

## INTRODUCTION

The KA2245 is a monolithic integrated circuit consisting of an FM IF amplifier and detector. It is suitable for car radios.

## FUNCTIONS

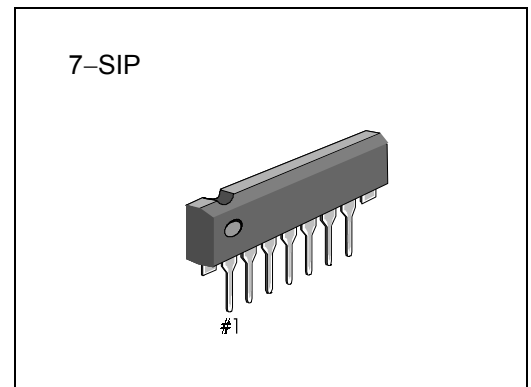
- 3-stage IF amplifier
- Peak detector

## FEATURES

- Suitable for FM car radios
- Wide operating supply voltage range:  $V_{CC} = 8V \sim 14V$
- High detector output voltage ( $V_O = 500mV$ , Typ)
- Excellent AM rejection:  $AMR = 50dB$  (Typ)
- High sensitivity:  $V_{I(LIM)} = 50dB\mu V$  (Typ)
- Simplified single coil tuning
- Low distortion (THD = 0.1 %: Typ)
- Minimum number of external parts required

## ORDERING INFORMATION

Device	Package	Operating Temperature
KA2245	7-SIP	-20°C ~ +70°C



## BLOCK DIAGRAM

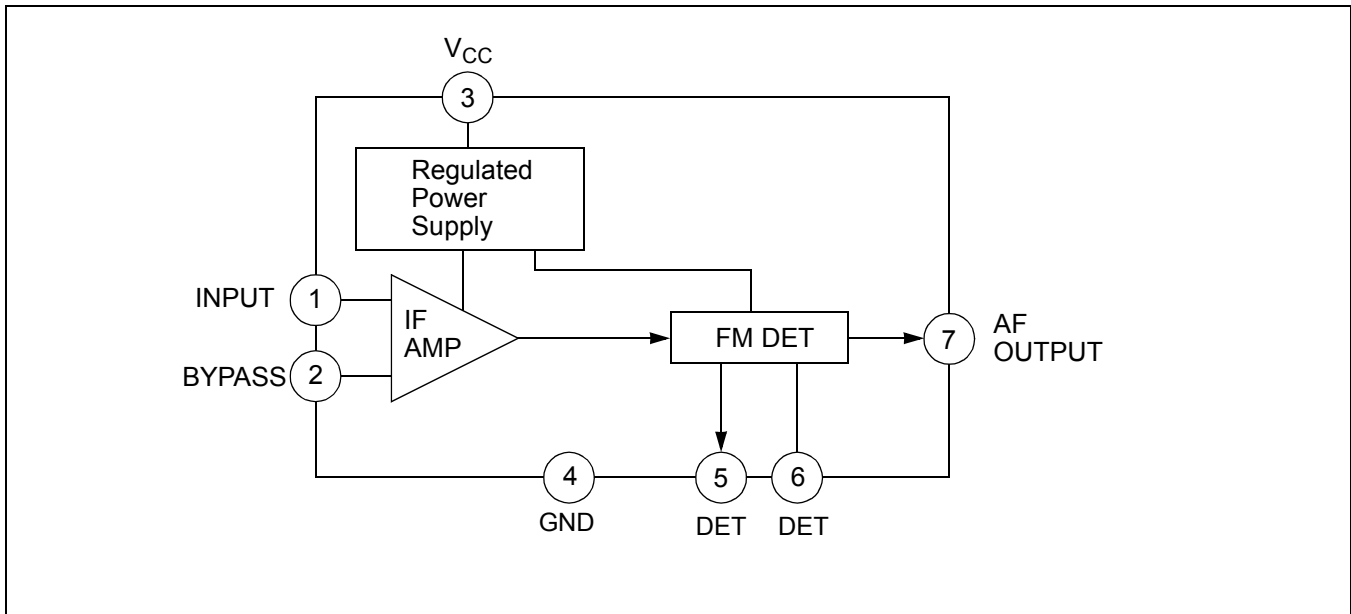


Figure 1.

## ABSOLUTE MAXIMUM RATINGS (Ta =25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	15	V
Input Voltage	$V_I$	0.7	V
Power Dissipation	$P_D$	400	mW
Operating Temperature	$T_{OPR}$	-20 ~ +70	°C
Storage Temperature	$T_{STG}$	-40 ~ +125	°C

**NOTE:** Derated above Ta = 25°C in the proportion of 4 mW/°C

**ELECTRICAL CHARACTERISTICS**

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

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current	$I_{CCQ}$	$V_I = 0$	8	12	15	mA
- 3dB Limiting Sensitivity	$V_{I(LIM)}$	-3dB point from $V_O$ , $V_I = 80\text{dB}\mu$ , $\Delta f = 75\text{kHz}$	-	50	55	dB
AM Rejection Ratio	AMR	FM: $\Delta f = \pm 75\text{kHz}$ dev AM: 30 % Mod $V_I = 80\text{dB}\mu$	-	50	-	dB
Detector Output Voltage	$V_O$	$\Delta f = \pm 75\text{kHz}$ dev $V_I = 80\text{dB}\mu\text{V}$	300	500	700	mV
Total Harmonic Distortion	THD	$\Delta f = \pm 225\text{kHz}$ dev $V_I = 80\text{dB}\mu\text{V}$	-	0.2	-	%
Signal to Noise Ratio	S/N	$\Delta f = \pm 75\text{kHz}$ dev $V_I = 80\text{dB}\mu\text{V}$	-	60	-	dB

**TEST CIRCUIT**

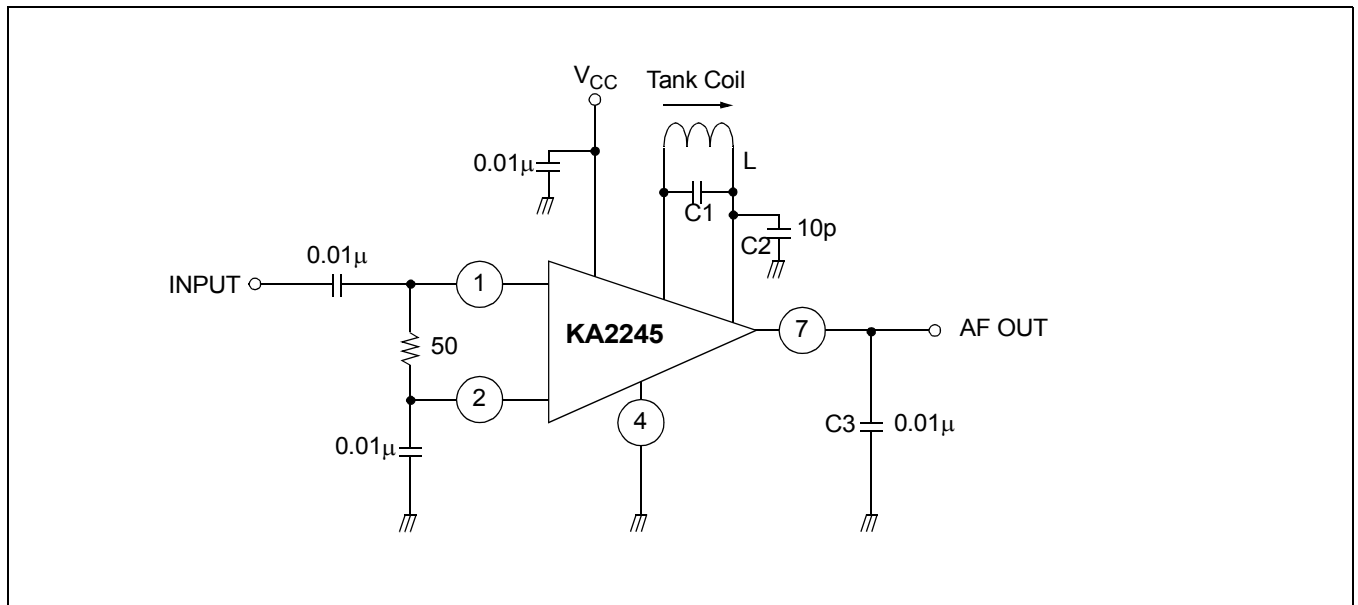


Figure 2.

APPLICATION CIRCUIT

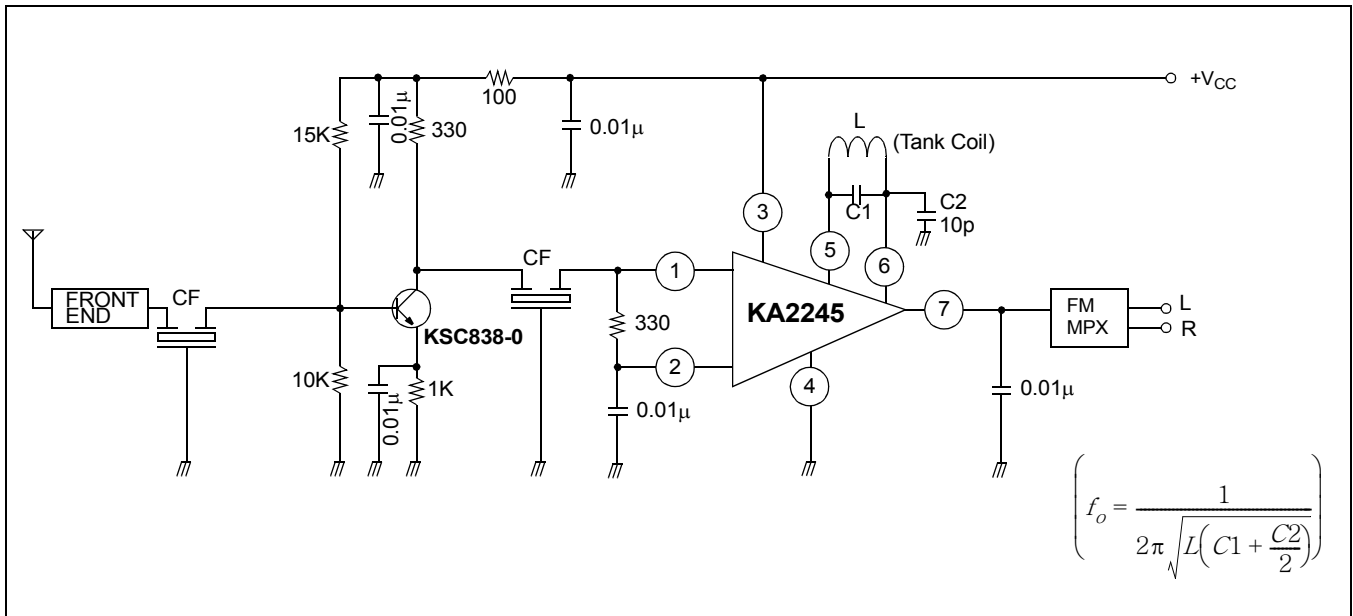
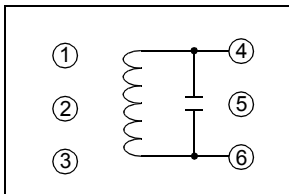


Figure 3.

COIL SPECIFICATIONS



Co(pF)	f(MHz)	Oo(%)	Turns		
			4-6	-	-
27	10.7	150	18	-	-