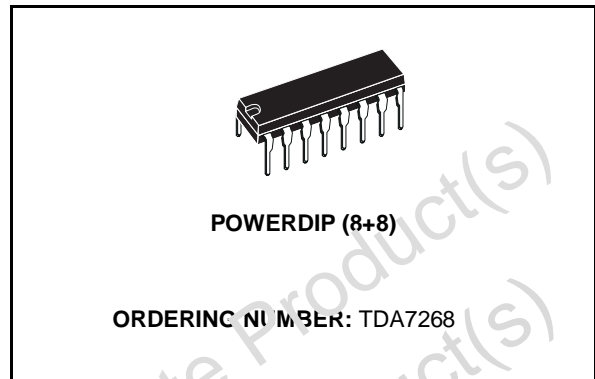




# TDA7268

## 2 x 2W STEREO AUDIO AMPLIFIER

- WIDE OPERATING RANGE FROM 4.5V TO 18V
- $P_{OUT} = 2W$  @ THD 10% 12V/8 $\Omega$
- 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 ( $I_{ST-BY} < 300\mu A$ )



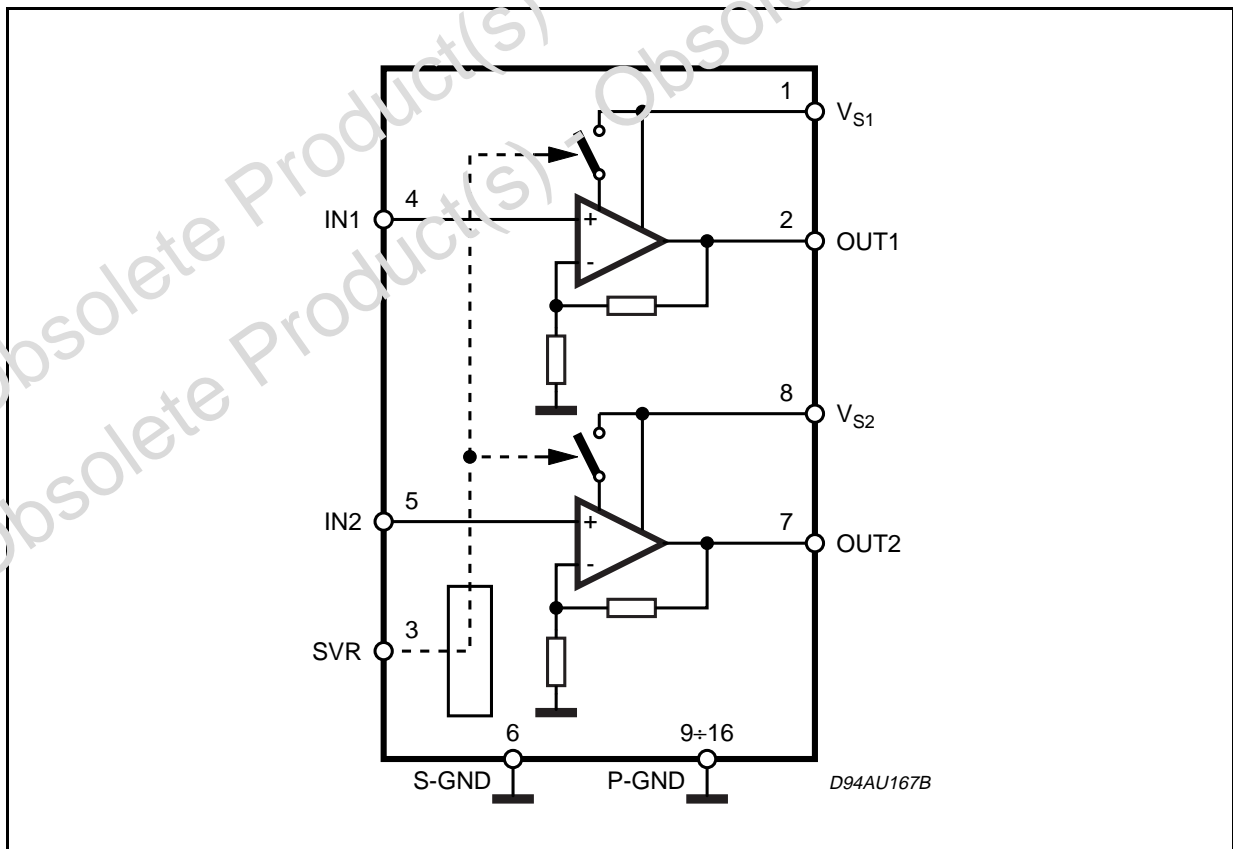
### DESCRIPTION

The device TDA7268 is a new technology stereo Audio Amplifier in DIP package specially de-

signed for TV application.

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

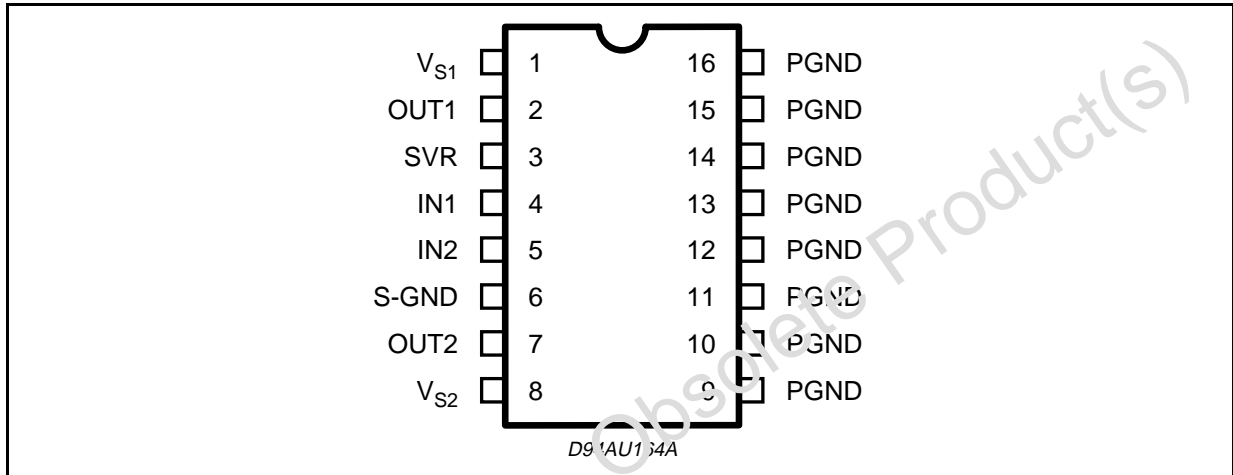
### BLOCK DIAGRAM



**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

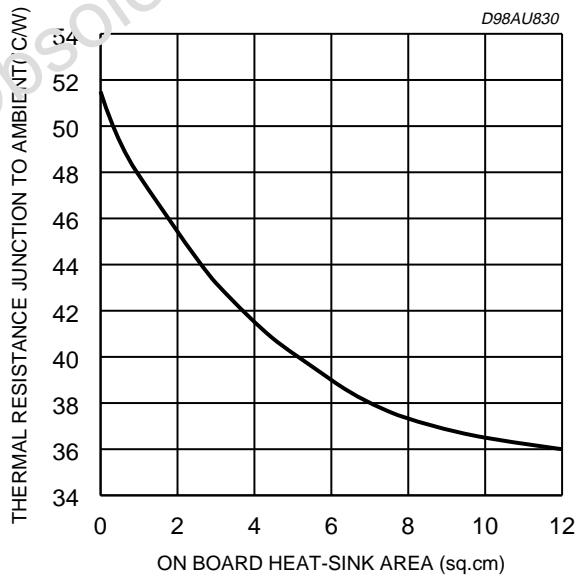
**PIN CONNECTION**



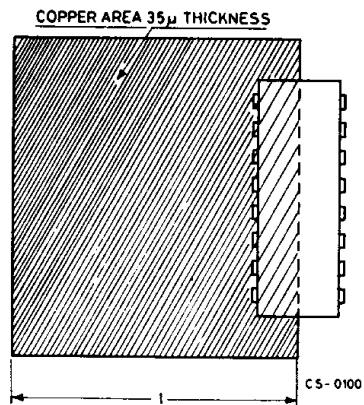
**THERMAL DATA**

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

$R_{th}$  with "on Board" Square Heat Sink vs. Copper Area



Example of heatsink using PC board copper



**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25^{\circ}\text{C}$ ;  $V_S = 12\text{V}$ ;  $R_L = 8\Omega$ ;  $f = 1\text{KHz}$ ; 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
$\Delta A_V$	Voltage Gain Matching				1.0	dB
$R_{IN}$	Input Impedance		50	100		K $\Omega$
$P_O$	Output Power	THD = 10%	1.9	2		W
THD	Distortion	$P_O = 1\text{W}$		0.1	0.4	%
SVR	Supply Voltage Rejection	$V_{rip.} = 150\text{mVrms}$ ; $F_{rip.} = 1\text{KHz}$ $R_S = 10\text{k}\Omega$ $R_S = 50\Omega$	40	50 46		d3 dB
$e_n$	Total Input Noise Voltage	$R_g = 10\text{K}\Omega$ ; $BW = 20\text{Hz to } 20\text{KHz}$			8	$\mu\text{V}$
CT	Cross Talk	$P_O = 1\text{W}$ ;	50	60		dB
$V_{sb}$	Stand-By Enable Voltage	$I_{SB} < 300\mu\text{A}$			1	V
$A_{sb}$	Stand-By Attenuation		60	80		dB
$P_O$	Output Power	THD = 10%; $V_S = 9\text{V}$ ; $R_L = 8\Omega$		1.8		W

Fig. 1: Standard Test and Application Circuit

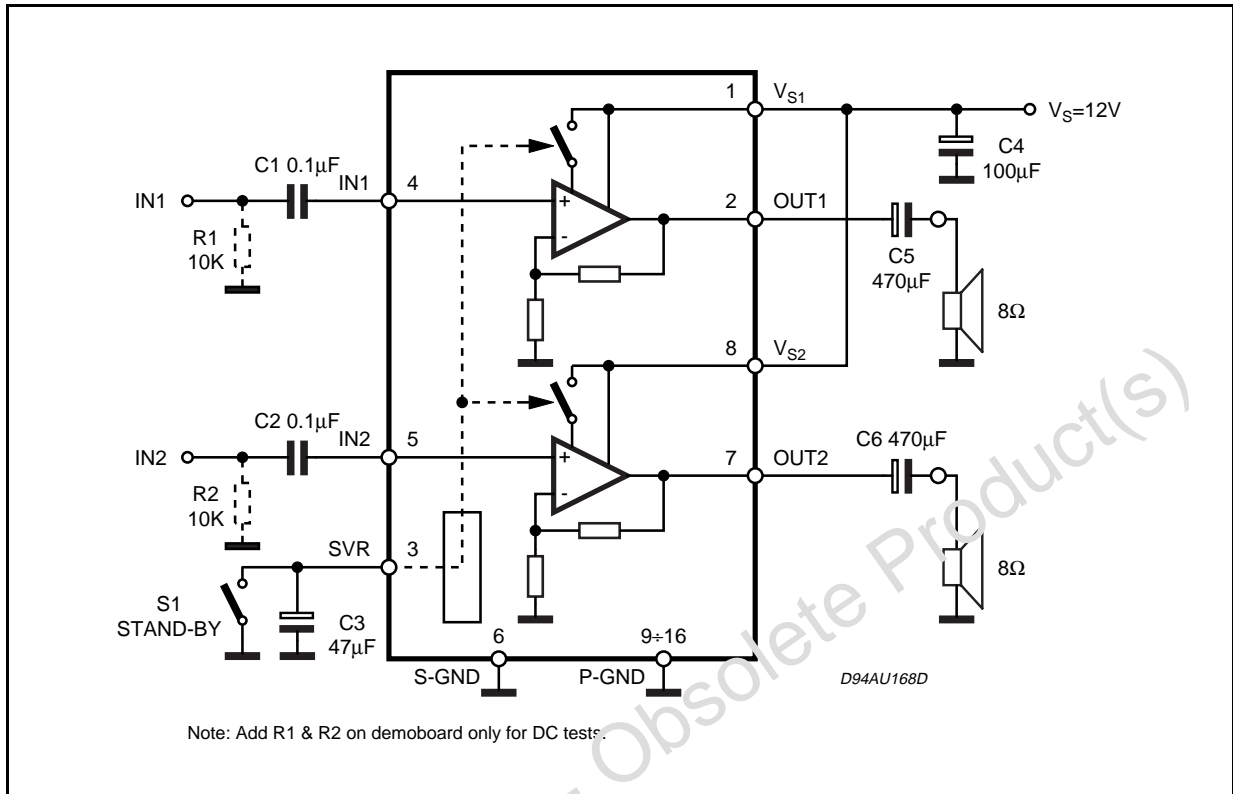
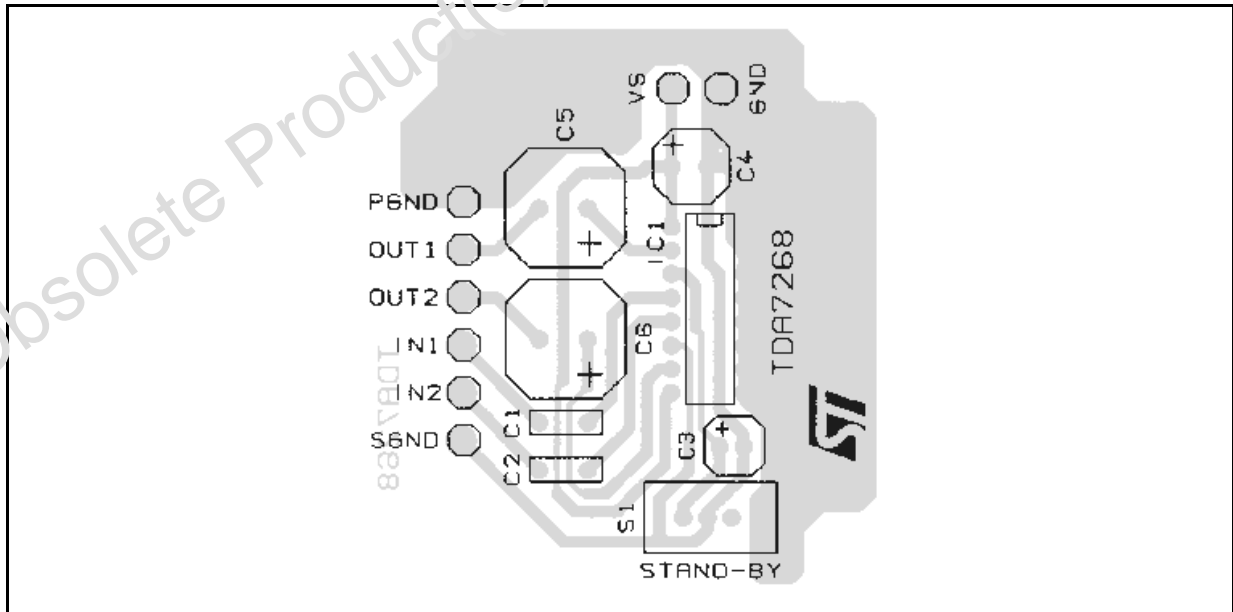


Fig. 2: PCB And Components Layout Of The Application Circuit of Figure 1



**APPLICATION HINTS:**

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

Assuming that max ambient temperature is 70°C. Required thermal resistance of the device and heat dissipating means must be equal to (150

$$- 70)/2 = 40^{\circ}\text{C/W.}$$

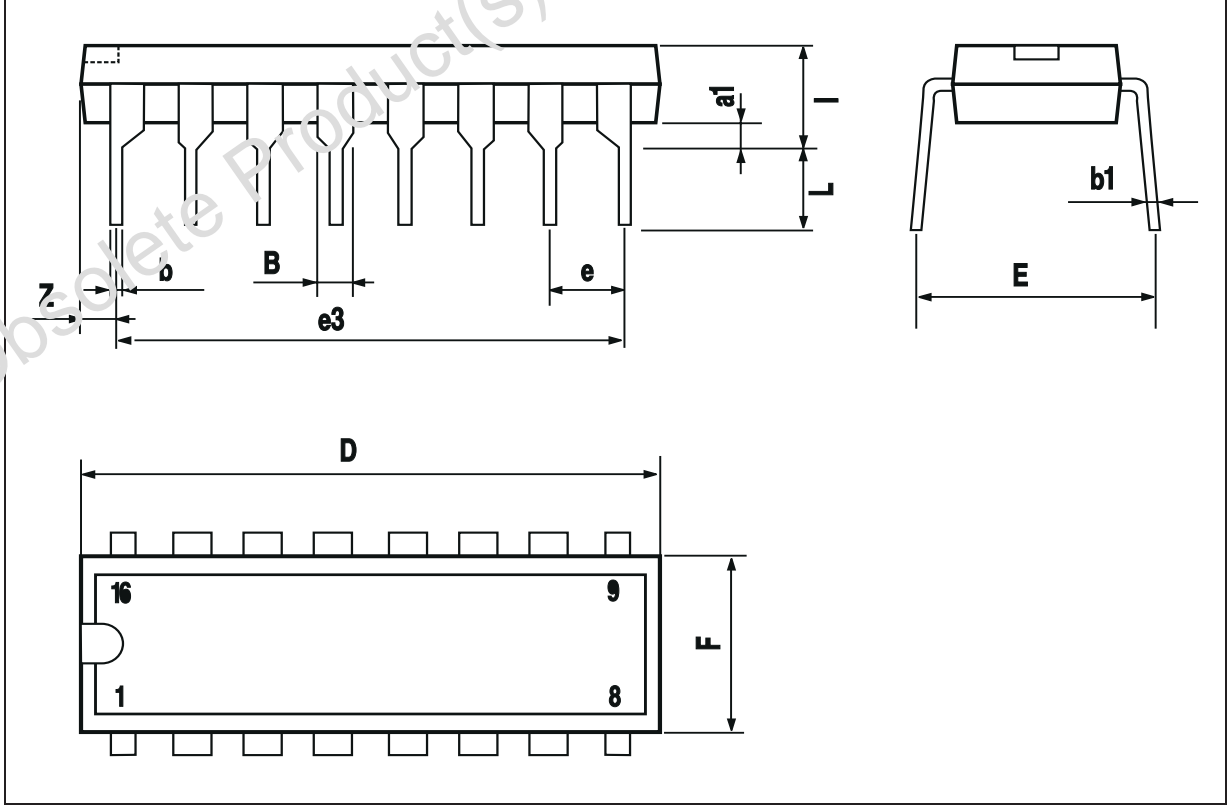
Junction to pin thermal resistance of the package is about 15°C/W.

That means external heat sink of about 25°C/W is required. Stand-By switches must be able to discharge C<sub>SVR</sub> 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



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