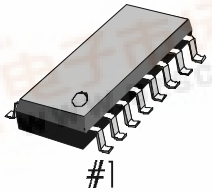
INTRODUCTION

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



FUNCTIONS

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

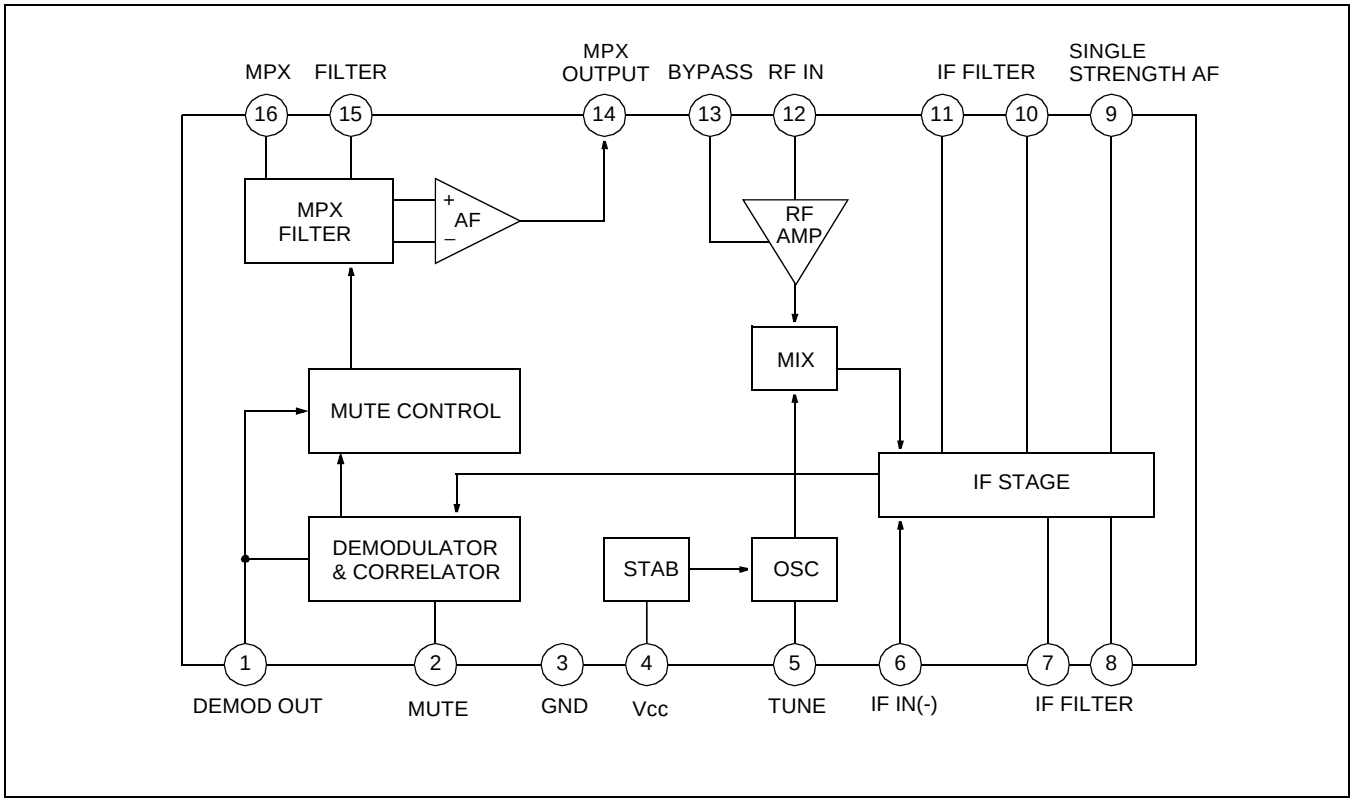
FEATURES

- 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

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

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

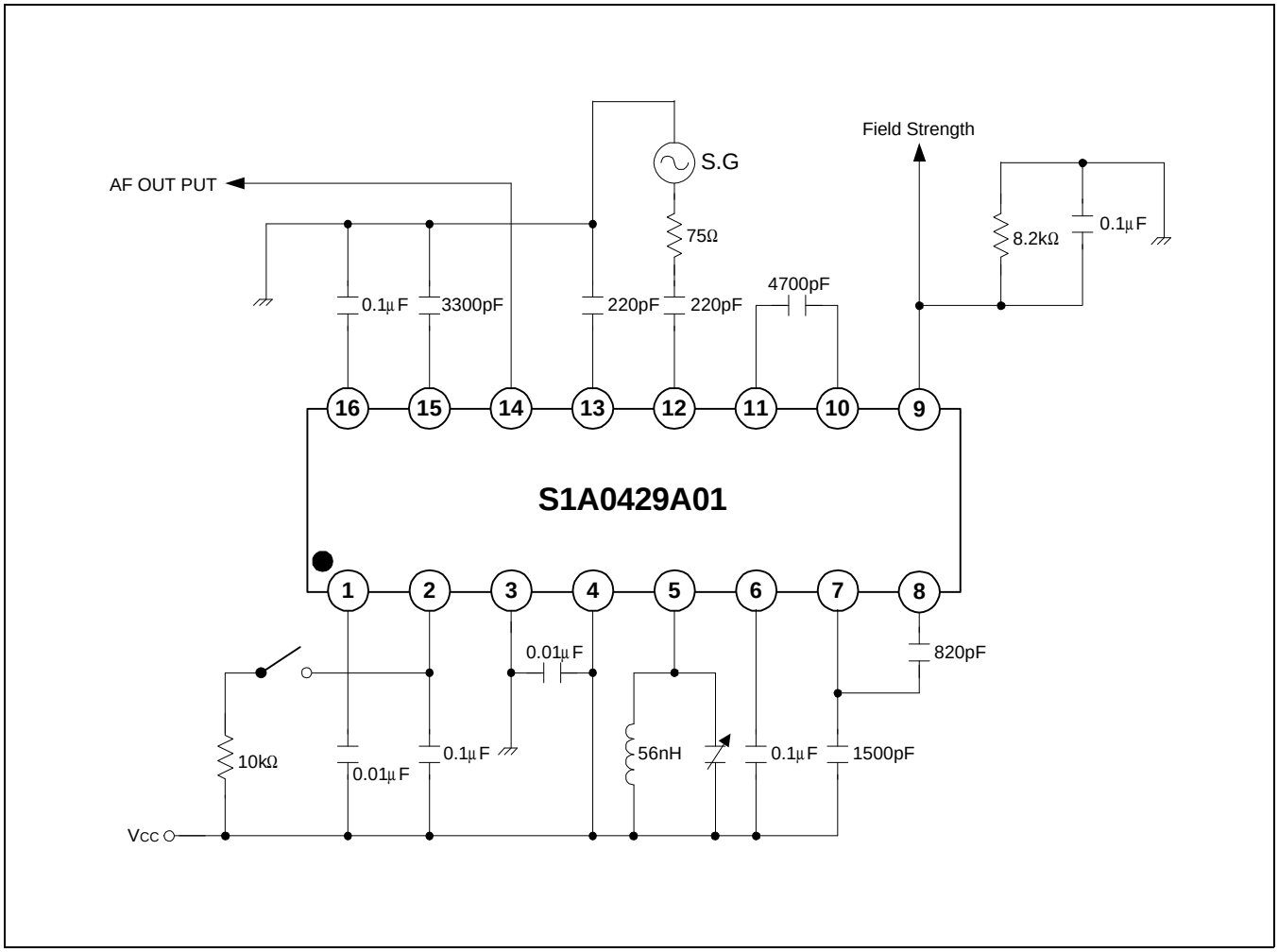


Figure 1. Test Circuit for Mono Operation

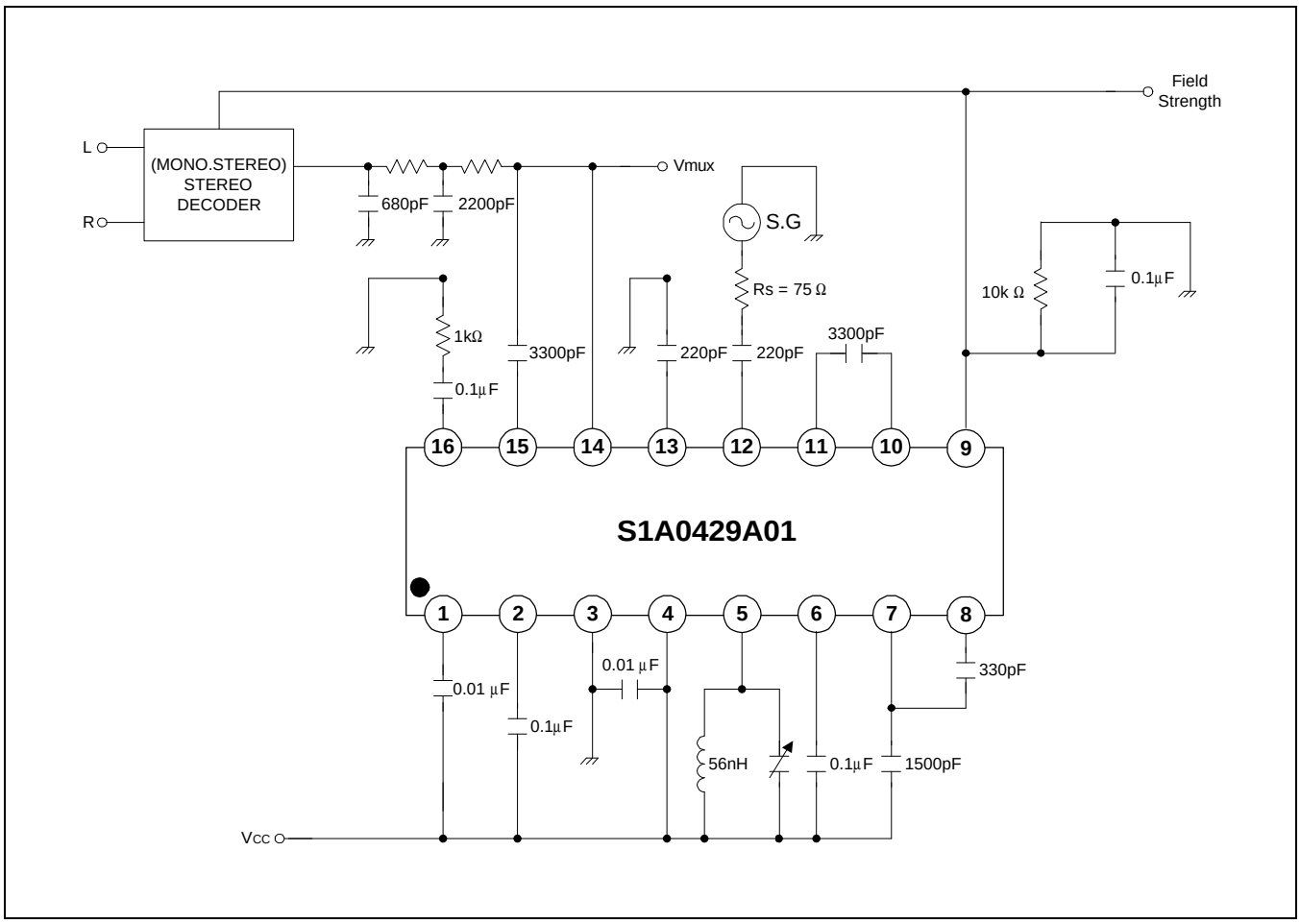


Figure 2. Test Circuit for Stereo Operation

APPLICATION CIRCUIT