AN5275

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

Overview

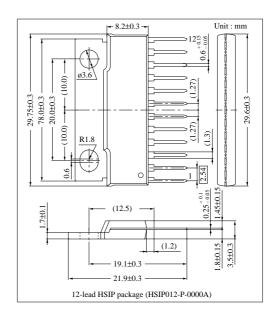
The AN5275 is an audio power IC developed for TV sound output (15W \times 2Ch.).

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

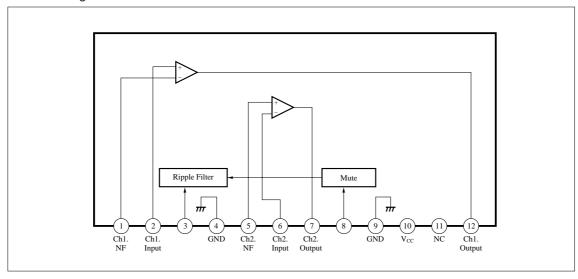
- Wide operating supply voltage range (10 to 40V)
- Little distortion and noise
- Fewer external components
- \cdot BS (boot-strap) electrolytic capacitor not required
- Audio muting function built-in
- Very small shock noise at power ON/OFF
- Various protective circuits built-in
- Load short-circuit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



AN5275

■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit	
Supply Voltage	V _{CC}	4.5	v	
Supply Current	I _{CC}	4.0	А	
Power Dissipation Note 1)	PD	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) $R_{\theta j-c} = 2^{\circ}C/W$ Note 2) t = 0.2s

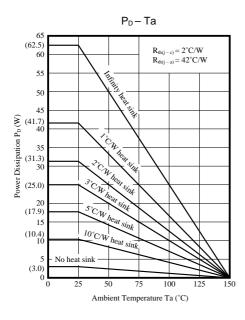
Recommended Operating Range ($Ta = 25^{\circ}C$)

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

$\blacksquare \text{ Electrical Characteristics } (V_{CC}=32V, f_{req.}=1 \text{kHz}, Ta=25\pm2^{\circ}\text{C})$

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Static Circuit Current	I _{CQ}	$V_{IN}=0mV, R_L=8\Omega$		100	200	mA
Output End Noise Voltage Note 1)	V _{NO}	$Rg=4.7k\Omega, R_L=8\Omega$		0.12	0.4	mVrms
Voltage Gain	Gv	V_{IN} = 57mV, R_L = 8 Ω	32	34	36	dB
Total Harmonics Distortion	THD	V_{IN} = 57mV, R_L = 8 Ω		0.05	0.40	%
Max. Output Power	Po	THD= 10%, $R_L = 8\Omega$	11	15		W
Ripple Rejection Ratio Note 1)	RR	$R_L = 8\Omega$, $Vr = 1Vrms$ $f_r = 120Hz$, $Rg = 4.7k\Omega$	45	57		dB
Channel Balance	CB	V_{IN} = 57mV, R_L = 8 Ω	-1	0	1	dB

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



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