

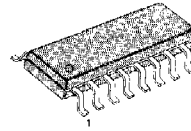
INTRODUCTION

The KA22429 is a monolithic integrated circuit designed for Portable FM radio. It is consisting of RF input stage, Mixer, IF, Mute control and Loop (earphone drive) AMP. It is suitable for a pocket-size radio.

FUNCTIONS

- RF input stage
- Local osc
- Mixer
- IF Amp
- Mute control
- Earphone drive amp.

16-SOP-225



FEATURES

- Minimum number of external parts required
- It is able to a single trimmer tuning
- No FM det coil
- It is FLL IF detect system (76KHz)
- Operating voltage: $V_{CC} = 1.8V \sim 6.0V$

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22429D	16-SOP	-10°C ~ +70°C

BLOCK DIAGRAM

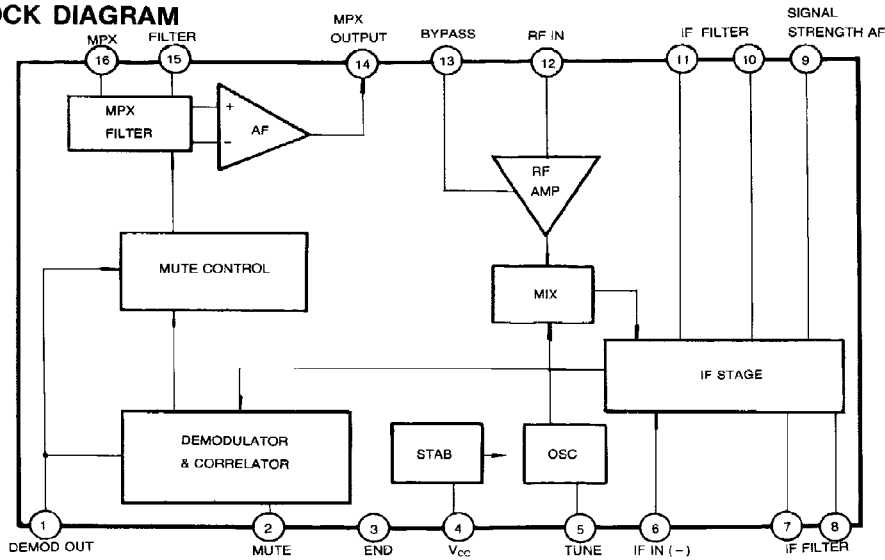


Fig. 1.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	7	V
Oscillator Voltage	V_{OSC}	-0.5 ~ + 0.5	V
Operating Temperature	T_{OPR}	-10 ~ + 70	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ + 150	$^\circ\text{C}$
Thermal Resistance Junction to Ambient	R_{EJA}	300	K/W

ELECTRICAL CHARACTERISTIC

 MONO CONDITION: $f = 98\text{MHz}$, $f_m = 1\text{KHz}$, $\Delta f = \pm 22.5\text{KHz}$, $V = 50\text{dB}\mu$, $T_a = 25^\circ\text{C}$, $V_{CC} = 3\text{V}$

 STEREO CONDITION: $f = 98\text{MHz}$, $f_m = 1\text{KHz}$, $\Delta f = \pm 22.5\text{KHz}$, $V = 60\text{dB}\mu$ (Modulated with pilot $\Delta f = \pm 6.75\text{KHz}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit	
Quiescent Circuit Current	I_{CCQ}	$V_I = 0$		6.3		mA	
MONO	Sensitivity	S_{V11}	-3dB: Mute Disable		12		dB μ
		S_{V12}	SIN = 26dB: Mute Enable		17		dB μ
	Signal to Noise Ratio	S/N_1			60		dB
	Total Harmonic Distortion	THD_1	$\Delta f = \pm 22.5\text{KHz}$		0.7		%
		THD_2	$\Delta f = \pm 75\text{KHz}$		2.3		%
	AM Rejection Ratio	AMR	AM: $f_m = 1\text{KHz}$, $m = 80\%$ FM: $f_m = 1\text{KHz}$, $\Delta f = 75\text{KHz}$		50		dB
	Oscillator Voltage	V_{OSC}			250		mV
	AFC Range	ΔAFC			160		KHz
	Mute Range	MR			120		KHz
Band Width	BW	$\Delta V_O = 3\text{dB}$ Pre-Emphasis $t = 5\text{KHz}$		10		KHz	
AM Output Voltage	V_{O1}			90		μV	
STEREO	Sensitivity	S_{V13}	$S/N = 46\text{dB}$		49		dB μ
	Signal to Noise Ratio	S/N_2			53		dB
	Channel Separation	CS			20		dB
	AF Output Voltage	V_{O2}			80		mV

TEST CIRCUIT

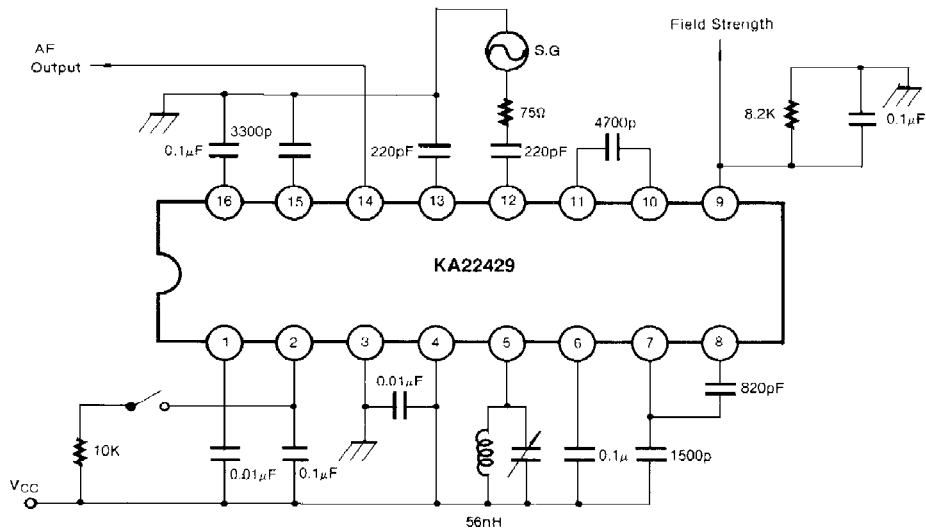


Fig. 2 Test Circuit for Mono Operation

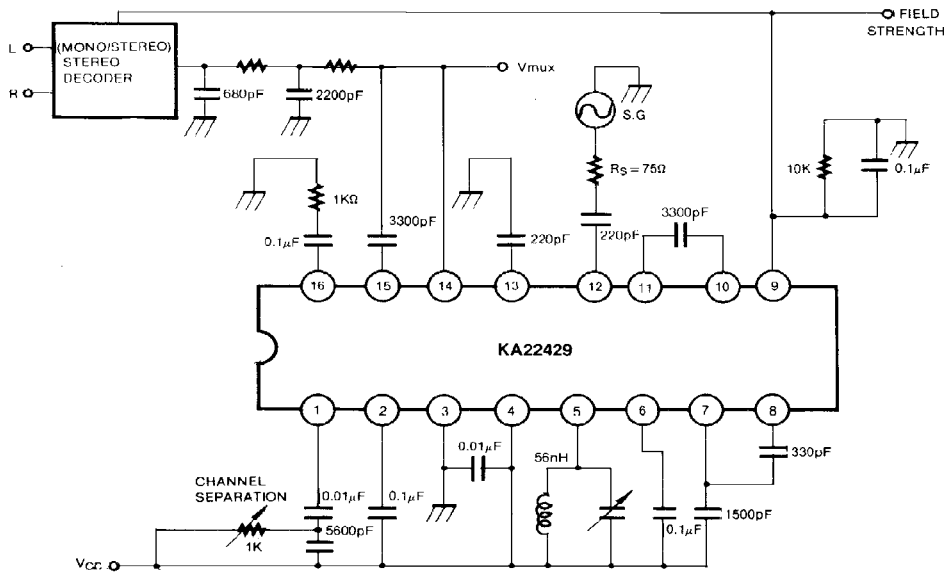


Fig. 3 Test Circuit for Stereo Operation

APPLICATION CIRCUIT

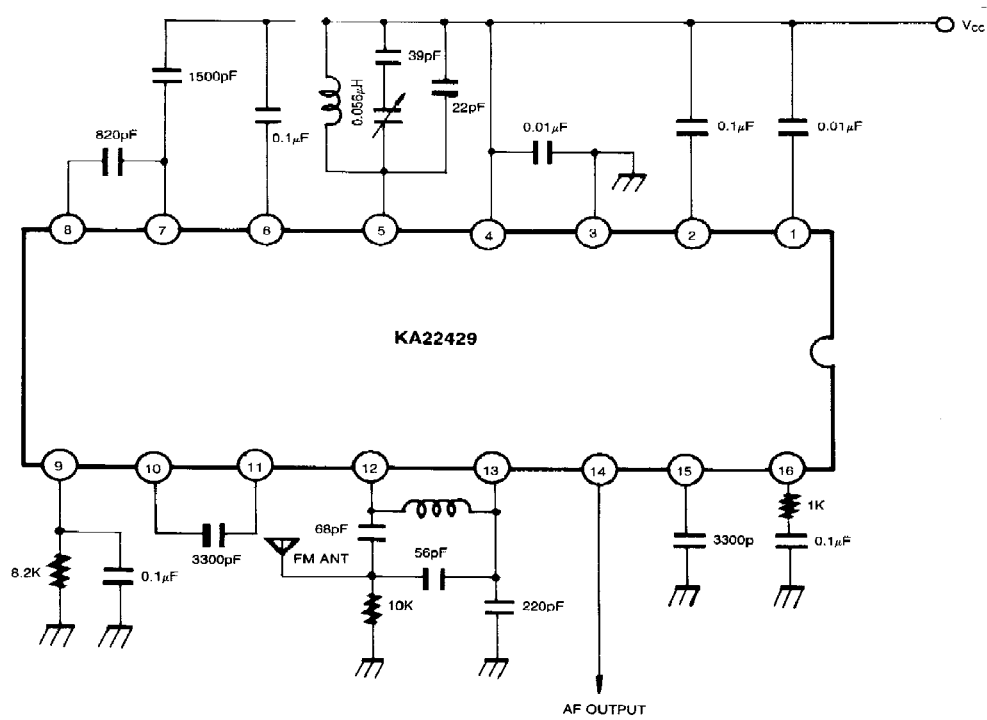


Fig. 4.

Dimensions in Millimeters

