

# AN5279

## Mono channel SEPP audio power amplifier IC

### ■ Overview

The AN5279 is a monolithic integrated circuit designed for 5.0 W (19 V, 8 Ω) output audio power amplifier. It is a mono channel SEPP IC suitable for TV application.

### ■ Features

- Few external components :
- No Boucherot cells(output C, R)
- No Bootstrap Capacitors
- No Negative Feedback Capacitors
- Built-in muting circuit
- Built-in stand-by circuit
- Built-in various protection circuits  
(Load-short, thermal, over-voltage and current)
- High ripple rejection(55 dB)
- Operating voltage range 10 V to 24 V(19 V typ.)

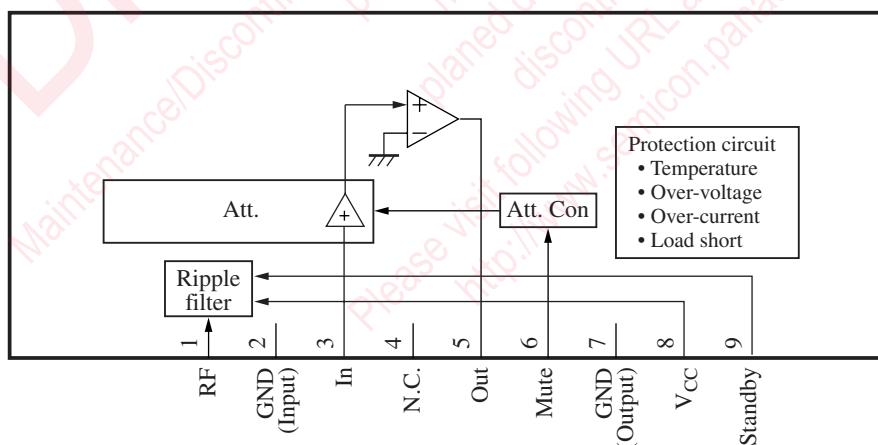
### ■ Applications

- TV

### ■ Package

- HSIP009-P-0000E

### ■ Block Diagram



### ■ Pin Descriptions

Pin No.	Descriptions	Pin No.	Descriptions
1	Ripple filter	6	Mute
2	Input GND	7	Output GND
3	Input	8	V <sub>CC</sub>
4	Not connected	9	Standby
5	Output		

### ■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	26.0	V
Supply current	I <sub>CC</sub>	1.6	A
Power dissipation <sup>*2</sup>	P <sub>D</sub>	6.2	W
Operating ambient temperature <sup>*1</sup>	T <sub>opr</sub>	−25 to +75	°C
Storage temperature <sup>*1</sup>	T <sub>stg</sub>	−55 to +150	°C

Note) <sup>\*1</sup> : Except these items, all other measurements are taken at T<sub>a</sub> = 25 °C.

<sup>\*2</sup> : T<sub>a</sub> = 75 °C with infinite heat sink.

### ■ Recommended Operating Range

Parameter	Symbol	Range	Unit
Supply voltage	V <sub>CC</sub>	10.0 to 24.0	V

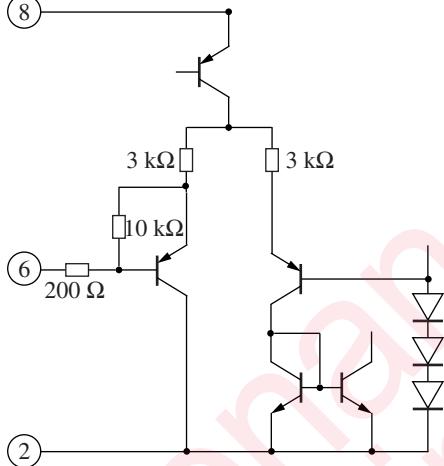
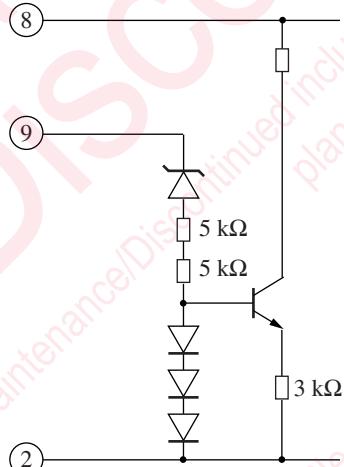
■ Electrical Characteristics at  $V_{CC} = 19$  V,  $f = 1$  kHz,  $R_L = 8$  Ω,  $T_a = 25$  °C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Quiescent current	$I_{CQ}$	$V_{IN} = 0$ mV	—	25	50	mA
Output end noise voltage <sup>*1</sup>	$V_{NO}$	No input, $R_g = 10$ kΩ	—	0.22	0.4	mV
Voltage gain	$G_V$	$V_{IN} = 57$ mV	32	34	36	dB
Total harmonic distortion	THD	$V_{IN} = 57$ mV	—	0.2	0.4	%
Maximum Output Power	$P_{O1}$	$V_{CC} = 19$ V, THD = 10 %	4.0	5.0	—	W
Maximum Output power	$P_{O2}$	$V_{CC} = 22$ V, THD = 10 %	5.6	7.0	—	W
Ripple rejection ratio <sup>*1</sup>	RR	$V_r = 1$ V <sub>rms</sub> $f_r = 120$ Hz, $R_g = 10$ kΩ	45	55	—	dB
Muting Ratio	MR	$V_{IN} = 57$ mV, $V_{MUTE} > 3.0$ V	70	80	—	dB
Muting control voltage	$V_{MUTE}$	$V_{IN} = 57$ mV, MR > 70 dB	3.0	—	—	V
Standby on voltage	$V_{STD-ON}$	No input, $I_{CC} \leq 0.1$ mA	—	—	5.0	V
Standby off voltage	$V_{STD-OFF}$	No input, $I_{CC} \geq 9.5$ mA	8.5	—	—	V

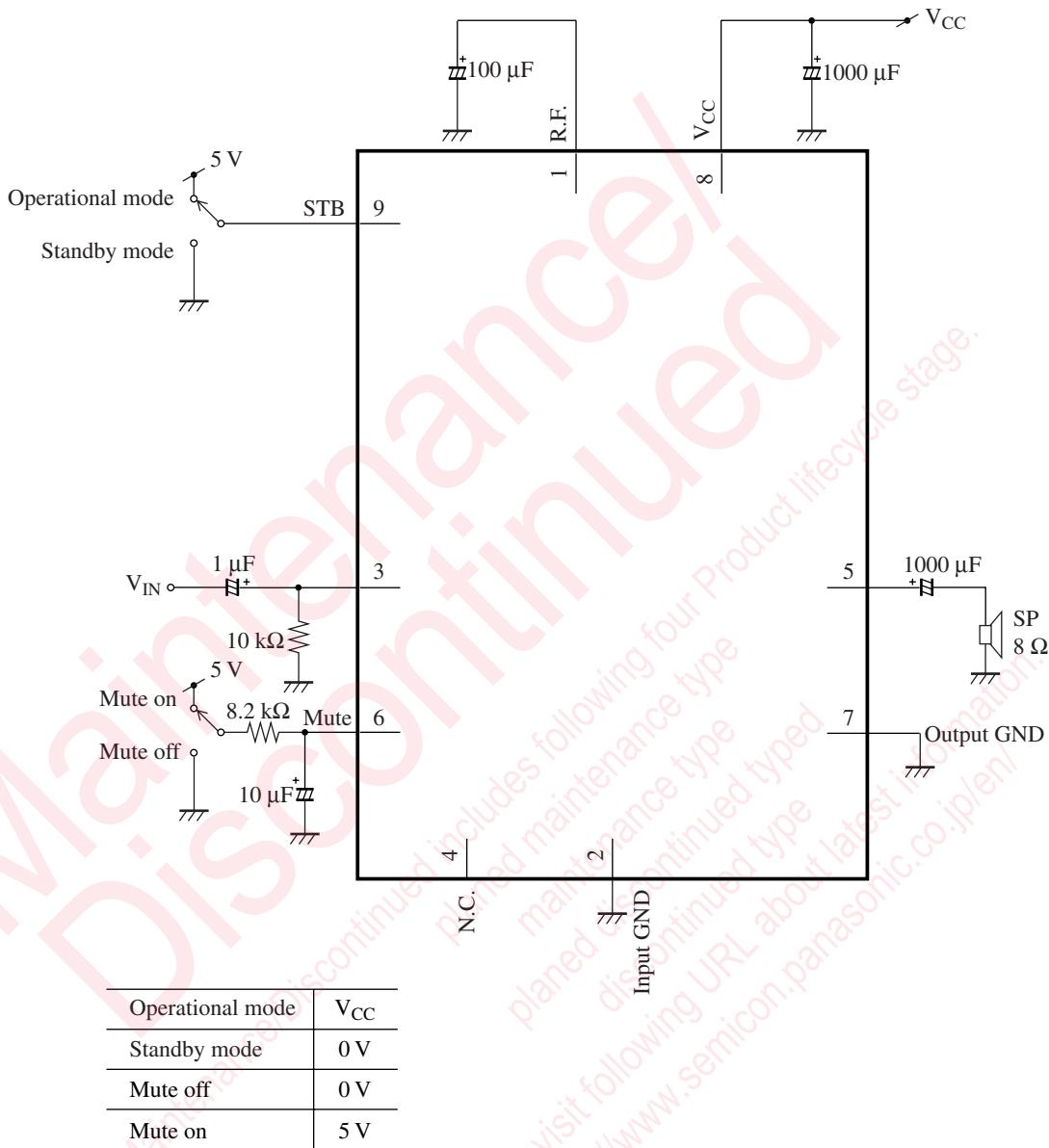
Note) \*1 : For this measurement, use the 20 Hz to 20 kHz (12 dB/OCT) filter.

## ■ Terminal Equivalent Circuits

## ■ Terminal Equivalent Circuits (continued)

Pin No.	Equivalent circuit	Description	DC voltage (V)
6		Mute Mute input pin. Mute 'on' = 5 V Mute 'off' = 0 V	—
7	—	Output GND Output ground.	0
8	—	V <sub>CC</sub> This is the power supply pin.	19 V(typ.)
9		Standby Standby control pin. Standby mode = 0 V Operational mode = V <sub>CC</sub>	—

## ■ Application Circuit Example

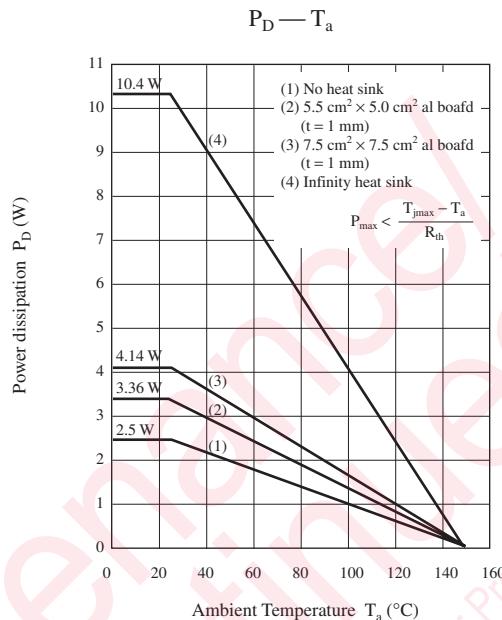


## ■ Usage notes

- 1) External heatsink is needed when used. External heatsink should be fixed to the chassis.
- 2) Fin of the IC can be connected to GND.
- 3) Please prevent "Output to V<sub>CC</sub> short", "Output to GND short" and "Reverse Insertion" to avoid damaging the IC.
- 4) The temperature protection circuit will operate at T<sub>j</sub> around 150 °C. However, if temperature decreases, the protection circuit would automatically be deactivated and resume normal operation.

## ■ Technical Information

- $P_D - T_a$  curves of HSI P009-P-0000E



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