

MK484 RADIO IC

Description

The MK484 is a monolithic integrated circuit designed in a TO92 package for use as a one chip radio solution, high sensitivity and high quality AM radio is possible with very few external components.

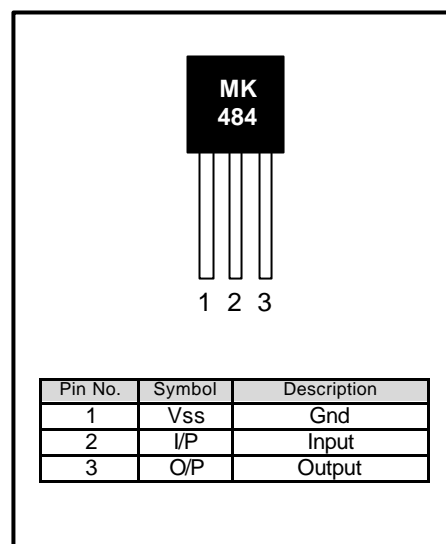
Special features of the circuit include low supply voltage operation, the device is particularly suited to small hand-held radios.

Features

- Stable operation with 1.1V
- Low Drain Current
- Small and light weight (TO92 Package)
- Wide AGC Ranging

Maximum Ratings

Item	Symbol	Rating	Unit
Operating Temperature	T_{opr}	-30 to +80	°C
Storage Temperature	T_{stg}	-40 to +125	°C
Supply Voltage	V_{cc}	1.5	V



Electrical Characteristics

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	1.1	1.4	1.8	V
Output Voltage	V_{OUT}	0.8	-	1.5	mV
Drain Current	I_{CC}	-	0.3	-	mA
Cover Range	f_R	150	-	3,000	KHz
Input Resistance	Z_{IN}	-	4	-	MΩ
Total Harmonic Distortion	-	-	4	-	%
AGC Range	A_{GC}	30	-	-	dB
Power Gain	G_P	-	70	-	dB

$$V_{CC} = 1.4V, R_{AGC} = 1.5K\Omega, = 1,000K_{Hz}$$


$$\text{Modulation } 1,000\text{Hz } 40\%, V_{in} = 1\text{mV}_{(RMS)}$$

$$(1) R_{AGC} = 100 - 1.5K\Omega$$

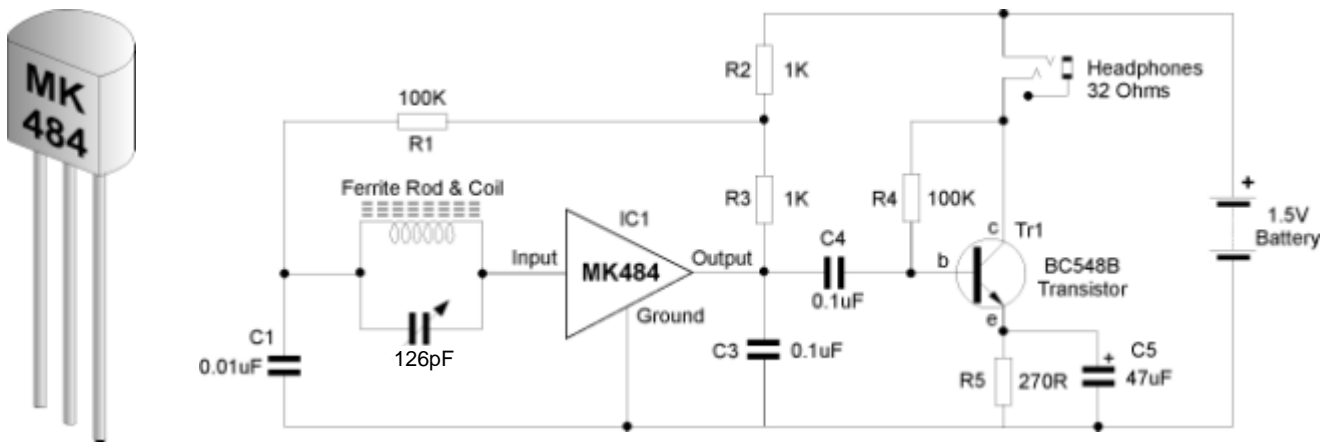
Example Circuit

This circuit provides a complete RF amplifier, Detection and AGC circuit, which requires only a few external components to give a high quality AM Tuner. Good audio quality can be achieved, and current consumption is extremely low. No setting up or alignment is required and the circuit is completely stable in use.

The MK484 has an input impedance of 4MΩ and operates over a frequency range of 150KHz to 3MHz. The IC will run off a DC supply of between 1.1V and 1.8V. A current drain of 0.3mA makes it suitable for battery operation. The IC provides an output of 40 to 60 mV.

	MK484 RADIO IC	82-1026	Revision B
	The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.		15/02/2001
			Page 1 of 2

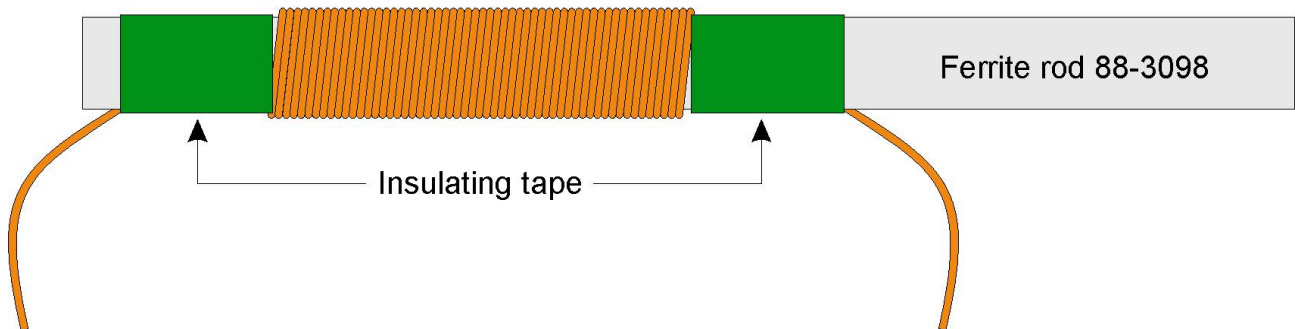
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The coil needs approximately 55 turns of 0.315mm diameter enamelled copper wire on a 100mm long ferrite rod. A process of trial and error will help you achieve the optimum number of windings on the ferrite rod.

In general the thicker the wire or larger the ferrite rod diameter the fewer the number of turns required.

55turns of 0.315mm dia (30 s.w.g)
Enamelled copper wire 05-0215



PCB Layout for the above circuit

