

# KA2297

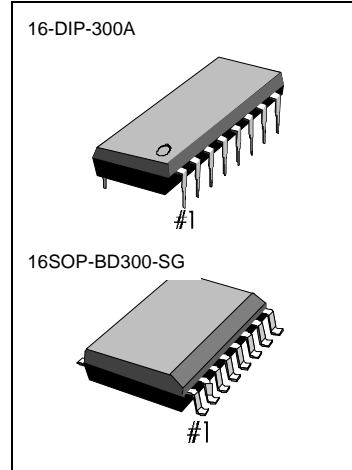
# AM/FM TUNER

## INTRODUCTION

The KA2297 is a monolithic integrated circuit which consist of FM F/E + AM/FM IF and DET AMP.  
The KA2297 is no adjustment AM/FM IF, DET coil

## FEATURES

- Not need AM/FM IF, FM DET DOIL
- Built-in FM Front End
- Minimum number of external parts required
- Operating voltage :  $V_{CC} = 1.8V \sim 7V$



## ORDERING INFORMATION

Device	Package	Operating Temperature
KA2297	16-DIP-300A	-20 ~ +70°C
KA2297D	16-SOP-375	

## BLOCK DIAGRAM

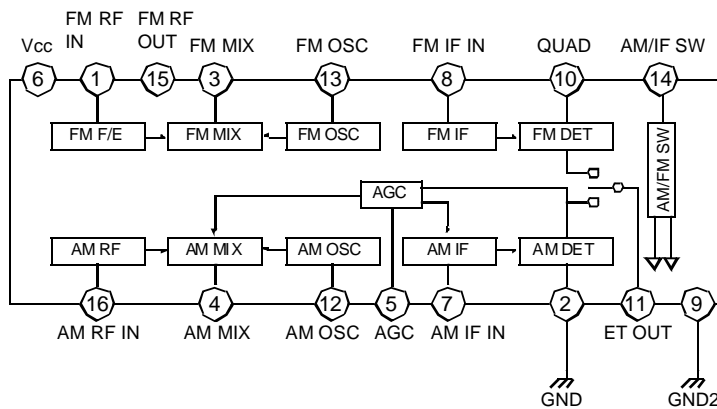


Fig. 1

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

Characteristic	Symbol	Value	Unit
Maximum Supply Voltage	V <sub>CC</sub>	8	V
Power Dissipation	P <sub>D</sub>	250	mW
Operating Temperature	T <sub>OPR</sub>	-20 ~ +75	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +125	°C

**ELECTRICAL CHARACTERISTICS**(FM F/E : f = 98MHz, FM IF : 10.7MHz, AM : f = 1KHzΔf = 30%, V<sub>CC</sub> = 3V)

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Circuit Current		I <sub>CCQ1</sub>	FM, V <sub>I</sub> = 0	6.0	10.0	14.0	mA
		I <sub>CCQ2</sub>	AM, V <sub>I</sub> = 0	3.0	5.0	8.0	mA
FM F/E	-3dB Limiting	V <sub>(LIM)1</sub>	V <sub>O</sub> = -3dB Point		12	22	dBμ
FM IF	-3dB Limiting Sensitivity	V <sub>(LIM)2</sub>	V <sub>O</sub> = -3dB Point	42	47	52	dBμ
	Detector Output Voltage	V <sub>O(DET)1</sub>	V <sub>I</sub> = 80dBμ	55	70	85	mVrms
	Total Harmonic Distortion	THD <sub>1</sub>	V <sub>I</sub> = 80dBμ		0.4	1	%
	Signal to Noise Ratio	S/N <sub>1</sub>	V <sub>I</sub> = 80dBμ	56	62		dB
	AM Rejection Ratio	AMR	V <sub>I</sub> = 80dBμ	32	38		dB
AM	Voltage Gain	G <sub>V1</sub>	V <sub>I</sub> = 30dBμ	28	50	72	mVrms
	Detector Output Voltage	V <sub>O(DET)2</sub>	V <sub>I</sub> = 60dBμ	40	60	82	mVrms
	Total Harmonic Distortion	THD <sub>2</sub>	V <sub>I</sub> = 60dBμ		1.0	2.0	%
	Signal to Noise Ratio	S/N <sub>2</sub>	V <sub>I</sub> = 60dBμ	37	43		dB

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## TEST CIRCUIT 1

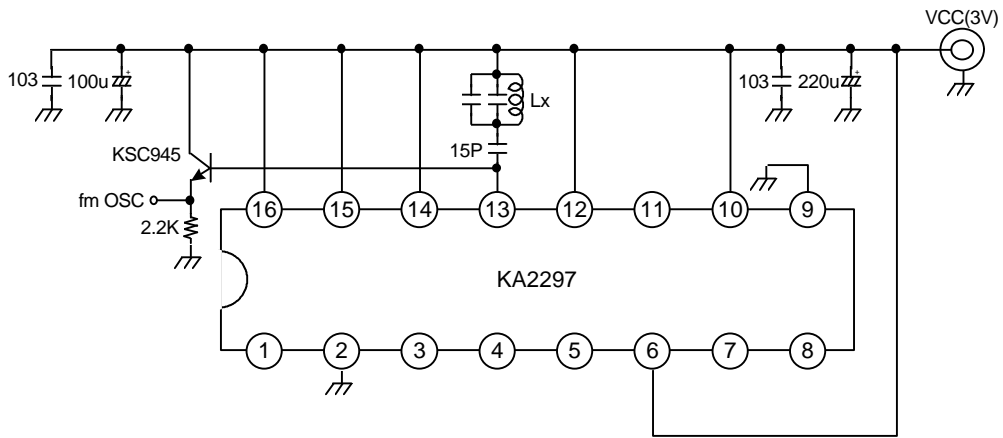


Fig. 2

## TEST CIRCUIT 2

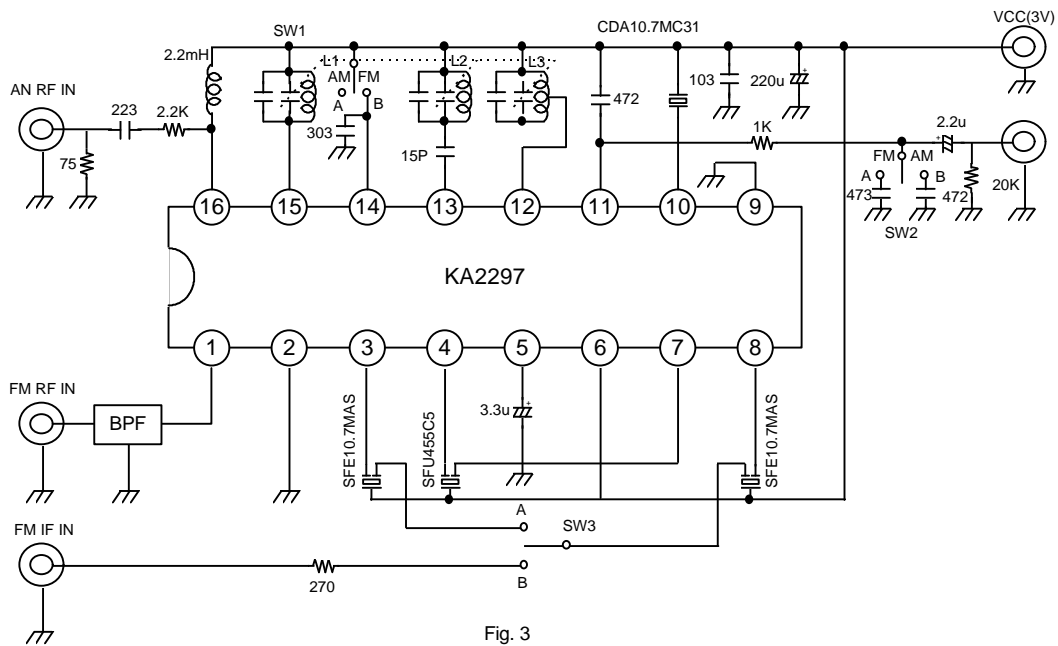
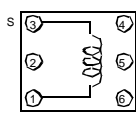
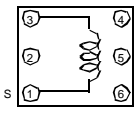
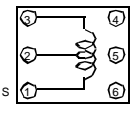


Fig. 3

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## COIL SPEC

SEAL NAME	L1		L2		L3	
URNS	3-1	2 2/8	1-3	2 6/8	1-2	12T
					2-3	73T
WIRE(mmΦ)	0.5 UEW		0.5 UEW		0.08 UEW	
CONNECTION (BOTTOM VIEW)						
FREQUENCY	100MHz		100MHz		79KHz	
TUNNG CAPACITY						
INDUCTANCE					268uH ±8%min	
UNLOADED Q					70min	

## APPLICATION CIRCUIT

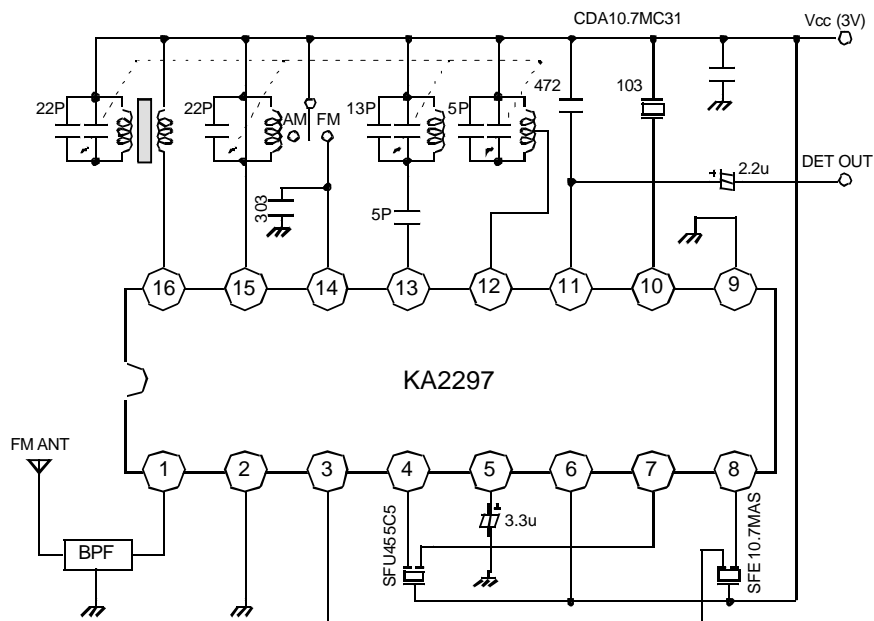


Fig. 4