

FM RECEIVER CIRCUIT FOR BATTERY SUPPLY**—YD9088****DESCRIPTION**

The YD9088 is a bipolar integrated circuit for use in mono portable and pocket radios. It is used when a minimum of peripheral components (of small dimensions and low costs) is important. The circuit contains a frequency-locked-loop (FLL) system with an intermediate Frequency (IF) of about 70kHz. Selectivity is achieved by active RC-filters. De-tuning related to the IF and too weak input signals is suppressed by the mute circuit.

FEATURES

- *Equipped with all stages of a mono receiver from antenna to audio output
- *Mute circuit
- *Search tuning with a single varicap diode
- *Mechanical tuning with integrating AFC
- *AM application supported
- *Power supply polarity protection
- *Power supply voltage down to 1.8V

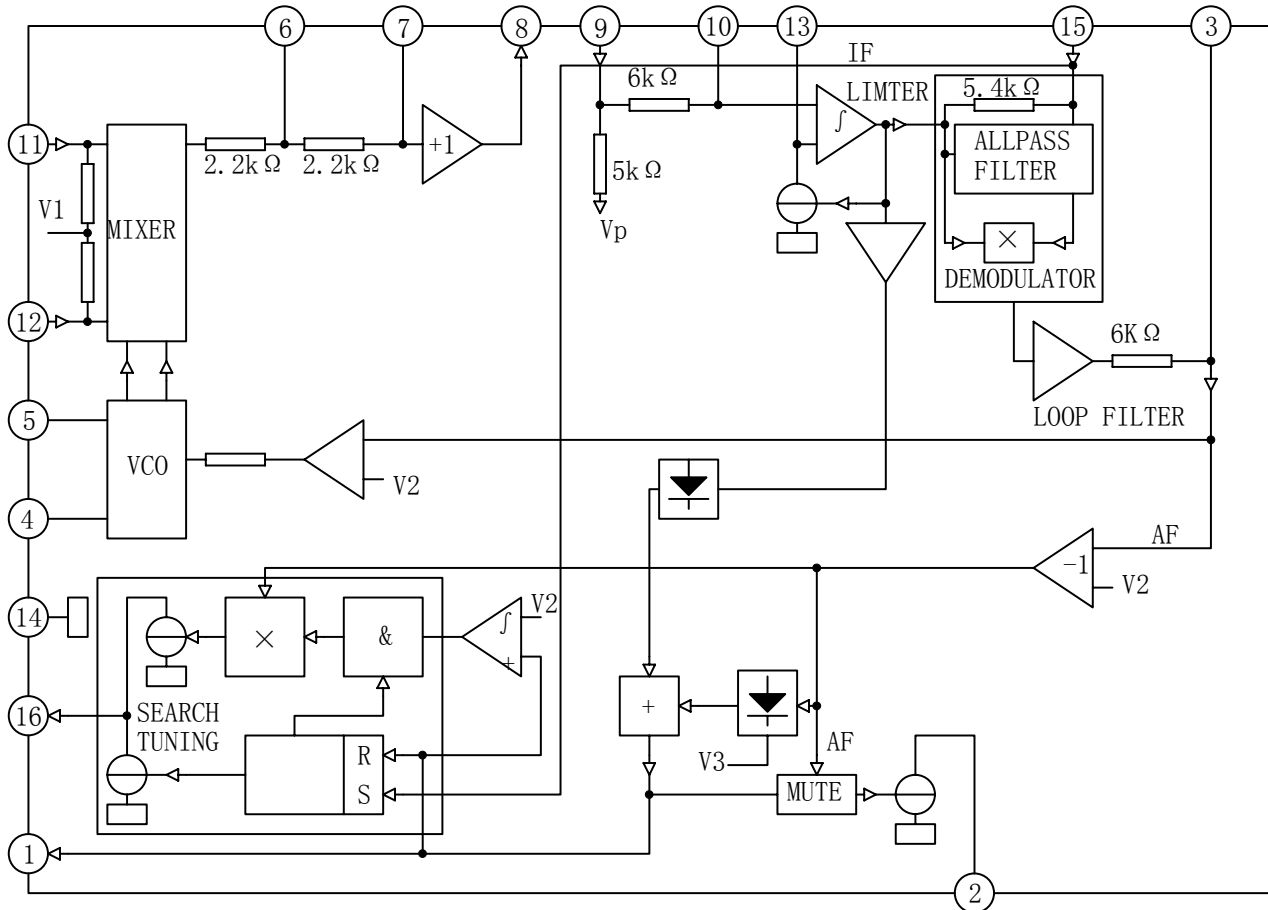
WuXi YouDa Electronics Co., Ltd

Add: No.5 Xijin Road, National Hi-Tech Industrial Development Zone, Wuxi Jiangsu China

Tel: 86-510-85205117 86-510-85205106 Fax: 86-510-85205110 Website: www.e-youda.com

SHENZHEN OFFICE Tel: 86-755-83740369 Fax: 86-755-83741418

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply voltage	Vcc	5	V
Operating temperature	Topr	-10~+70	°C
Storage temperature	Tstg	-55~+150	°C

ELECTRICAL CHARACTERISTICS (V_{cc}=3V, T_{amb}=25°C, Unless otherwise specified)

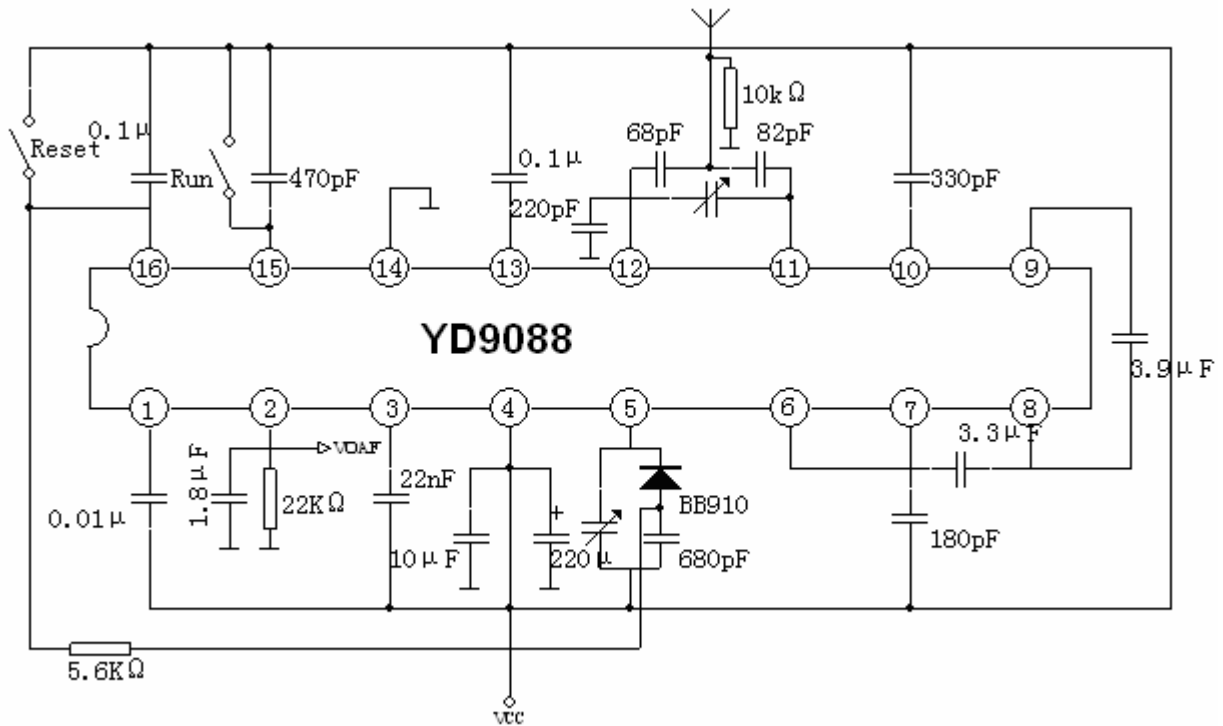
DC CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Supply Voltage	V _p	1.8	3	5	V
Supply Current	I _p	4.2	5.2	6.6	mA
DC Voltage On Pin1	V ₁	2.50	2.55	2.60	V
DC Voltage On Pin3	V ₃	2.64	2.69	2.74	V
DC Voltage On pin6 and Pin7	V _{6,7}	2.38	2.44	2.50	V
DC Voltage On Pin8	V ₈	1.60	1.67	1.74	V
DC Voltage On Pin9, Pin10 and Pin13	V _{9,10,13}	2.42	2.47	2.52	V
DC Voltage On Pin11 and Pin12	V _{11,12}	0.91	0.94	0.98	V
DC Voltage On Pin15	V ₁₅	2.06	2.12	2.18	V
AF Output Vurrent On Pin2	I ₂	45	60	80	μ A
Oscillator Vurrent On Pin5	I ₅	275	375	500	μ A

AC CHARACTERISTICS

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT	
RF Sensitivity Iinput Voltage (RMS value)	V _i (rms)	V _{oAF} =-3dB, V _{oAF} =0dB at V _{in} =1mV	Mute off		3	6	μ V
			Mute on	3	6	12	
		(S+N)/N=26dB			5	10	μ V
Signal Handing		Δ f=±75kHz, THD<10%	100	200		mV	
Signal Plus Noise-to-noiseRatio	(S+N)/N		52	56		dB	
Signal Harmonic Distortion	THD	Δ f=±22.5kHz		1	1.4	%	
		Δ f=±75kHz		2.4	3.3	%	
AM Rejection	AMR	FM:1kHz, ±75kHz AM:1kHz, m=0.8	47	52		dB	
RippleRejection	RR ₁₀₀₀	100mV RMS ripple on V _p , f=1kHz	7	10		dB	
Audio Output Signal	V _o	R _L =22k Ω	60	85	120	mV	
Search Tuning (with BB910 and C ₁₆ =0.1 μ F)							
Minimum Output Voltage On Pin16	V ₁₆	Limiting point		V _P -1.85		V	
Tuning Steepness	Δ V/ Δ t	Voltage at pin16	95	210	420	mV/s	
Oscillator Steepness	Δ fosc/ Δ t		1.25	2.83	5.6	MHz/S	
AFC Steepness	Δ I _{AFC} / Δ V3	Voltage at pin3	4.75	9.5	19	μ S	

APPLICATION CIRCUIT



OUTLINE DRAWING

