

# DATA SHEET

Part No.	<b>AN5833SA</b>
Package Code No.	SSOP 024 - P - 0300E

SEMICONDUCTOR COMPANY  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

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# AN5833SA

## Silicon Monolithic Bipolar IC

### ■ Features

- Supports both I<sup>2</sup>C bus and parallel control
- Integrated SIF demodulation
- Fully adjustment - free ( when used with SIF input )  
2 adjustment points when used with baseband input
- Integrated voice AGC circuit
- Reduced peripheral component count
- Low power consumption ( typ.  $V_{CC} = 5\text{ V}$ ,  $I_{TOT} = 28\text{ mA}$  )
- Near pin to pin compatible with AN5832SA ( US TV audio multiplex demodulation IC )

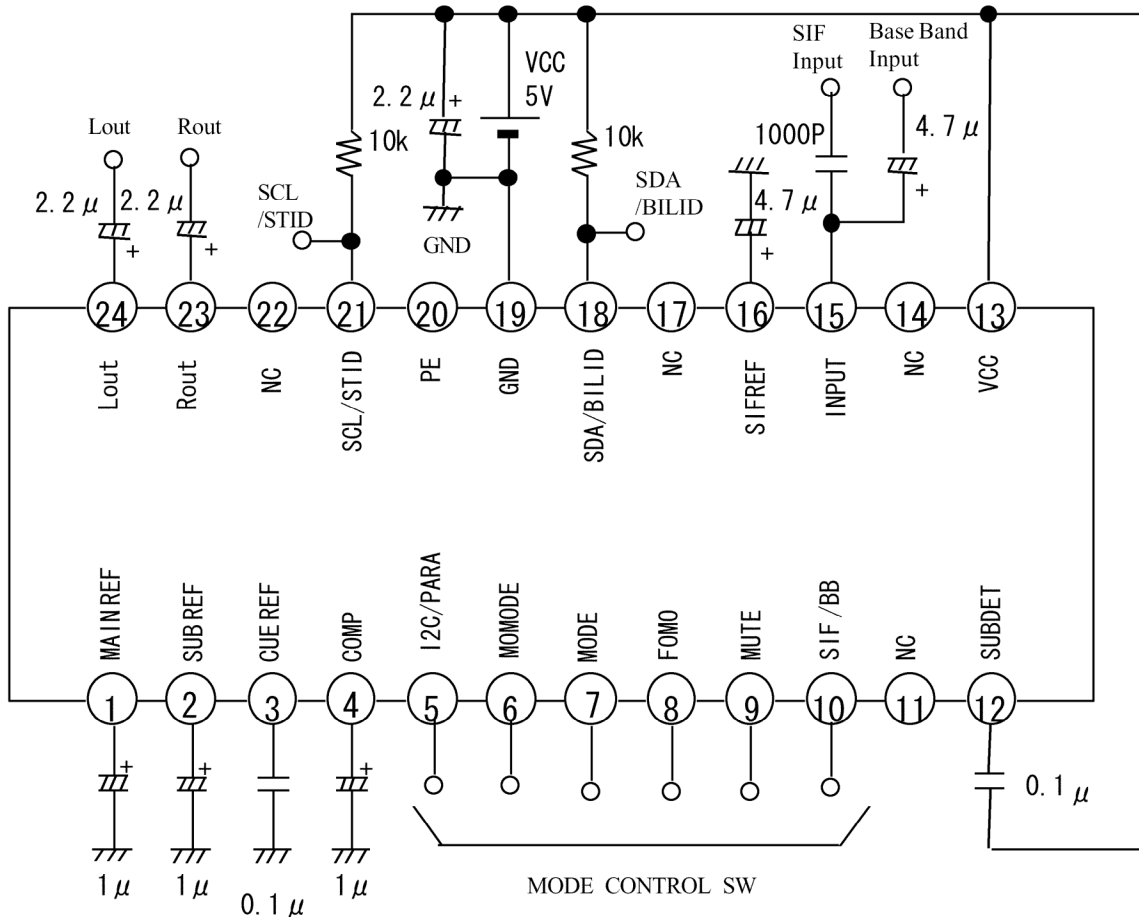
### ■ Applications

- TV sets, VCRs, DVD recorders, PCs, car navigation systems, and similar products for Japanese market

### ■ Package

- DIL-24PIN Plastic Package (SO Type)

### ■ Application Circuit

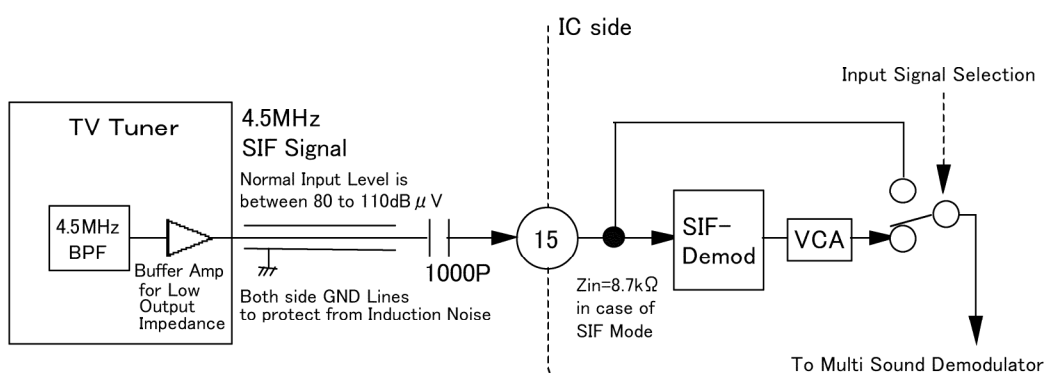


#### < Instructions of Application Circuits >

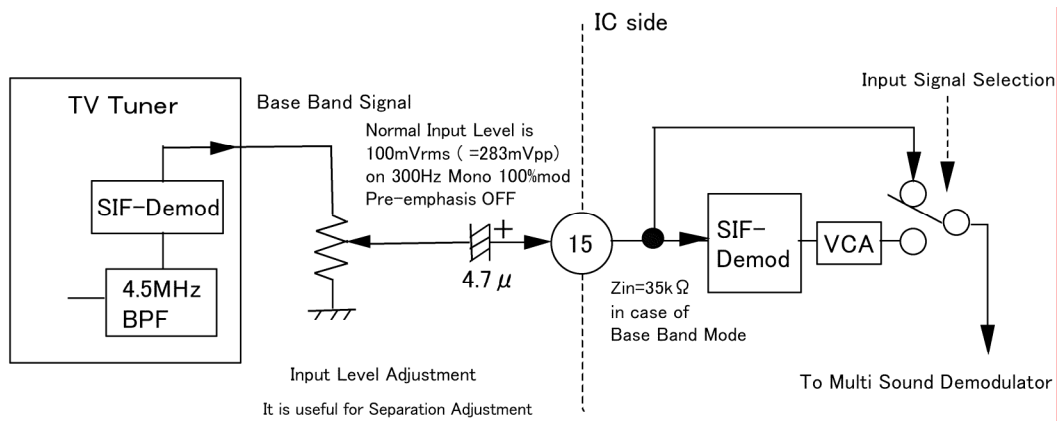
- 1) In case of using base band input, ICs were adjusted to perform good separation when input level is matched with 100 mV[rms] (= 283 mV[p-p]) on condition of mono 100% mod pre-emphasis OFF. However, if good enough separation can't be taken in the cause of un-matching frequency characteristic and so in input signal, it can adjust separation by the input volume.
- 2) In case of using SIF input, please set up the SIF input level from tuners between 80 dB $\mu$ V to 110 dB $\mu$ V in standard RF input conditions. Please select SIF - BPFs that group delay of 4.5 MHz  $\pm$ 42 kHz is flat as possible. And also its gain band width is wide enough to don't loss the CUE signal that locate at 4.5 MHz  $\pm$ 55 kHz.
- 3) About the characteristic of tuners, Please take the demodulation linearity to be over 250% to don't reduce the sub carrier when the over-modulation occur in high frequency sound by pre-emphasis is.
- 4) In measuring characteristics of separation, please use the stereo modulator that perform good characteristic on encoder and corrected well.  
In case of using SIF input, please correct FM modulation band to  $\pm$ 25 kHz exactly at mono 100% mod pre-emphasis OFF with the 0 carrier method.  
And, please use LPFs that reduce 30 kHz signal over 20 dB setting between line-outs and AB level meter

■ Application Circuit ( continued )

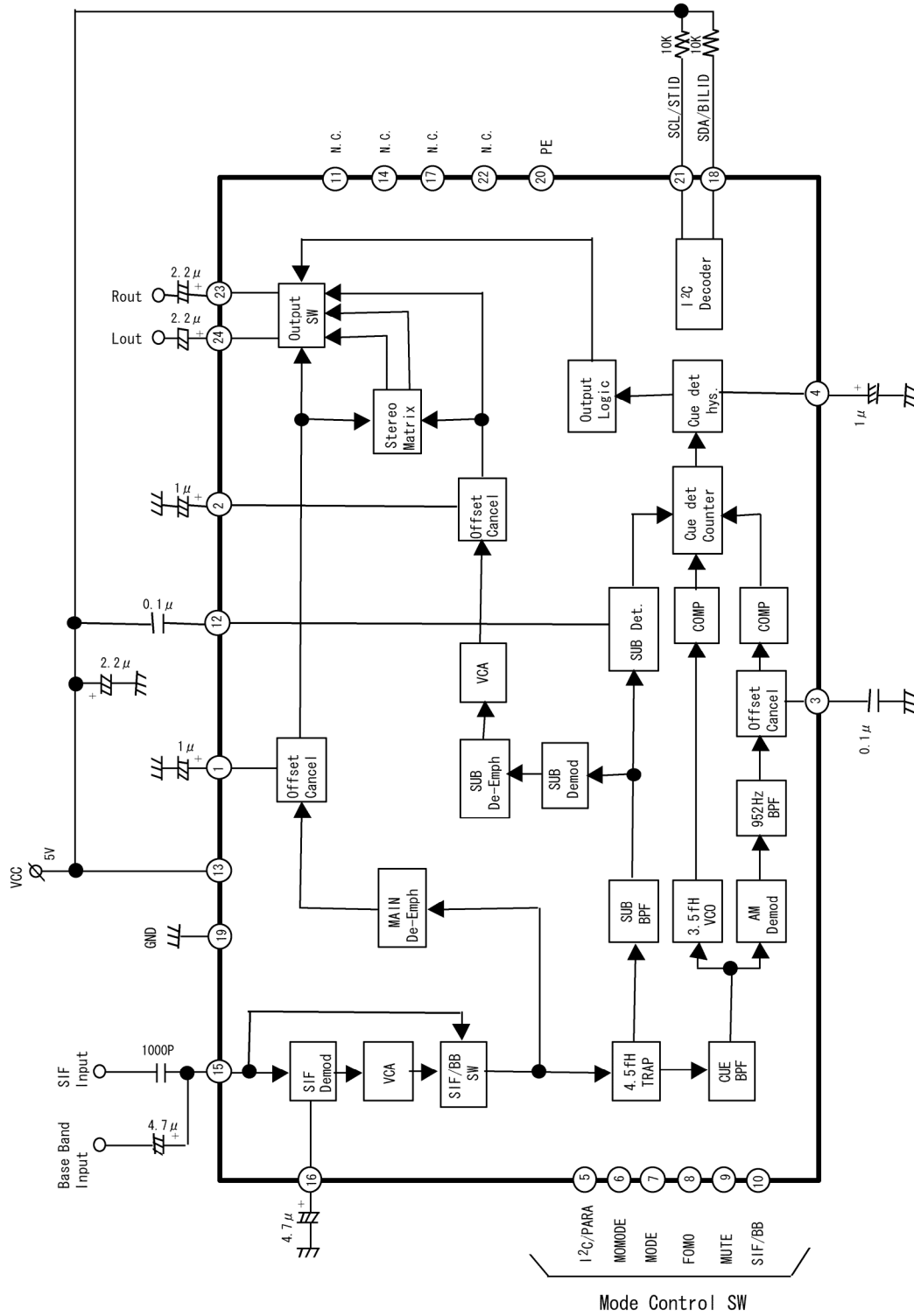
( 1 ) Example of No Adjustments Application Circuits in case of SIF Input



( 2 ) Example of No Adjustments Application Circuits in case of Base Band Input



■ Block Diagram



■ Pin Descriptions

Pin No.	Function
1	MAIN REF
2	SUB REF
3	CUE DET
4	COMP
5	I <sup>2</sup> C / Parallel SW
6	MOMODE SW
7	MODE SW
8	Force monaural SW
9	Mute SW
10	SIF / Base band SW
11	N. C.
12	SUB DET
13	V <sub>CC</sub>
14	N. C.
15	Input
16	SIF REF
17	N. C.
18	SDA / BILID
19	Ground
20	PE
21	SCL / STID
22	N. C.
23	Right - channel output
24	Left - channel output

### ■ Absolute Maximum Ratings

No.	Parameter	Symbol	Rating	Unit	Note
1	Storage temperature	$T_{stg}$	-55 to +125	°C	*1
2	Operating ambient temperature	$T_{opr}$	-20 to +85	°C	*1
3	Operating ambient atmospheric pressure	$P_{opr}$	$1.013 \times 10^5 \pm 0.61 \times 10^5$	Pa	
4	Operating constant gravity	$G_{opr}$	9 810	m/s <sup>2</sup>	
5	Operating shock	$S_{opr}$	4 900	m/s <sup>2</sup>	
6	Supply voltage	$V_{CC}$	6.0	V	
7	Supply current	$I_{CC}$	32	mA	
8	Power dissipation	$P_D$	192	mW	$T_a = 85^\circ\text{C}$

Note ) \*1 :  $T_a = 25^\circ\text{C}$  except storage temperature, and operating ambient temperature.

### ■ Operating Supply Voltage Range

Operating supply voltage range	$V_{CC}$	4.5 V to 5.5 V
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