

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

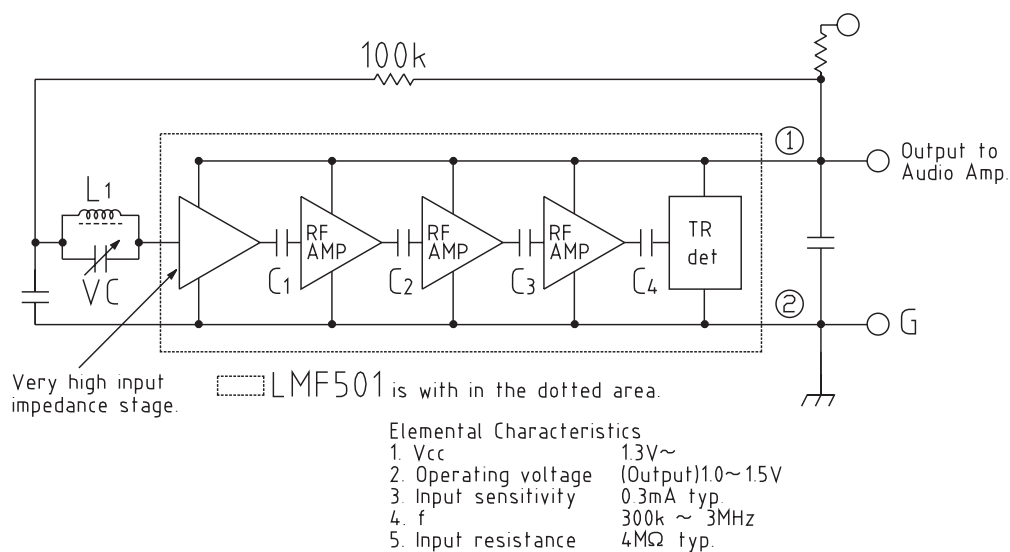
Item	Symbol	Min.	Typ.	Max.	Units
Power supply voltage	V_{CC}		1.4		V
Operating output voltage	V_{OUT}	0.8		1.5	V
Circuit current	I_{CC}		0.3		mA
Practical frequency range	fR	150		3000	kHz
Input resistance	Z_{IN}		4		MΩ
Audio distortion	THD		4		%
AGC range	AGC	30			dB
Power gain	Gp		70		dB

Measurement conditions: Except where noted otherwise, in measurement circuits¹

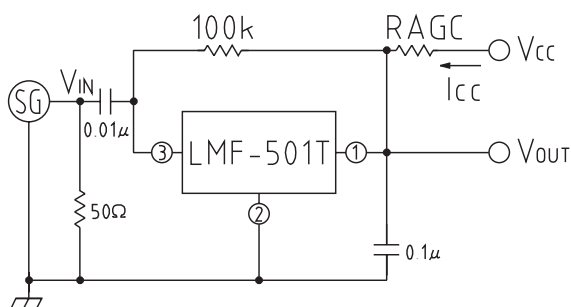
$V_{CC}=1.4V$, $R_{AGC}=1.5k\Omega$

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

Block Diagram



Measurement Circuit



Application Circuits

