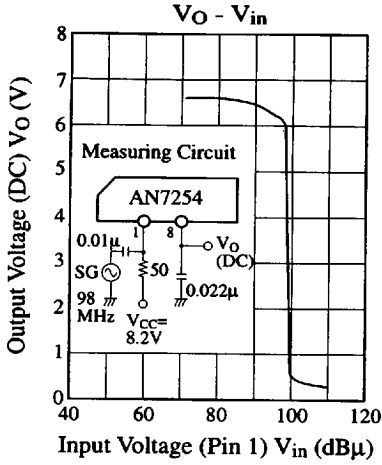
■ Coil Specifications

Symbol	Use, Freq.	Type No.	Maker	Connection Diagram	Number of Turns	Tuning Cap.	Unloaded Q
T <sub>1</sub>	FM IFT 10.7MHz	EIF-7S752A	Matsushita		①...② 8T ②...③ 5T ④...⑥ 2T	100pF	90

■ Characteristics Curve



■ Characteristics Curve (Continue)



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

