

AM/FM TUNER

KA2297/D

INTRODUCTION

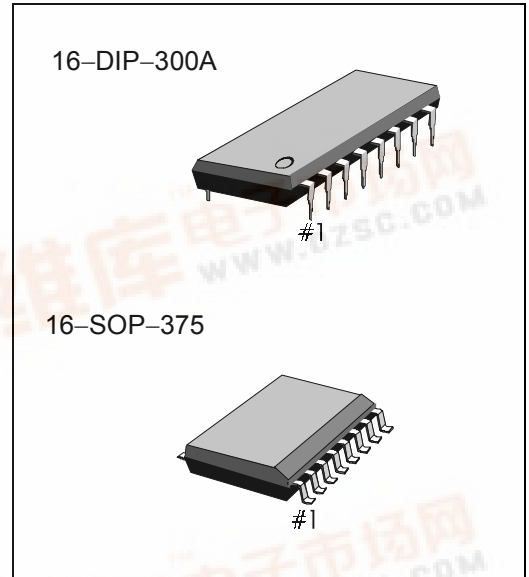
The KA2297/D is a monolithic integrated circuit which consists of an FM F/E + AM/FM IF and DET AMP. The KA2297/D is a no-adjustment AM/FM IF, DET coil.

FEATURES

- Does not need AM/FM IF, FM DET COIL
- 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°C ~ + 75°C
KA2297D	16-SOP-375	



BLOCK DIAGRAM

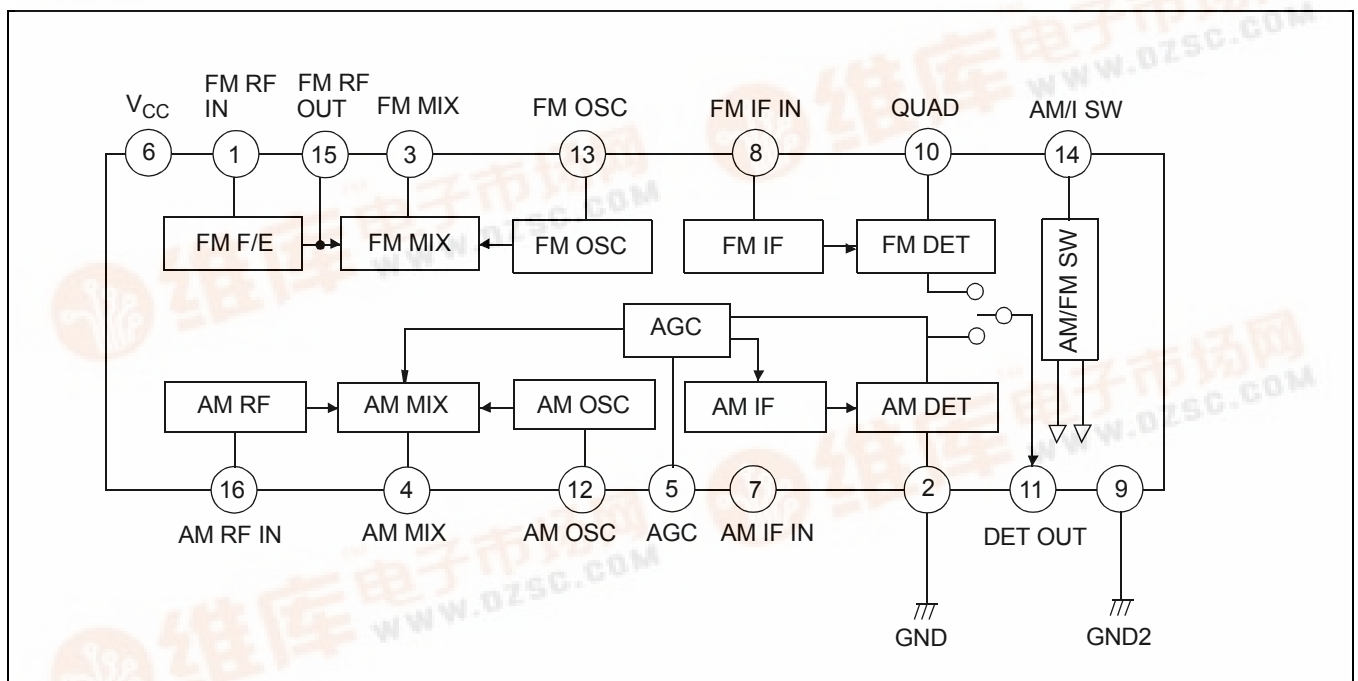


Figure 1.

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

Characteristic	Symbol	Value	Unit
Maximum Supply Voltage	$V_{CC}$	8	V
Power Dissipation	$P_D$	250	mW
Operating Temperature	$T_{OPR}$	-20 ~ +75	°C
Storage Temperature	$T_{STG}$	-55 ~ +125	°C

**ELECTRICAL CHARACTERISTICS**

(FM F/E: f = 98MHz, fm = 1kHz, FM IF: 10.7MHz, AM: f = 1MHz, fm = 1kHz, f = 30%,  $V_{CC} = 3V$ )

Characteristic		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current		$I_{CCQ1}$	FM, $V_I = 0$	6.0	10.0	14.0	mA
		$I_{CCQ2}$	AM, $V_I = 0$	3.0	5.0	8.0	mA
FM F/E	-3dB Limiting	$V_{(LIM)1}$	$V_O = -3dB$ Point	-	12	22	dB $\mu$
FM IF	-3dB Limiting Sensitivity	$V_{(LIM)2}$	$V_O = -3dB$ Point	42	47	52	dB $\mu$
	Detector Output Voltage	$V_{O(DET)1}$	$V_I = 80dB\mu$	55	70	85	mVrms
	Total Harmonic Distortion	THD1	$V_I = 80dB\mu$	-	0.4	1	%
	Signal to Noise Ratio	S/N1	$V_I = 80dB\mu$	56	62	-	dB
	AM Rejection Ratio	AMR	$V_I = 80dB\mu$	32	38	-	dB
AM	Voltage Gain	$G_{V1}$	$V_I = 30dB\mu$	28	50	72	mVrms
	Detector Output Voltage	$V_{O(DET)2}$	$V_I = 60dB\mu$	40	60	82	mVrms
	Total Harmonic Distortion	THD2	$V_I = 60dB\mu$	-	1.0	2.0	%
	Signal to Noise Ratio	S/N2	$V_I = 60dB\mu$	37	43	-	dB

TEST CIRCUIT 1

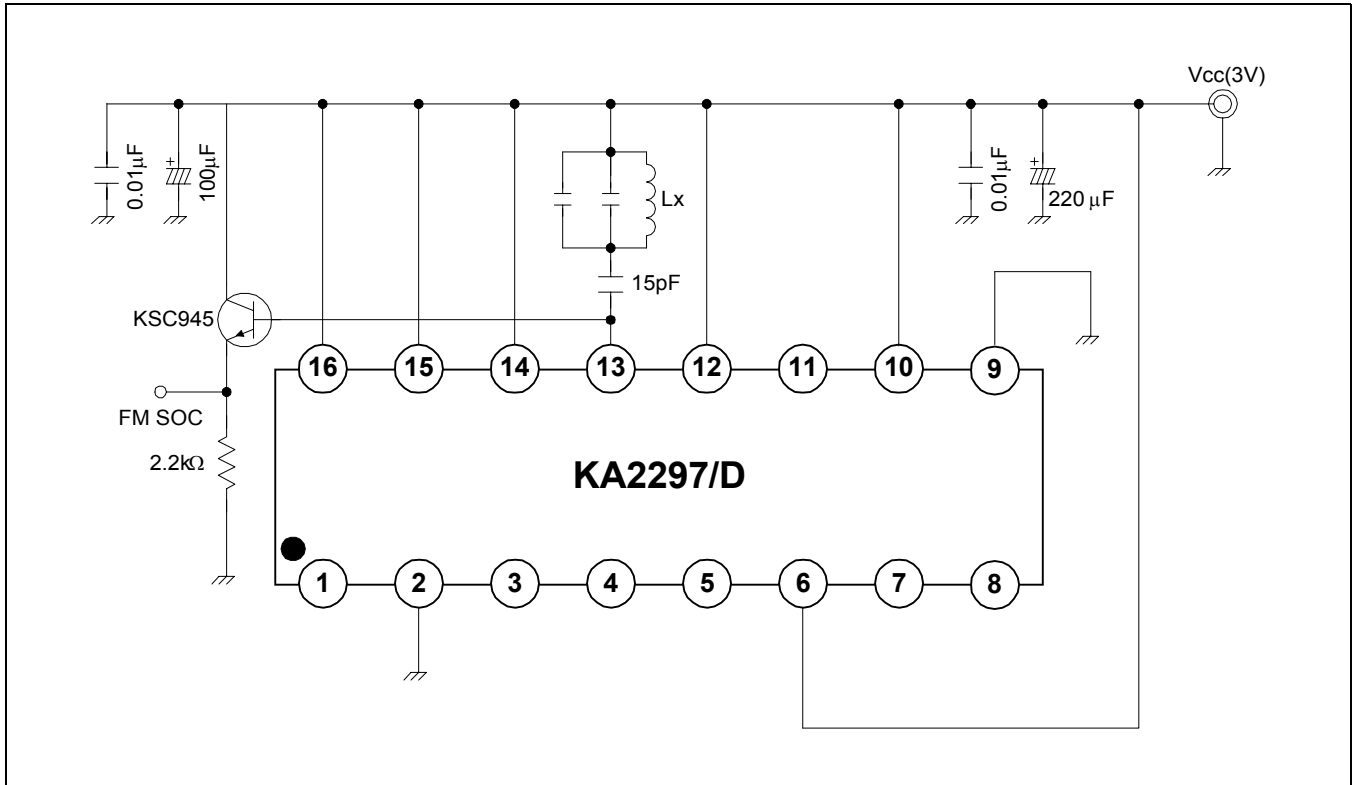


Figure 2.

TEST CIRCUIT 2

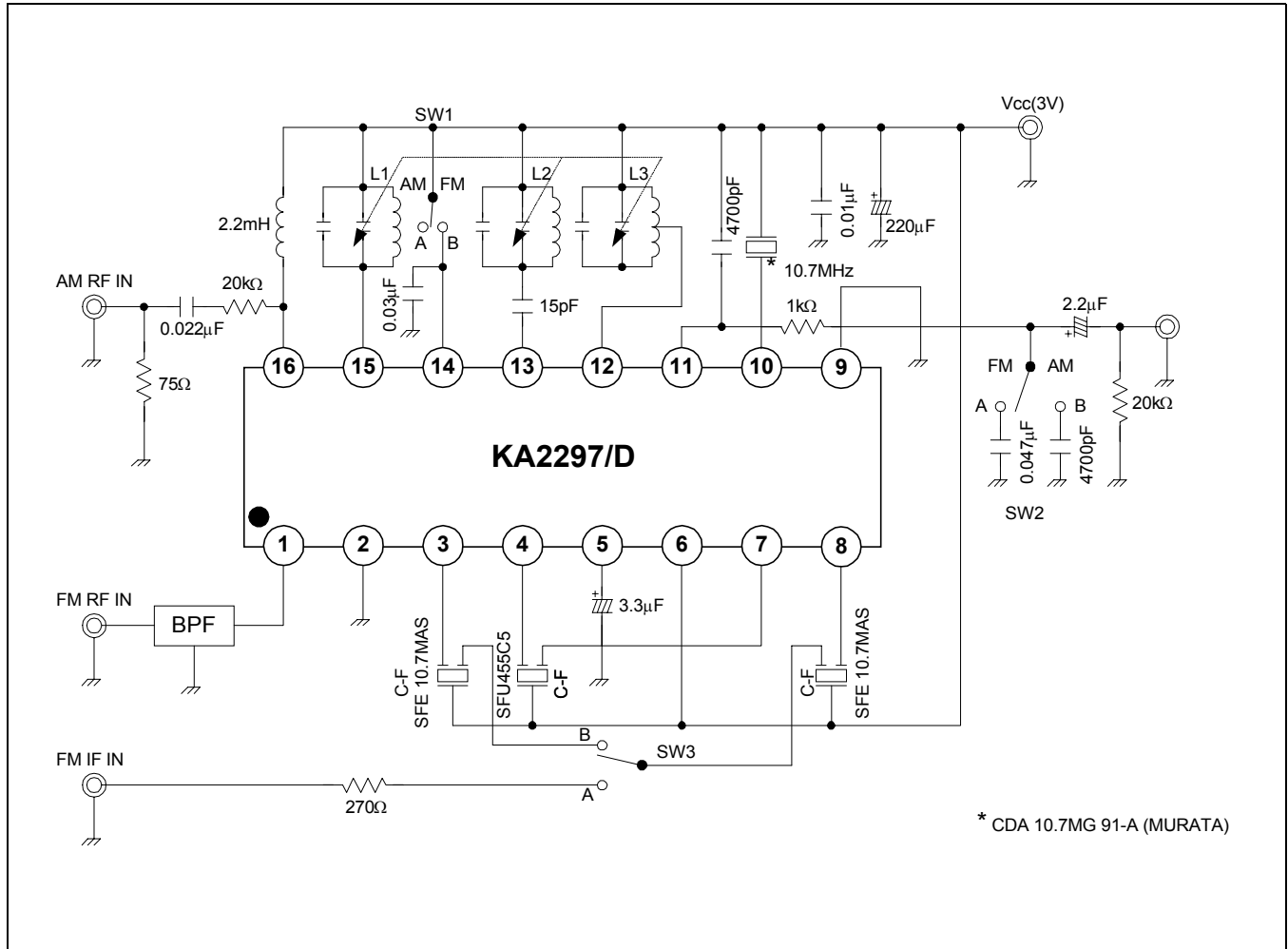


Figure 3.

COIL SPEC

Seal Name	L1		L2		L3	
TURNS	3-1	2 2/8	1-3	2 6/8	1-2	12T
-	-	-	-	-	2-3	73T
WIRE (mm)	0.5 UEW		0.5 UEW		0.08 UEW	
CONNECTION (BOTTOM VIEW) (KOREA TOKO)						
FREQUENCY	100MHz		100MHz		792kHz	
TUNING CAPACITY	-		-		-	
INDUCTANCE	-		-		268uH ± 8%min	
UNLOADED Q	-		-		70min	

Seal Name	L1		L2		L3	
TURNS	3-1	2 2/8	1-3	2 6/8	1-2	12T
-	-	-	-	-	2-3	73T
WIRE (mm)	0.5 UEW		0.5 UEW		0.05 UEW	
CONNECTION (BOTTOM VIEW)						
KWANG SUNG PART NO	KST-FO2		FST-FR2		FSI-AO2	
FREQUENCY	100MHz		100MHz		796kHz	
TUNING CAPACITY	-		-		-	
INDUCTANCE	-		-		268 uH ± 8% min	
UNLOADED Q	-		-		70 min	

APPLICATION CIRCUIT

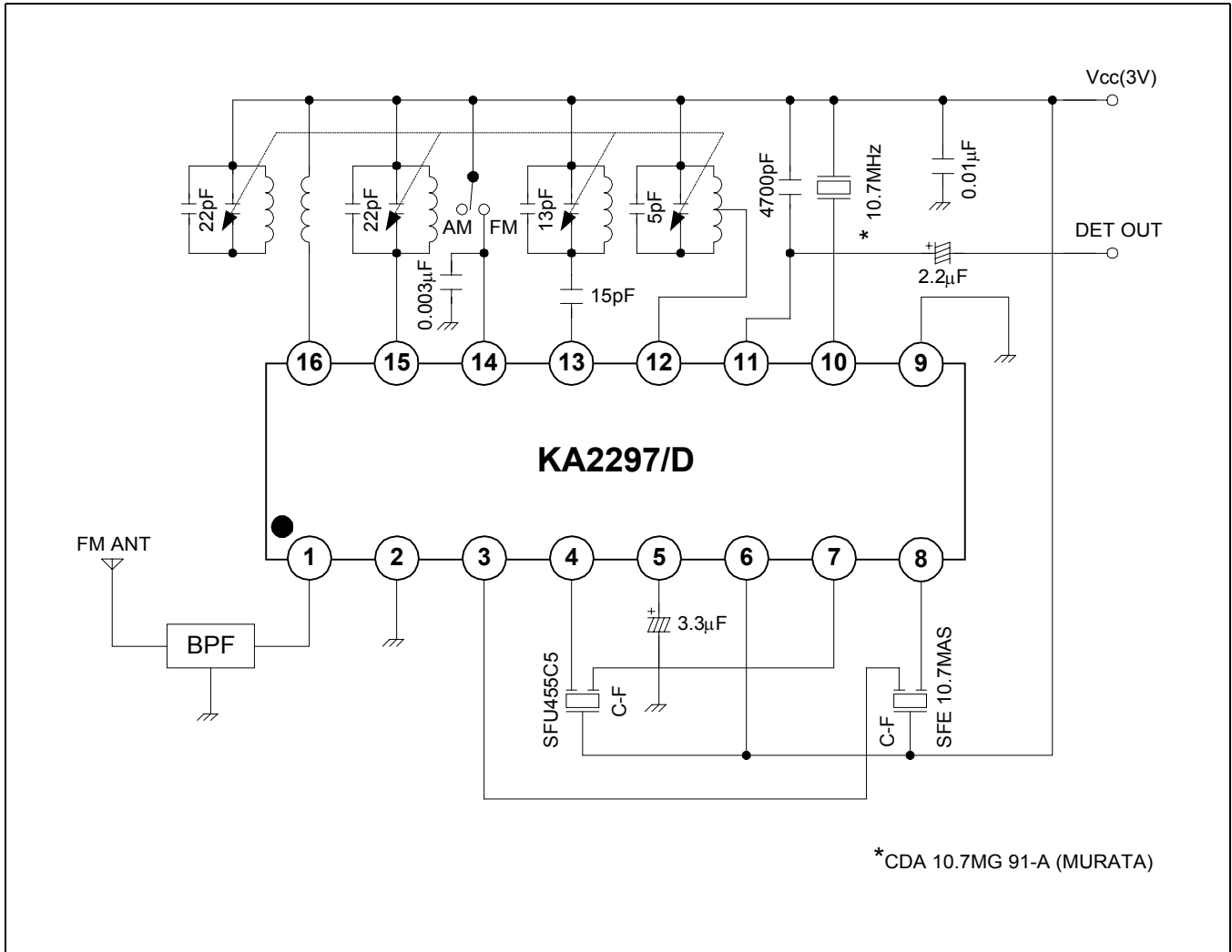


Figure 4.