

AN5275

15W × 2Ch. Low Frequency Power Amplifier Circuit for TV

Overview

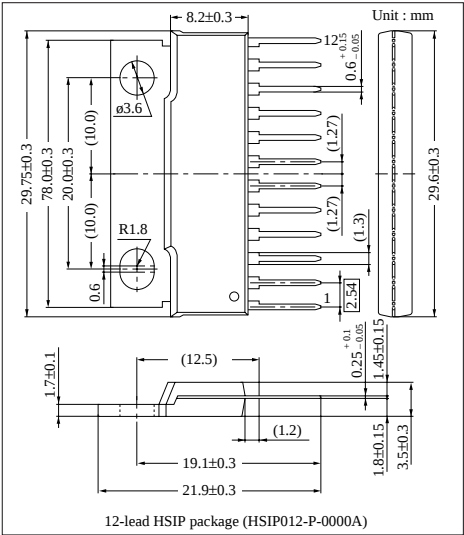
The AN5275 is an audio power IC developed for TV sound output (15W × 2Ch.).

High density mounting is possible and it can contribute to cost reduction, because it requires fewer external components.

It incorporates various protective circuits to provide high reliability and breakage resistance.

Features

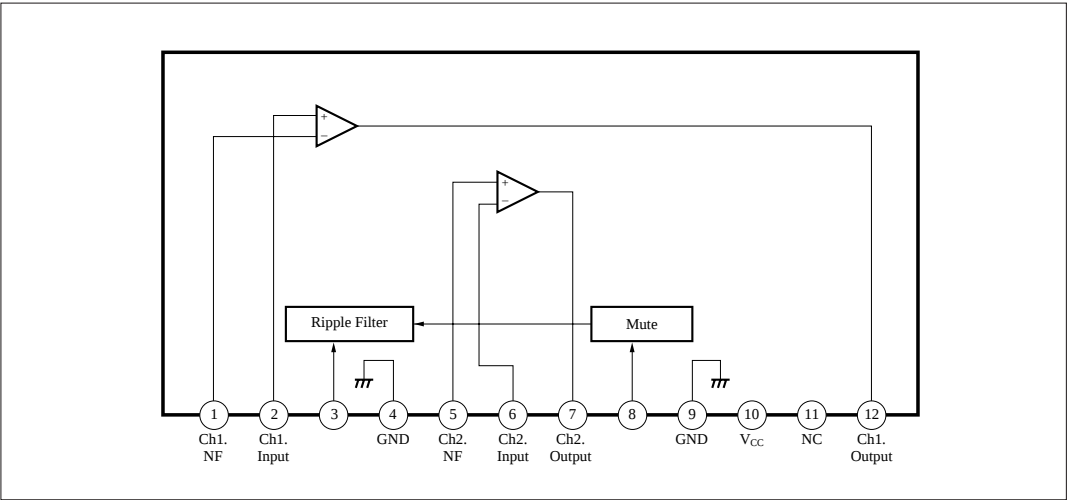
- Wide operating supply voltage range (10 to 40V)
- Little distortion and noise
- Fewer external components
 - BS (boot-strap) electrolytic capacitor not required
- Audio muting function built-in
- Very small shock noise at power ON/OFF
- Various protective circuits built-in
 - Load short-circuit protection. Protection against over-voltage and – current. Temperature protection



Pin Description

Pin No.	Pin Description	Pin No.	Pin Description
1	Ch.1 NF pin	7	Ch.2 output pin
2	Ch.1 input pin	8	Muting pin
3	Ripple filter pin	9	GND (sound output side)
4	GND (sound input side)	10	Supply voltage
5	Ch.2 input pin	11	NC
6	Ch.2 NF pin	12	Ch.1 output pin

Block Diagram



■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V _{CC}	4.5	V
Supply Current	I _{CC}	4.0	A
Power Dissipation ^{Note 1)}	P _D	25	W
Peak Supply Voltage ^{Note 2)}	V _{surge}	60	V
Operating Ambient Temperature	T _{opr}	− 25 ~ + 80	°C
Storage Temperature	T _{stg}	− 55 ~ + 150	°C

Note 1) R_{θj-c} = 2°C/W

Note 2) t = 0.2s

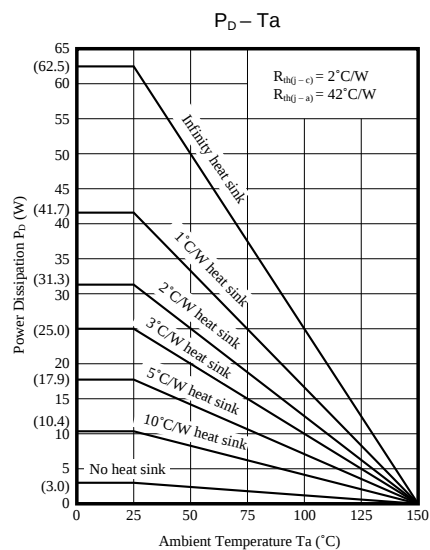
■ Recommended Operating Range (Ta = 25°C)

Parameter	Symbol	Range
Operating Supply Voltage Range	V _{CC}	10.0V ~ 40.0V

■ Electrical Characteristics (V_{CC}= 32V, f_{req.}= 1kHz, Ta= 25±2°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Static Circuit Current	I _{CQ}	V _{IN} = 0mV, R _L = 8Ω	—	100	200	mA
Output End Noise Voltage ^{Note 1)}	V _{NO}	R _g = 4.7kΩ, R _L = 8Ω	—	0.12	0.4	mVrms
Voltage Gain	G _V	V _{IN} = 57mV, R _L = 8Ω	32	34	36	dB
Total Harmonics Distortion	THD	V _{IN} = 57mV, R _L = 8Ω	—	0.05	0.40	%
Max. Output Power	P _O	THD= 10%, R _L = 8Ω	11	15	—	W
Ripple Rejection Ratio ^{Note 1)}	RR	R _L = 8Ω, V _r = 1Vrms f _i = 120Hz, R _g = 4.7kΩ	45	57	—	dB
Channel Balance	CB	V _{IN} = 57mV, R _L = 8Ω	−1	0	1	dB

Note 1) 15Hz to 30kHz (12dB/OCT) filter is used for measurement.



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