

# DATA SHEET

Part No.	AN18202A
Package Code No.	LQFP048-P-0707A

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# AN18202A

## Audio Video SW for TV with multi-signal input output

### ■ Overview

AN18202A is all-in-one IC for a radio of home-audio use.

As for FM portion, FM MIX to FM MPX are integrated. As for AM portion, AM-RF to AM detector are integrated.

FM/AM PLL synthesizer with pre-scale function is also integrated.

Therefore, AN18202A can achieve the most function of radio.

### ■ Features

- AM RF + MIX + L-OSC, FM MIX + L-OSC, FM/AM IF + DET, FM-MPX, PLL
- I<sup>2</sup>C-bus control
- 19 kHz pilot cancel + Anti-birdy noise function
- FM detector coil less
- Separation adjustment free

### ■ Applications

- For tuner, radio

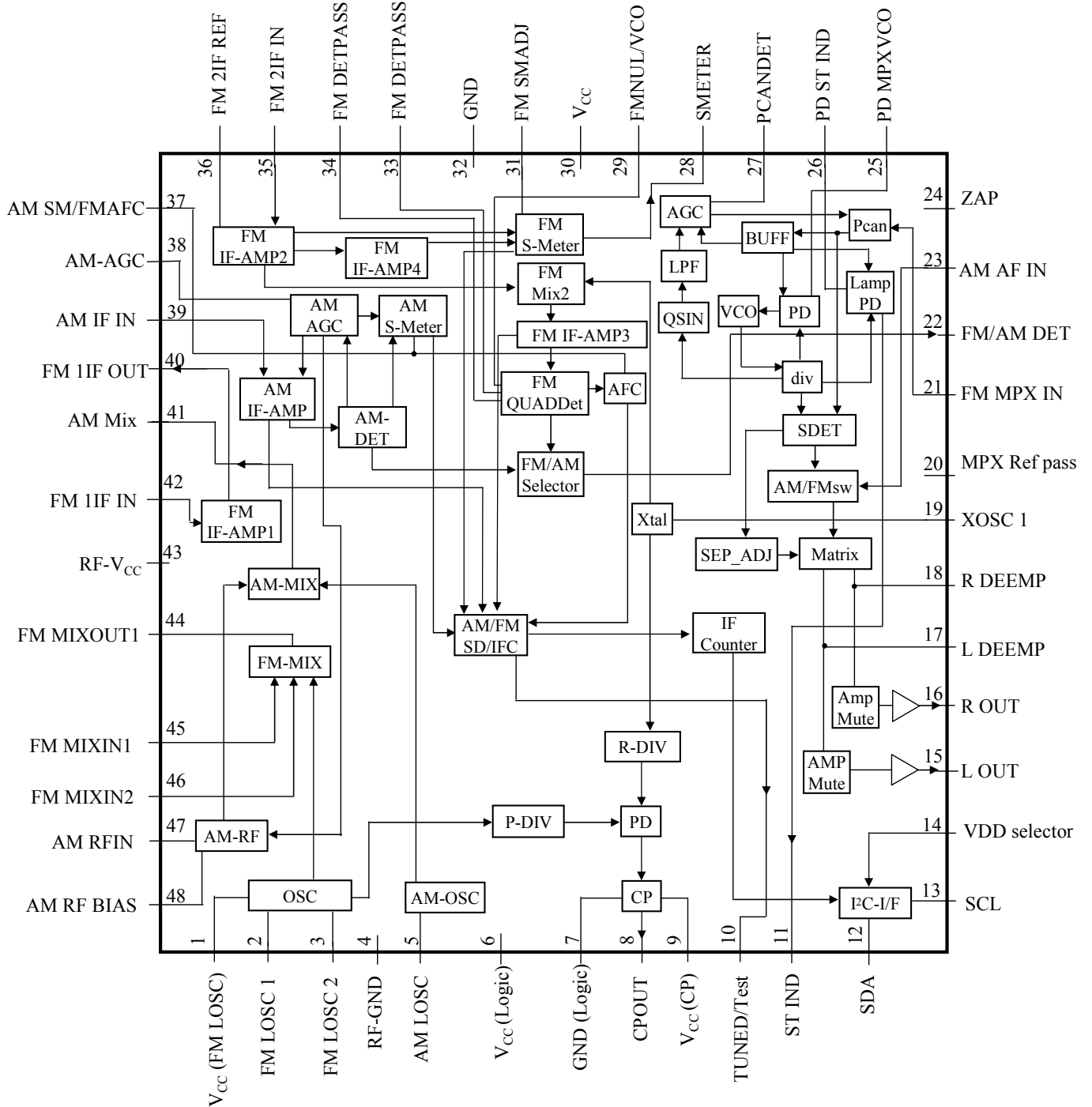
### ■ Package

- 4-direction 48-pin plastic package (QFP type)

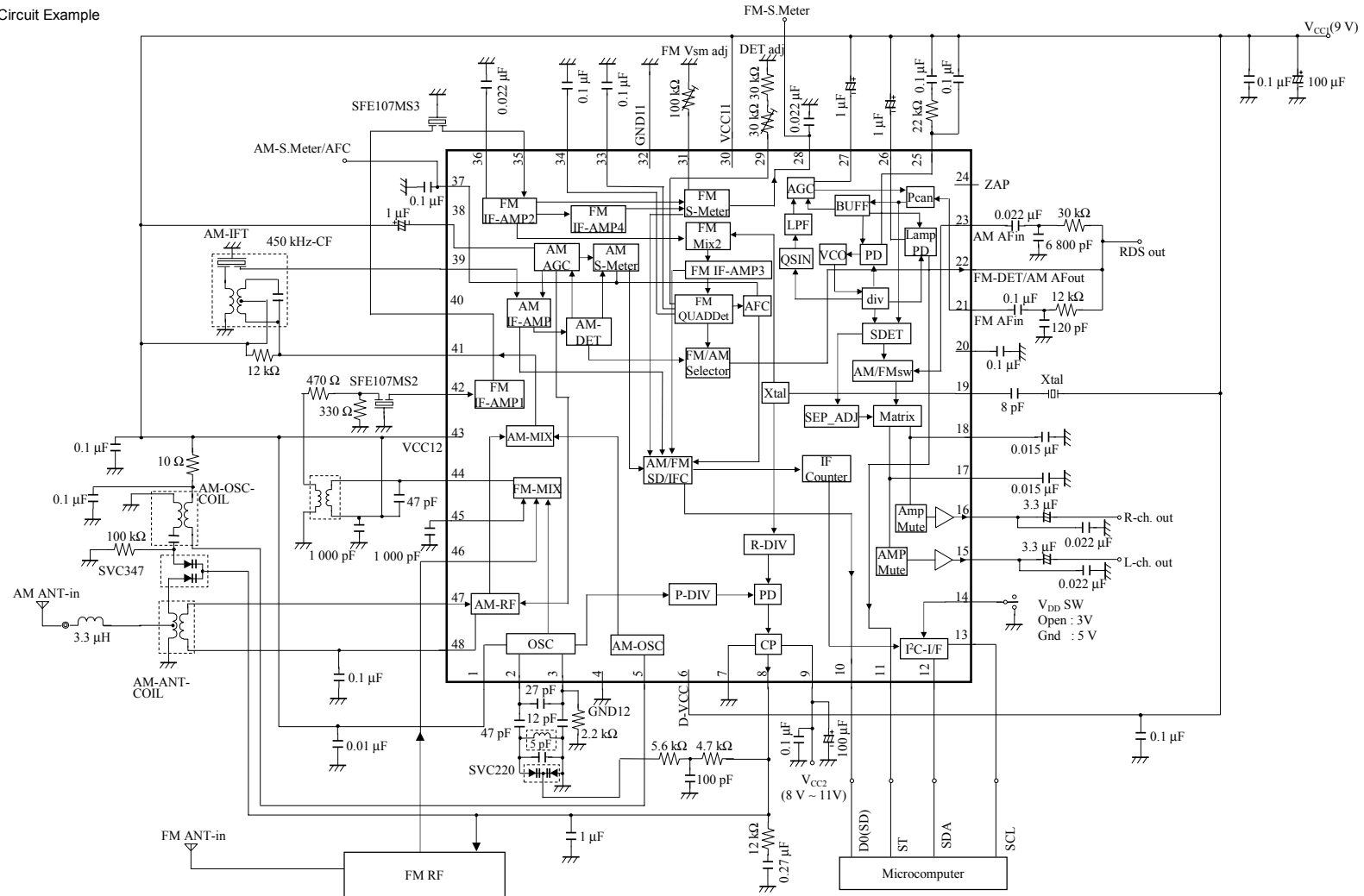
### ■ Type

- Silicon monolithic bipolar IC

■ Block Diagram



■ Application Circuit Example



### ■ Pin Descriptions

Pin No.	Pin name	Type	Description
1	V <sub>CC</sub> (FM LOSC)	INPUT	V <sub>CC</sub> for FM local oscillator
2	FM LOSC 1	INPUT	FM local oscillator load 1
3	FM LOSC 2	OUTPUT	FM local oscillator load 2
4	RF-GND	INPUT	RF-GND
5	AM LOSC	INPUT/OUTPUT	AM local oscillator load
6	V <sub>CC</sub> (Logic)	INPUT	Logic-V <sub>CC</sub>
7	GND (Logic)	INPUT	Logic-GND
8	CPOUT	OUTPUT	Charge pump output
9	V <sub>CC</sub> (CP)	INPUT	Charge pump-V <sub>CC</sub>
10	TUNED/Test	OUTPUT	TUNED / Test monitor output
11	ST IND	OUTPUT	Stereo indicator
12	SDA	INPUT/OUTPUT	Serial data inout (SDA)
13	SCL	INPUT	Serial clock input (SCL)
14	VDD selector	INPUT	V <sub>DD</sub> selector
15	L OUT	OUTPUT	L-ch. amp output (Z <sub>o</sub> = about 200 Ω)
16	R OUT	OUTPUT	R-ch. amp output (Z <sub>o</sub> = about 200 Ω)
17	L DEEMP	OUTPUT	L-ch. de-emphasis (external capacitor 0.015 μF = 50 μs)
18	R DEEMP	OUTPUT	R-ch. de-emphasis (external capacitor 0.015 μF = 50 μs)
19	XOSC 1	INPUT	Crystal oscillator
20	MPX Ref pass	INPUT/OUTPUT	MPX reference bypass
21	FM MPX IN	INPUT	FM MPX input
22	FM/AM DET	OUTPUT	FM/AM detector output
23	AM AF IN	INPUT	AM AF input
24	ZAP	INPUT	ZAP (Must be open)
25	PD MPXVCO	INPUT/OUTPUT	Phase detector for MPX-VCO
26	PD ST IND	INPUT/OUTPUT	Phase detector for ST IND
27	PCANDET	INPUT/OUTPUT	Level detector for MPX pilot canceller
28	SMETER	INPUT/OUTPUT	FM signal meter
29	FMNUL/VCO	INPUT/OUTPUT	MPX-VCO frequency adjustment/FM detector adjustment
30	V <sub>CC</sub>	INPUT	V <sub>CC</sub>
31	FM SMADJ	INPUT/OUTPUT	FM signal meter adjustment
32	GND	INPUT	GND

## ■ Pin Descriptions (continued)

Pin No.	Pin name	Type	Description
33	FM DETPASS 1	INPUT/OUTPUT	FM detector bypass 1
34	FM DETPASS 2	INPUT/OUTPUT	FM detector bypass 2
35	FM 2IF IN	INPUT	FM 2nd IF amp input
36	FM 2IF REF	INPUT/OUTPUT	FM 2nd IF reference voltage
37	AM SM/FMAFC	INPUT/OUTPUT	AM signal meter / FM-AFC
38	AM-AGC	INPUT/OUTPUT	AM-AGC level detector
39	AM IF IN	INPUT	AM IF amp input
40	FM 1st IF OUT	OUTPUT	FM 1st IF amp output
41	AM Mix	OUTPUT	AM Mix output
42	FM 1IF IN	INPUT	FM 1st IF amp input
43	RF-V <sub>CC</sub>	INPUT	RF-V <sub>CC</sub>
44	FM MIXOUT1	OUTPUT	FM Mix output 1
45	FM MIXIN1	INPUT	FM Mix input 1
46	FM MIXIN2	INPUT	FM Mix input 2
47	AM RFIN	INPUT	AM RF input
48	AM RF BIAS	INPUT/OUTPUT	AM RF bias

### ■ Absolute Maximum Ratings

A No.	Parameter	Symbol	Rating	Unit	Note
1	Supply voltage	$V_{CC1}$	10.1	V	*1
		$V_{CC2}$	11.1		
2	Supply current	$I_{CC}$	62	mA	—
3	Power dissipation	$P_D$	294	mW	*2
4	Operating ambient temperature	$T_{opr}$	-20 to +85	°C	*3
5	Storage temperature	$T_{stg}$	-55 to +150	°C	*3

Note) \*1: The values are under the condition not exceeding the above absolute maximum ratings and the power dissipation.

\*2: The power dissipation is the value of a discrete IC package without a heat sink at  $T_a = 85^\circ\text{C}$ .

\*3: Except for the power dissipation, operating ambient temperature, and storage temperature, all ratings are at  $T_a = 25^\circ\text{C}$ .

### ■ Operating Supply Voltage Range

Parameter	Symbol	Range	Unit	Note
Supply voltage range	$V_{CC1}$	8.0 to 10.0	V	*
	$V_{CC2}$	8.0 to 11.0		

Note) \*: The values are under the condition not exceeding the above absolute maximum ratings and the power dissipation.



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