INTRODUCTION

The S1A0429A01 is a monolithic integrated circuit designed for Portable FM radios.
It consists of an RF input stage, mixer, IF, mute control and loop (earphone drive) Amp.
It is suitable for a pocket-size radio.
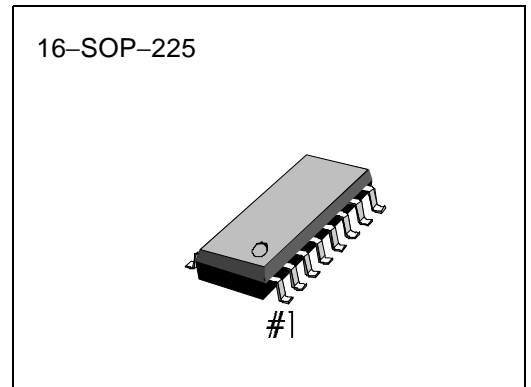
16−SOP−225

#1

FUNCTIONS

- RF input stage
- Mixer
- Mute control
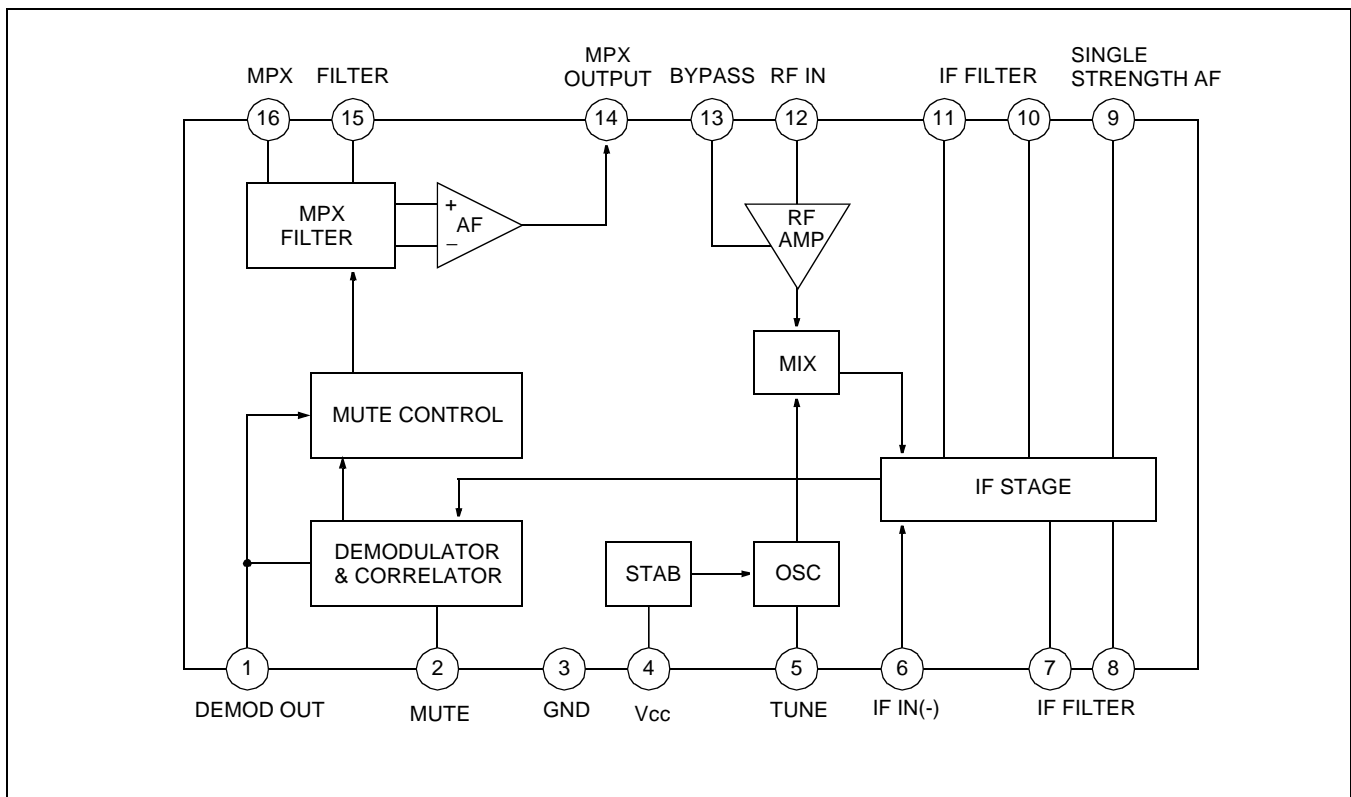- Local OSC
- IF Amp
- Earphone drive amp

FEATURES

- Minimum number of external parts required

- Single trimmer tuning

- No FM det coil

- FLL IF detect system (76kHz)

- Operating voltage: V_{CC} = 1.8V − 6.0V

ORDERING INFORMATION

Device	Package	Operating Temperature
S1A0429A01-S0B0	16−SOP−225	−10°C − + 70°C

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BLOCK DIAGRAM

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	7	V
Oscillator Voltage	V_{OSC}	−0.5 − + 0.5	V
Operating Temperature	T_{OPR}	−10 − + 70	°C
Storage Temperature	T_{STG}	−55 − + 150	°C
Thermal Resistance Junction to Ambient	R_{EJA}	300	K/W

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ELECTRICAL CHARACTERISTICS

MONO CONDITION: f = 98MHz, f_m = 1kHz, Δf = ± 22.5kHz, V = 50dBμ, Ta = 25°C, V_{CC} = 3V

| Characteristic		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current		I_{CCQ}	VI = 0	–	6.3	–	mA
MONO	Sensitivity	S_{VI1} S_{VI2}	−3dB: Mute Disable SIN = 26dB: Mute Enable	– 	12 17	– 	dBμ dBμ
	Signal to Noise Ratio	S/N1	–	–	60	–	dB
	Total Harmonic Distortion	THD1 THD2	Δf = ± 22.5kHz Δf = ± 75kHz	– 	0.7 2.3	– 	% %
	AM Rejection Ratio	AMR	AM: fm = 1kHz, m = 80% FM: fm = 1kHz, Δf = 75kHz	–	50	–	dB
	Oscillator Voltage	V_{OSC}	–	–	250	–	mV
	AFC Range	ΔAFC	–	–	160	–	kHz
	Mute Range	MR	–	–	120	–	kHz
	Band Width	BW	ΔVO = 3dB Pre-Emphasis t = 5kHz	–	10	–	kHz
	AF Output Voltage	V_{O1}	–	–	90	–	mV

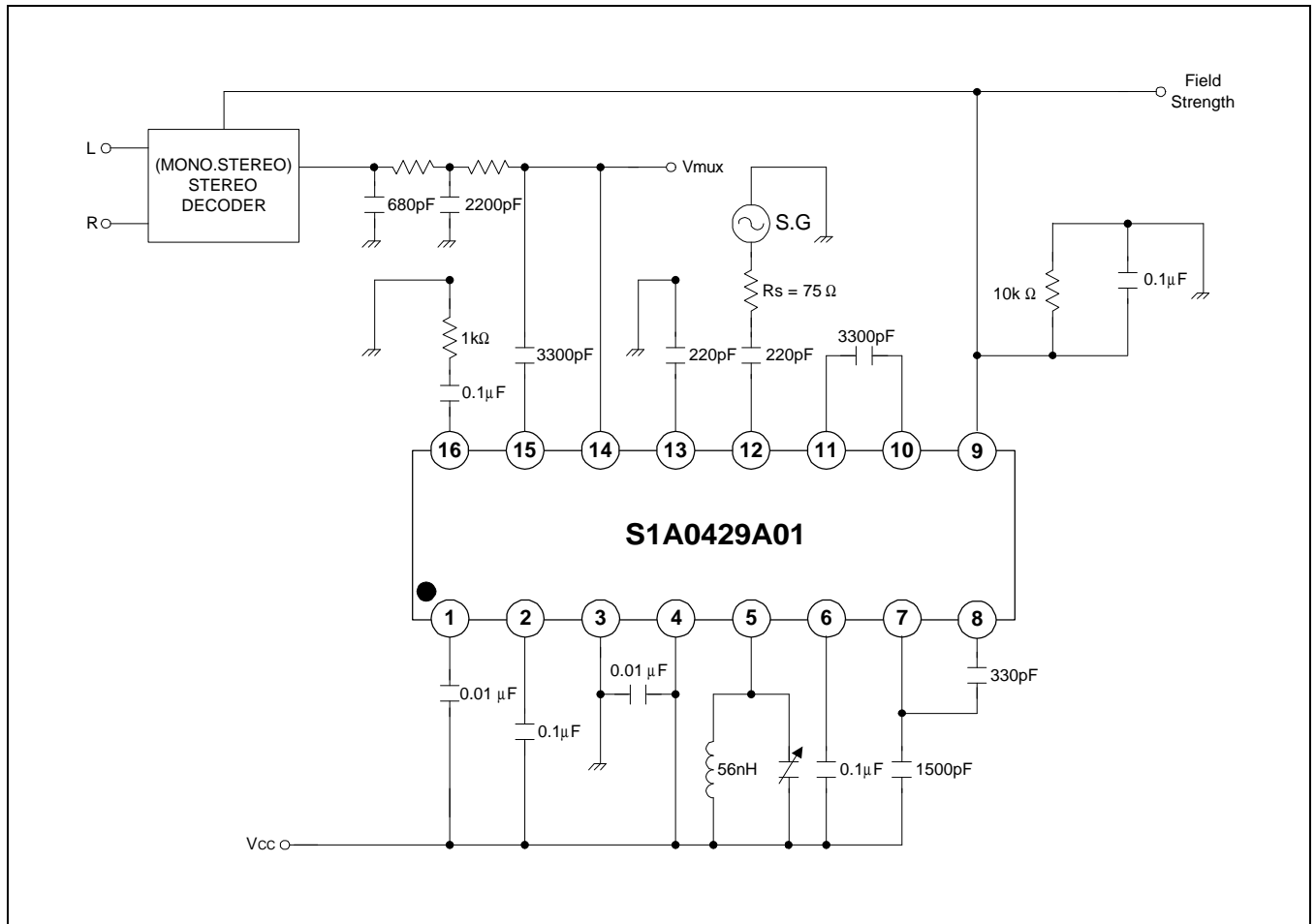## TEST CIRCUIT
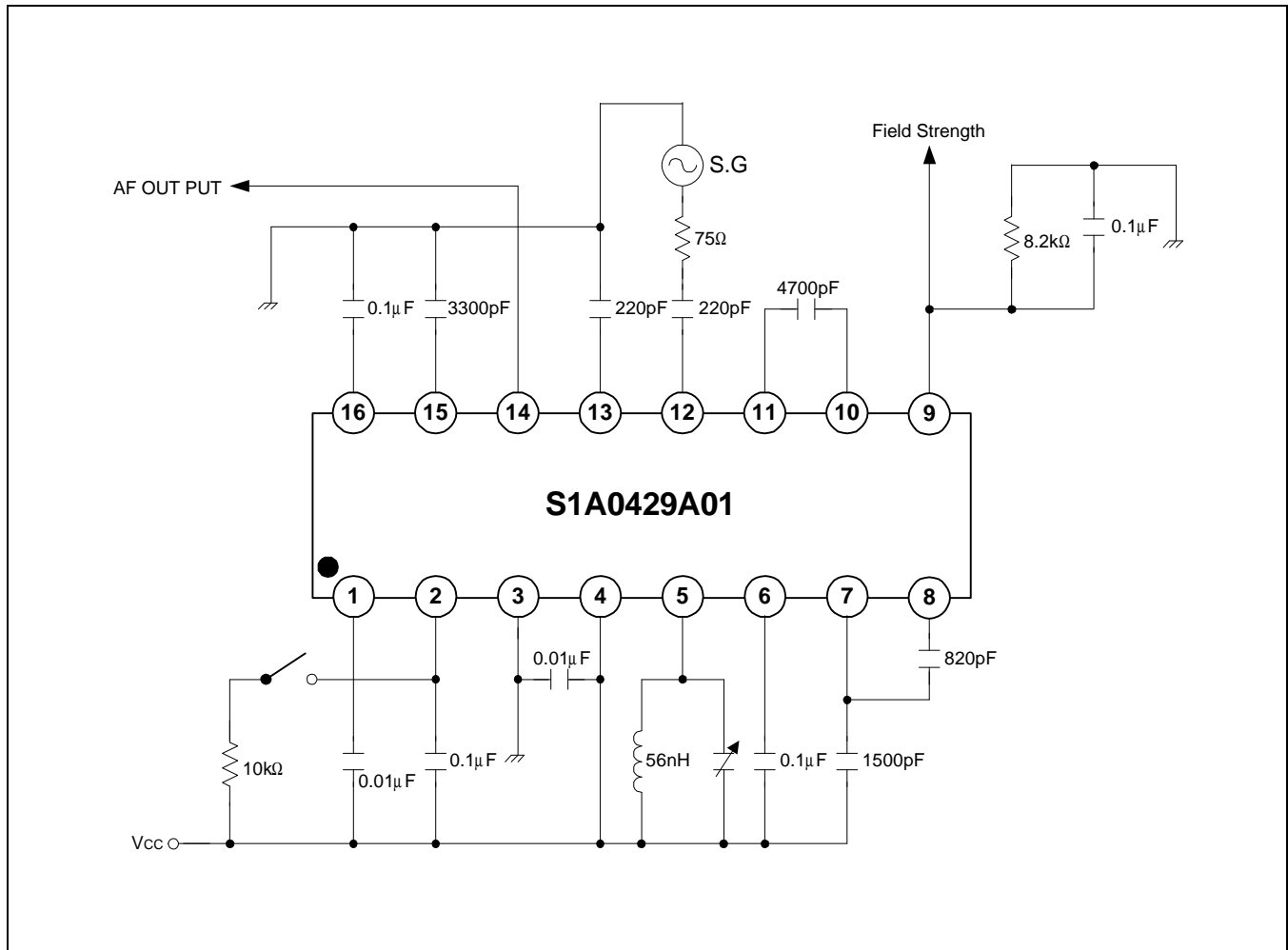
Figure 1. Test Circuit for Mono Operation

Figure 2. Test Circuit for Stereo Operation

APPLICATION CIRCUIT

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