

FM IF SYSTEM FOR CAR RADIO

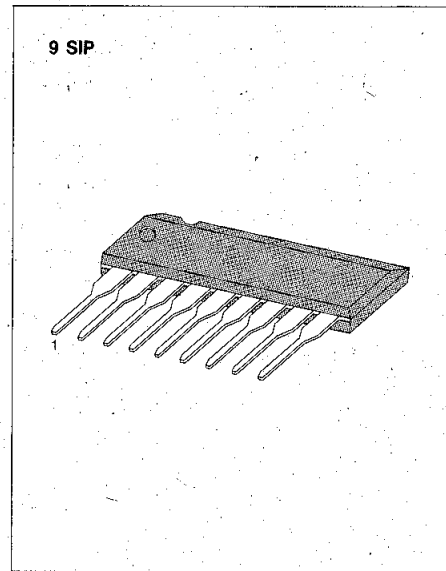
The KA2244 is a monolithic integrated circuit consisting of FM IF amplifier, detector, muting circuit and signal meter driver. It is suitable for car radio.

FUNCTIONS

- 3 stage IF amplifiers.
- Peak detector.
- Muting circuit.
- Signal meter drive circuit.

FEATURES

- Suitable for FM car radio.
- Wide operating supply voltage range (8V ~ 15V).
- High detector output voltage ($V_o = 500mV$, Typ).
- Variable muting level.
- Muting off by pin 4 open.
- Simplified single coil tuning.
- Low distortion (THD=0.1%; Typ).
- Minimum number of external parts required.



TYPICAL APPLICATION CIRCUIT

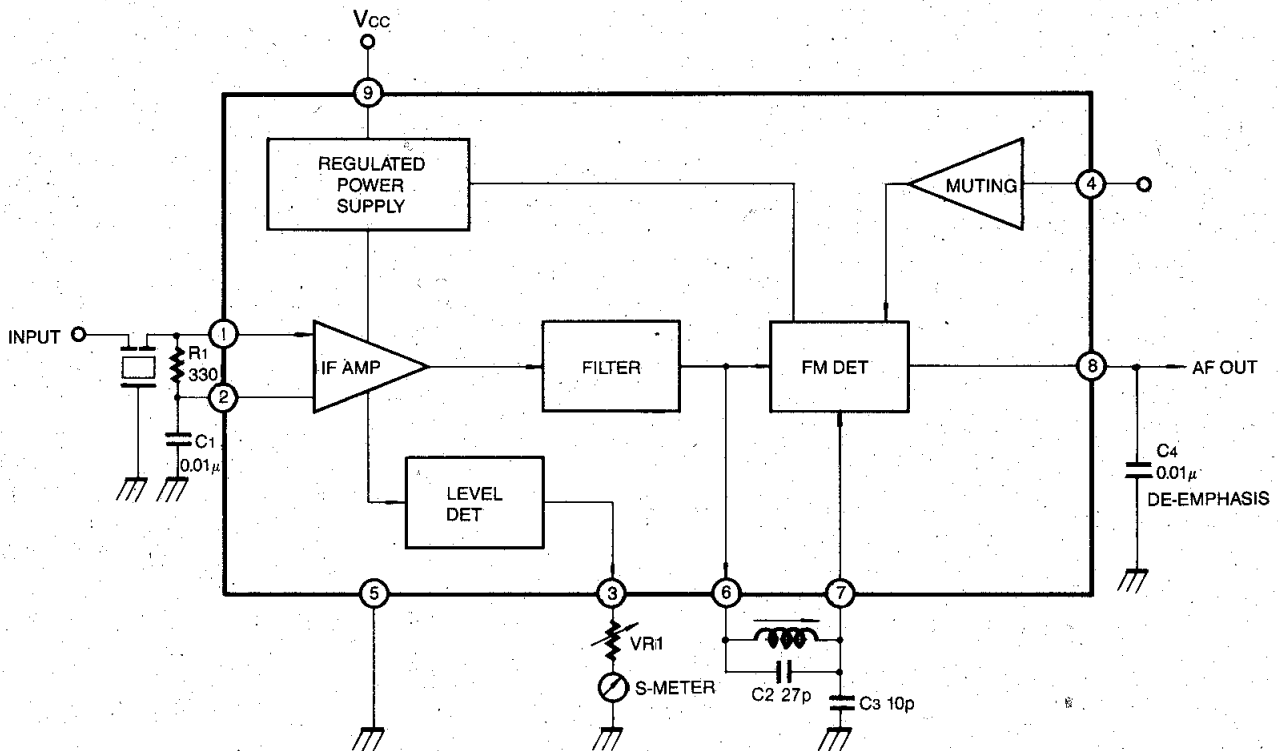


Fig. 1

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

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Input Voltage	V_i	0.7	V
Power Dissipation	P_d	750	mW
Operating Temperature	T_{opr}	-20 ~ +70	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +125	$^\circ\text{C}$

*: Derated above $T_a = 25^\circ\text{C}$ in the proportion of $4\text{mW}/^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 12\text{V}$, $f = 10.7\text{MHz}$, $f_m = 400\text{Hz}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CC}	$V_i = 0$	10	14	18	mA
Input Limiting Sensitivity	V_i (lim)	-3dB point from V_o ($V_i = 80\text{dB}\mu$, $\Delta f = \pm 75\text{KHz}$)		50	55	$\text{dB}\mu$
AM Rejection Ratio	AMR	FM: $\Delta f = \pm 75\text{KHz}$ dev AM: 30% Mod, $f_m = 1\text{KHz}$ $V_i = 80\text{dB}\mu$		50		dB
Detector Output Voltage	V_o	$\Delta f = \pm 75\text{KHz}$ dev $V_i = 80\text{dB}\mu$	300	500	700	mV
Total Harmonic Distortion	THD	$\Delta f = \pm 22.5\text{KHz}$ dev $V_i = 80\text{dB}\mu$		0.1		%
Signal to Noise Ratio	S/N	$\Delta f = \pm 75\text{KHz}$ dev $V_i = 80\text{dB}\mu$		75		dB
Muting Attenuation	M (att)	$\Delta f = \pm 75\text{KHz}$ dev $V_i = 80\text{dB}\mu$, $V_4 = 0$		70		dB
Meter Driver Voltage	V_3 (max)	$V_i = 110\text{dB}\mu$		4.0		V
Input Impedance	Resistance	$f = 10.7\text{MHz}$ 1 PIN-GND		5		$\text{K}\Omega$
	Capacitance			4.5		pF
Output Impedance	Resistance	$f = 10.7\text{MHz}$ 6 PIN-GND		1.3		$\text{K}\Omega$
	Capacitance			4		pF
Output Resistance	R_o	$f = 400\text{Hz}$ 8 PIN-GND		7.7		$\text{K}\Omega$