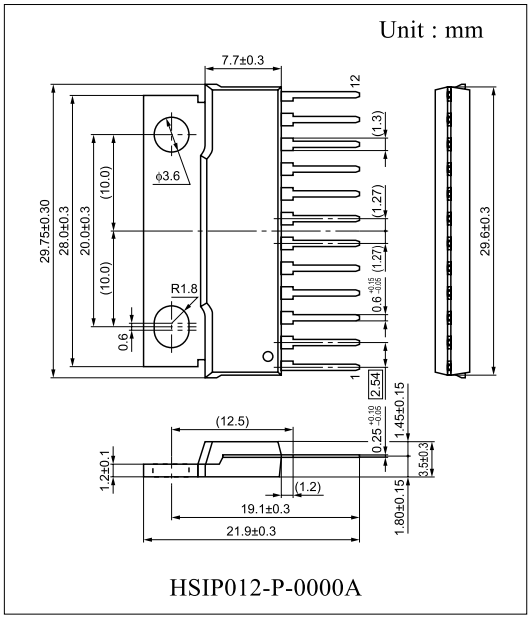
AN7125

Dual Channel BTL Power Amplifier

■ Overview

AN7125 is a monolithic integrated circuit designed for 13.5 W (12 V,4 Ω) output audio power amplifier.It is a dual channel BTL IC suitable for stereo operation in radio cassette and TV application.



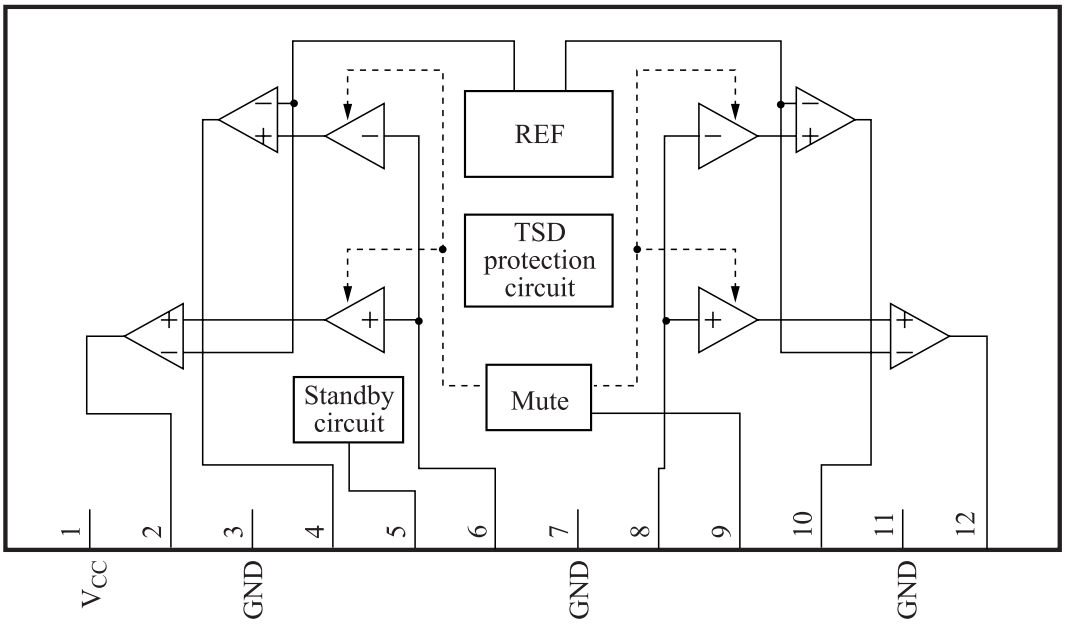
■ Features

- Built-in muting pin
- Built-in stand by pin
- Built-in thermal shutdown protection circuit
- Built-in current limiting circuit
- High power : (13.5 W/12 V/4 Ω)
  (13.0 W/15 V/8 Ω)
- Few external components
- Operating voltage range 6 V ~ 18 V (12 V typ.)

■ Applications

- Radio-cassette

■ Block Diagram



■ Pin Descriptions

Pin No.	Description	Pin No.	Description
1	V_{CC}	7	Pre GND
2	ch.1 + ve Phase Output	8	ch.2 Input
3	ch.1 Output GND	9	Mute
4	ch.1−ve Phase Output	10	ch.2 −ve Phase Output
5	Standby	11	ch.2 Output GND
6	ch.1 Input	12	ch.2 +ve Phase Output

■ Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Supply voltage *1	V_{CC}	24	V
Supply current	I_{CC}	6.0	A
Power dissipation *2	P_D	38.5	W
Operating ambient temperature	T_{opr}	−25 to +75	°C
Storage temperature	T_{stg}	−55 to +150	°C

Note) *1 : Without input signal,V_{CC} is up to 24 V
*2 : T_a = 75 °C.

■ Recommended Operating Range

Parameter	Symbol	Range	Unit
Supply voltage	V_{CC}	6.0 to 18.0	V

■ Electrical Caracteristics at V_{CC} = 12 V, R_L = 4 Ω, freq. = 1 kHz, 2 channel outputs, T_a = 25 °C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Quiescent circuit current	I_{CQ}	V_{IN} = 0 mV	—	100	210	mA
Output noise voltage *1	V_{NO}	V_{IN} = 0 mV,R_G = 6.2 kΩ	—	0.27	0.5	mVrms
Voltage gain	G_{VC}	V_{IN} = 20 mV	38	40	42	dB
Total harmonic distortion *2	THD	V_{IN} = 20 mV	—	0.07	0.4	%
Maximum output power	P_O	THD = 10 %	10	12	—	W
Channel balance	CB	V_{IN} = 20 mV	−1	0	1	dB
Channel crosstalk *2	CT	V_{IN} = 20 mV,R_G = 6.2 kΩ	55	70	—	dB
Output offset voltage	V_{OFF}	R_G = 6.2 kΩ	−350	0	350	mV
Ripple rejection *1	RR	V_R = 1 V_{rms},f_R = 120 Hz,R_G = 6.2 kΩ	50	60	—	dB
Standby current	I_{STB}	V_{IN} = 0 mV	—	1	10	µA
Muting effects *2	MT	V_{IN} = 20 mV	70	80	—	dB

Note) *1 : With a filter band 20 Hz to 20 kHz(12 dB/OCT)used.
*2 : With a filter band 400 Hz to 30 kHz used.