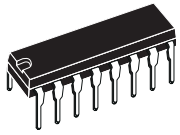
TDA7268

2 x 2W STEREO AUDIO AMPLIFIER

- WIDE OPERATING RANGE FROM 4.5V TO 18V
- P_{OUT} = 2W @ THD 10% 12V/8Ω
- INTERNAL FIXED GAIN 32dB
- NO FEEDBACK CAPACITOR
- NO BOUCHEROT CELL
- THERMAL PROTECTION
- AC SHORT CIRCUIT PROTECTION
- SVR CAPACITOR FOR BETTER RIPPLE REJECTION
- LOW TURN-ON/OFF POP
- VERY FEW EXTERNAL COMPONENTS
- STAND-BY MODE (I_{ST-BY} < 300µA)



POWERDIP (8+8)

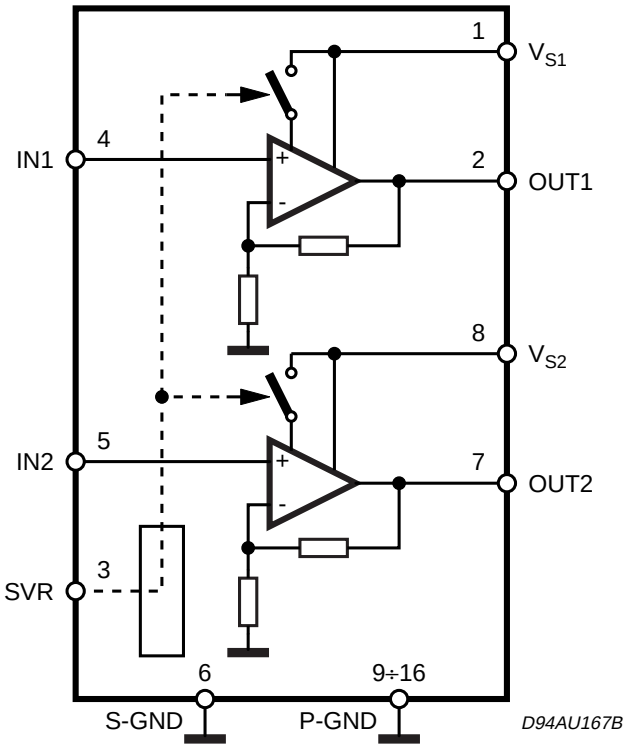
ORDERING NUMBER: TDA7268

DESCRIPTION

The device TDA7268 is a new technology stereo Audio Amplifier in DIP package specially designed for TV application.

Thanks to the fully complementary output configuration the device delivers a rail to rail voltage swing without need of boostrap capacitor.

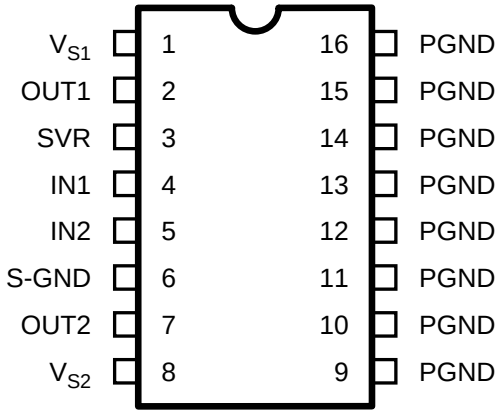
BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Operating Supply Voltage	18	V
I_O	Output Peak Current	1.5	A
T_{op}	Operating Temperature Range	0 to 70	°C
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature Range	-40 to 125	°C

PIN CONNECTION



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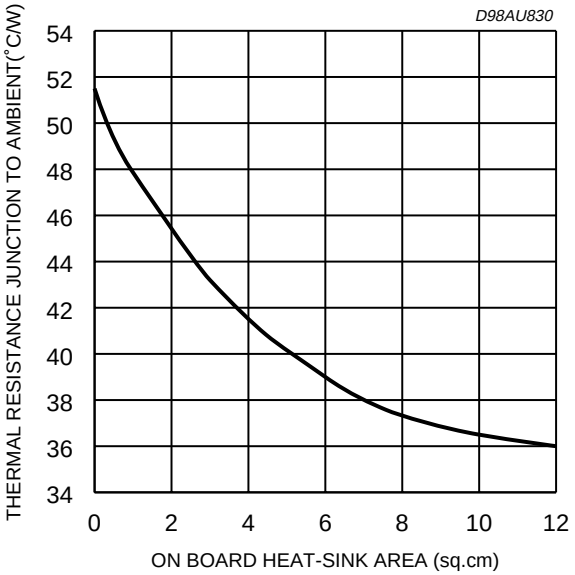
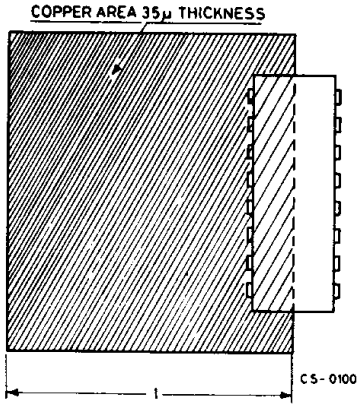
THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction to ambient (on PCB)	Max.	70	°C/W
$R_{th\ j\text{-}case}$	Thermal Resistance Junction to case	Max.	15	°C/W

Rth with "on Board" Square Heat Sink vs. Copper Area



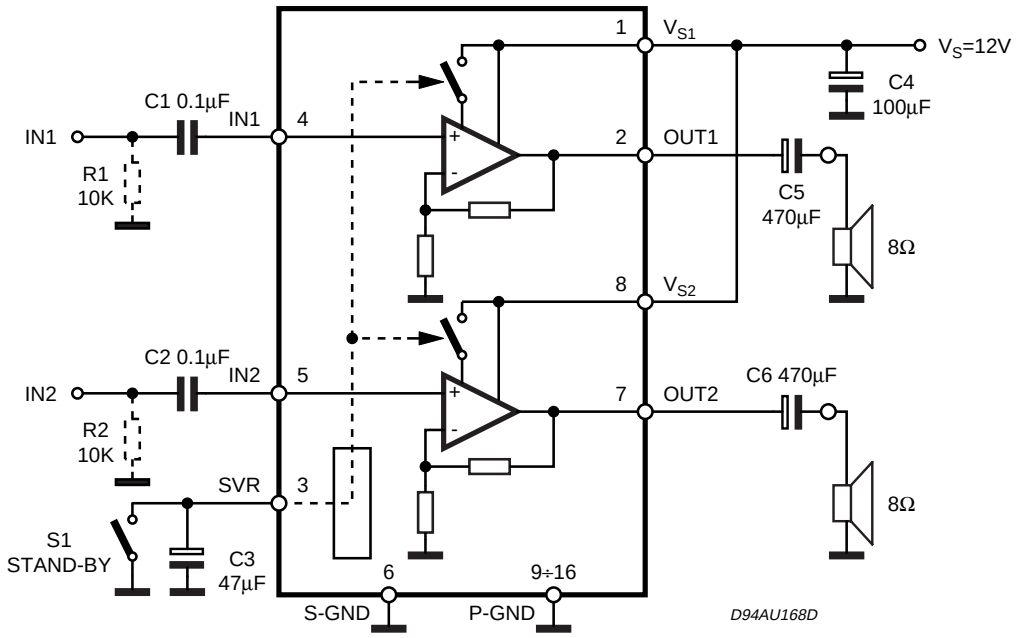
Example of heatsink using PC board copper



ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C; V_S = 12V; R_L = 8Ω; f = 1KHz; unless otherwise specified.)

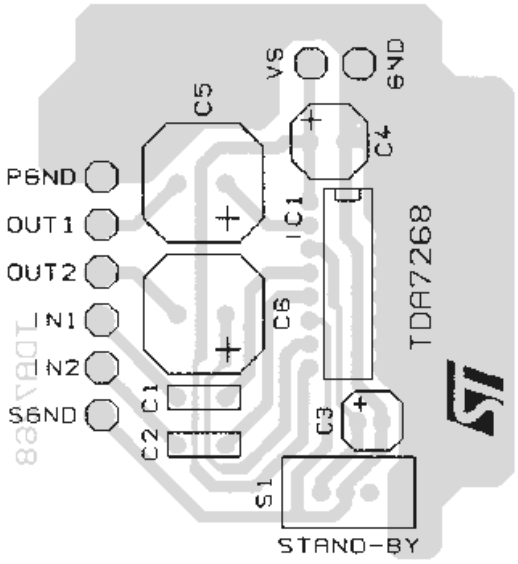
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage Range		4.5		18	V
I_S	Quiescent Current			40	60	mA
I_{sb}	Stand-By Current	Pin 3 shorted to GND		0.15	0.3	mA
V_O	Quiescent Output Voltage		5.5	6	6.5	V
A_V	Voltage Gain		31	32	33	dB
ΔA_V	Voltage Gain Matching				1.0	dB
R_{IN}	Input Impedance		50	100		KΩ
P_O	Output Power	THD = 10%	1.9	2		W
THD	Distortion	P_O = 1W		0.1	0.4	%
SVR	Supply Voltage Rejection	$V_{rip.}$ = 150mVrms; $F_{rip.}$ = 1KHz R_S = 10kΩ R_S = 50Ω	 40	 50 46		 dB dB
e_n	Total Input Noise Voltage	Rg = 10KΩ; BW = 20Hz to 20KHz		4	8	μV
CT	Cross Talk	P_O = 1W;	50	60		dB
V_{sb}	Stand-By Enable Voltage	I_{SB} < 300μA			1	V
A_{sb}	Stand-By Attenuation		60	80		dB
P_O	Output Power	THD = 10%; V_S = 9V; R_L = 4Ω		1.8		W

Fig. 1: Standard Test and Application Circuit



Note: Add R1 & R2 on demoboard only for DC tests.

Fig. 2: PCB And Components Layout Of The Application Circuit of Figure 1



APPLICATION HINTS:

For 12V supply and 8Ω speaker application, its maximum power dissipation is about 2W.

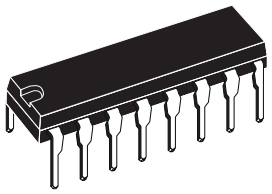
Assumming that max ambient temperature is 70°C. Required thermal resistance of the device and heat dissipating means must be equal to (150 - 70)/2 = 40°C/W.

Junction to pin thermal resistance of the package is about 15°C/W.

That means external heat sink of about 25°C/W is required. Stand-By switches must be able to discharge C_{svr} current.

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.51			0.020		
B	0.85		1.40	0.033		0.055
b		0.50			0.020	
b1	0.38		0.50	0.015		0.020
D			20.0			0.787
E		8.80			0.346	
e		2.54			0.100	
e3		17.78			0.700	
F			7.10			0.280
I			5.10			0.201
L		3.30			0.130	
Z			1.27			0.050

OUTLINE AND MECHANICAL DATA



Powerdip 16