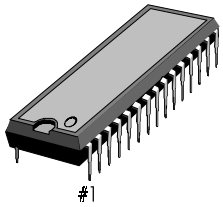
INTRODUCTION

The KA22426 is a monolithic integrated circuit designed for radio-cassette tape recorders, clock radios and headphone radios.

30–SDIP–400



FUNCTIONS

- AM/FM RF AMP
- AM AGC Control
- Audio Power AMP
- DC Volume
- FM Quadrature DET
- Local OSC
- FM AFC Control
- Tuning Indicator
- AM/FM IF AMP
- AM DET

FEATURES

- Built-in AM/FM Switching Circuit
- Wide operating supply voltage: V_{CC} = 2V ~ 8.5V
- Low current consumption (V_{CC} = 3V)
  - — FM: I_{CCQ} = 5.3mA (Typ)
  - — AM: I_{CCQ} = 3.4mA (Typ)
- High Power Audio Amplifier: 0.5W (typ) at V_{CC} = 6V, R_L = 8, THD = 10%

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22426	30–SDIP–400	–20°C ~ +70°C

BLOCK DIAGRAM

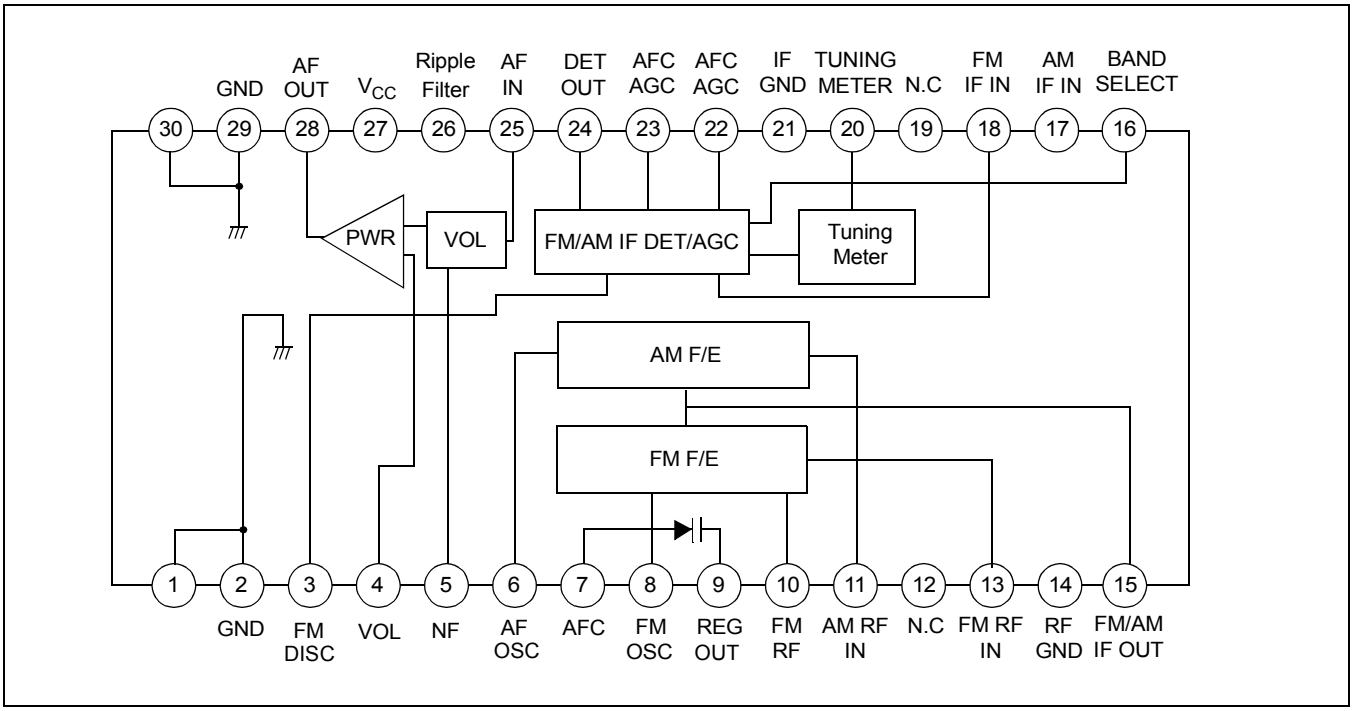


Figure 1.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	9	V
Power Dissipation	P_D	1000	mW
Operating Temperature	T_{OPR}	–20 ~ +70	°C
Storage Temperature	T_{STG}	–40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(V_{CC} = 6V, Ta = 25°C, FM; ∆f = 22.5kHz, fm = 1kHz, AM; 30% Mod, unless otherwise specified)

	Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
FM	Quiescent Circuit Current	I_{CCQ}	V_I = 0	–	7.0	14.0	mA
	F/E Voltage Gain	G_{V1V}	V_I(1) = 40dBμ, f_c = 100MHz, ∆f = 0	32	39	46	dB
	Detect Output Gain	V_O(1)	V_I(3) = 90dBμ, f_i = 10.7MHz	–26	–20	–14	dBm
	IF-3 dB Sensitivity	$V_{I\ (LIM)}$	Vo(VI3) = 90dBμ, -3dB, f_i = 10.7MHz	–	24	32	dBμ
	Total Harmonic Distortion	THD_1	V_I(3) = 90dBμ, f_i = 10.7MHz(∆f = 75kHz)	–	0.3	2.0	%
	Meter Drive Current	I_M (1)	V_I(3) = 60dBμ, f_i = 10.7MHz	1.8	3.5	7.0	mA
AM	Quiescent Circuit Current	I_{CCQ}(2)	V_I = 0	–	3.5	10.0	mA
	F/E Voltage Gain	G_V(2)	V_I(2) = 60dBμ, f_c = 1660kHz, m=0%	15	22	29	dB
	IF Voltage Gain	G_V(3)	Vo(3) = -34dBm, f_i = 455kHz	14	20	27	dBμ
	AM Detect Output Voltage	V_O(2)	V_I(3) = 85dBμ, f_i = 455kHz	–26	–20	–14	dBm
	Total Harmonic Distortion	THD_2	V_I(2) = 95dBμ, f_c= 1660kHz, Vcc = 7.8V	–	0.6	2.0	%
	Meter Drive Current	I_M(2)	V_I(3) = 85dBμ, f_i = 455kHz	1.3	3.0	7.0	mA
AF	Closed Loop Voltage Gain	G_V(4)	Vo(4) = 0dBm, f = 1kHz	27	31.5	36	dB
	Total Harmonic Distortion	THD_3	Po = 50mW, f = 1kHz	–	0.3	2.5	%
	Output Power	P_O	R_L = 8Ω, THD = 10%, f = 1kHz	0.4	0.5	–	W

APPLICATION CIRCUIT

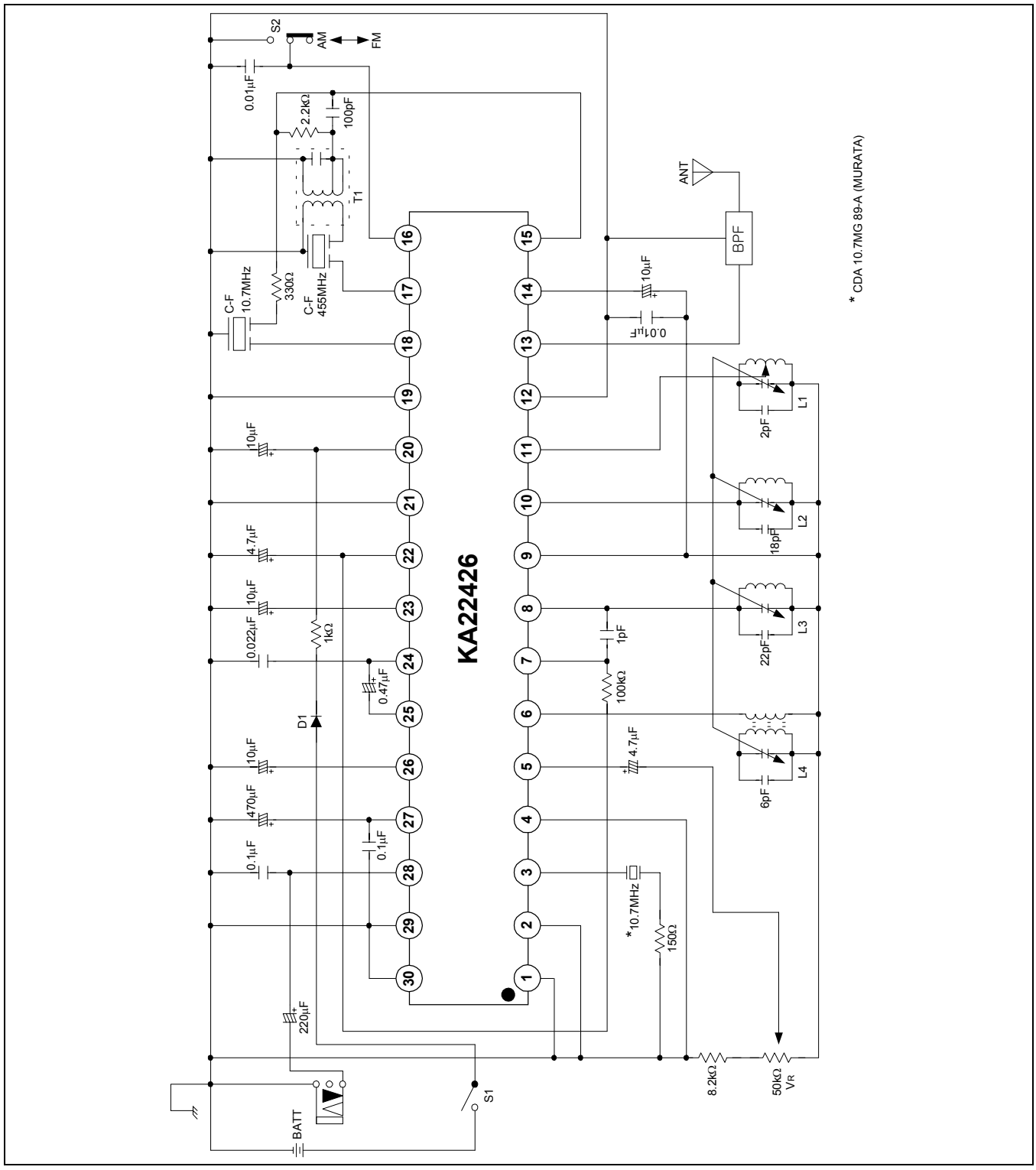


Figure 2.