

Single-Chip System for Radios Monolithic IC LMF501

Outline

This is a monolithic IC designed for use as a single-chip AM radio. It can be used to configure an AM radio with few external components.

It is ideal for use in watch radios, lighter-radios and other applications intended to operate on low voltage and current.

Features

- 1. Operation at low voltages possible V_{CC} : 1.1V
- 2. Operates with low current consumption
- 3. Compact, lightweight
- 4. Broad AGC range

Package

TO-92A (LMF501T-2)

Absolute Maximum Ratings

Item	Symbol	Ratings	Units
Operating temperature	T _{OPR}	-30~+80	°C
Storage temperature	T _{STG}	-40~+125	°C
Power supply current	V _{CC}	1.5	V

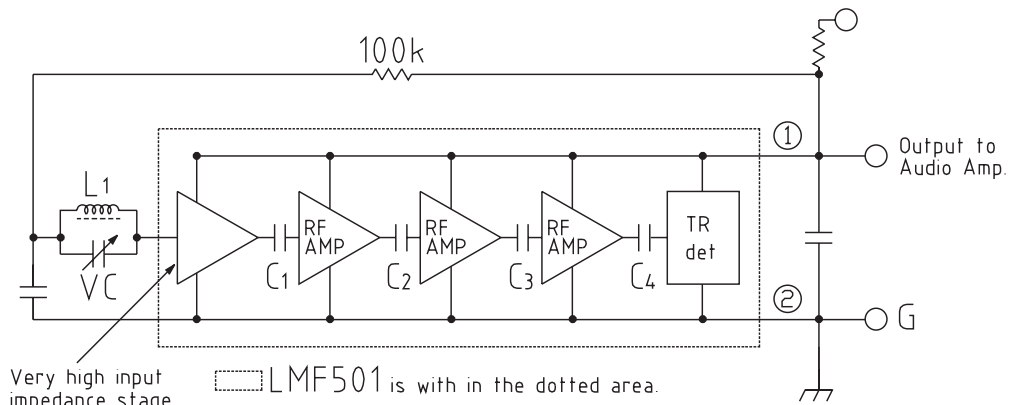
Electrical Characteristics

Item	Symbol	Min.	Typ.	Max.	Units
Power supply voltage	V _{CC}		1.4		V
Operating output voltage	V _{OUT}	0.8		1.5	V
Circuit current	I _{CC}		0.3		mA
Practical frequency range	f _R	150		3000	kHz
Input resistance	Z _{IN}		4		MΩ
Audio distortion	THD		4		%
AGC range	AGC	30			dB
Power gain	G _p		70		dB

Measurement conditions: Except where noted otherwise, in measurement circuits1
V_{CC}=1.4 V, R_{AGC}=1.5kΩ

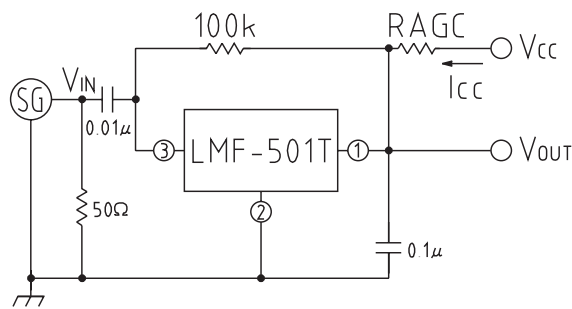
Modulator: f=1000Hz 40%, V_{IN}=1m V/rms

Block Diagram



- Elemental Characteristics
1. Vcc 1.3V~
 2. Operating voltage (Output) 1.0~1.5V
 3. Input sensitivity 0.3mA typ
 4. f 300k ~ 3MHz
 5. Input resistance 4MΩ typ.

Measurement Circuit



Application Circuits

