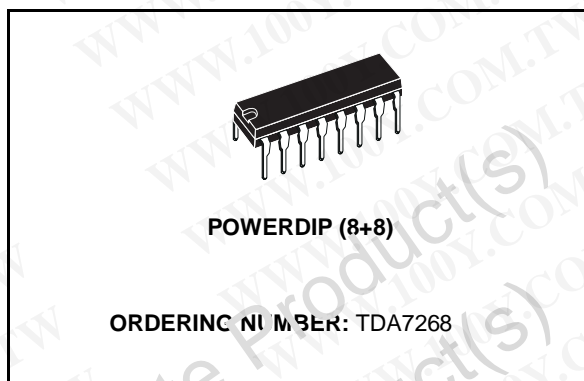




## TDA7268

### 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 ( $I_{ST-BY} < 300\mu A$ )



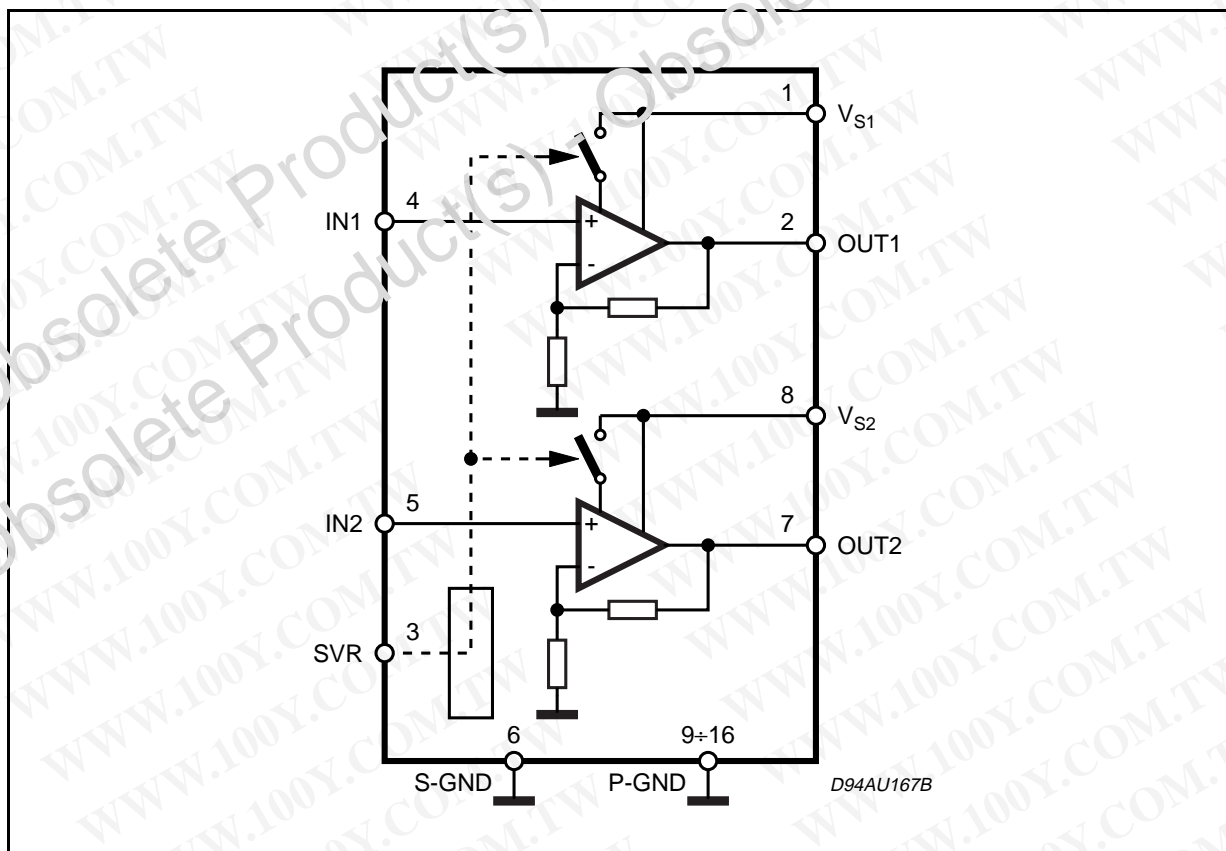
#### DESCRIPTION

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

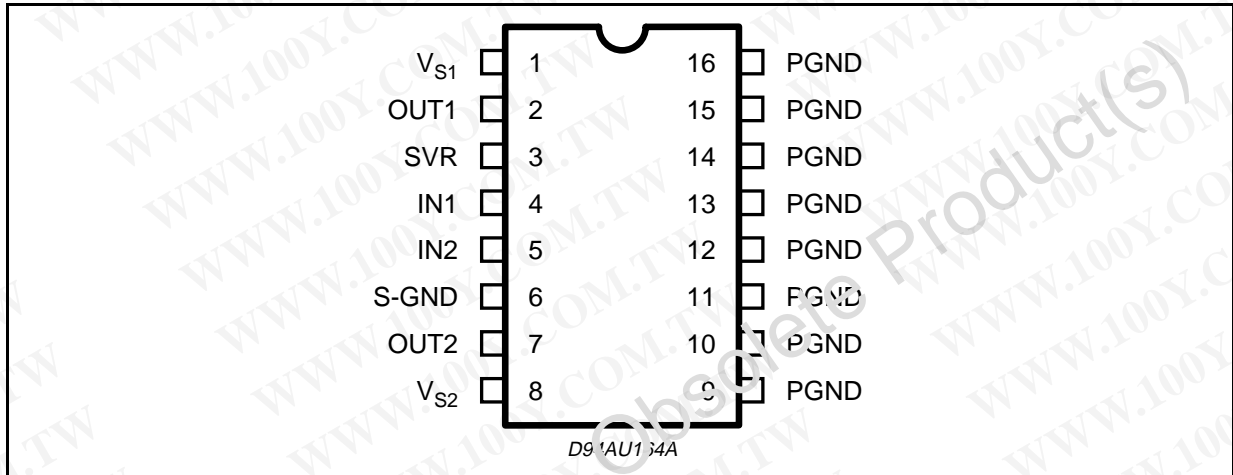


# TDA7268

## 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

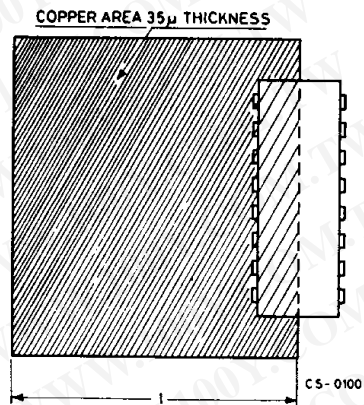
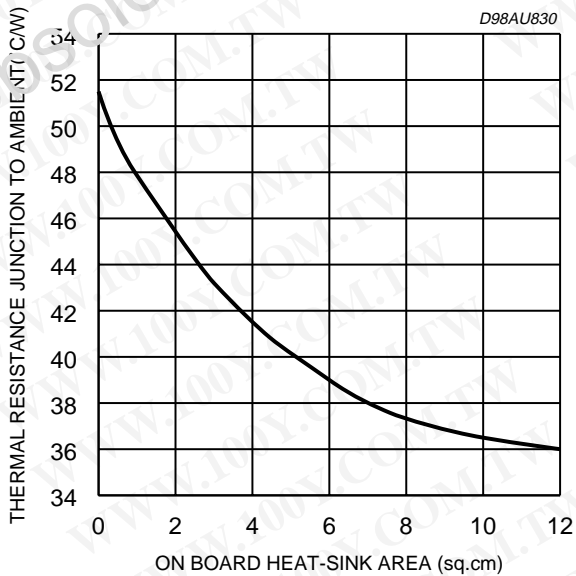


## THERMAL DATA

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	$R_g = 10\text{K}\Omega$ ; $BW = 20\text{Hz to } 20\text{KHz}$		4	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		50	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

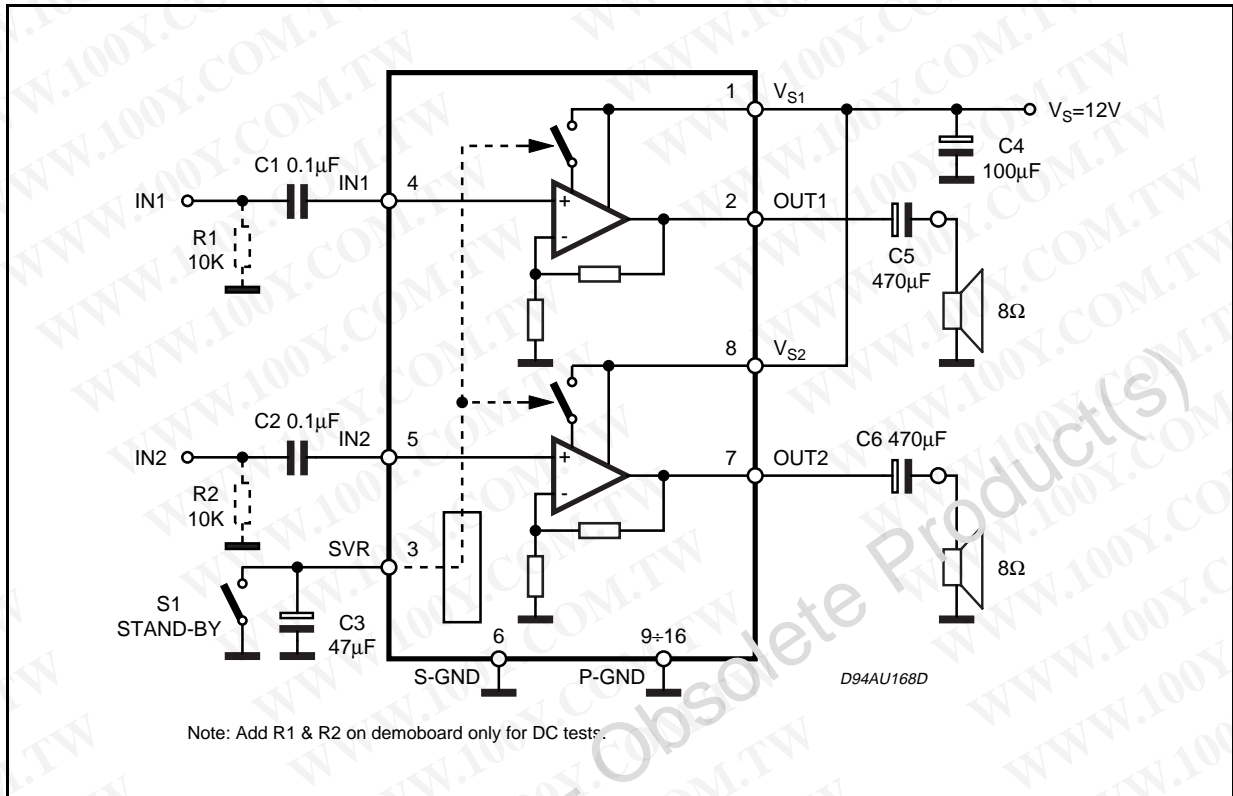
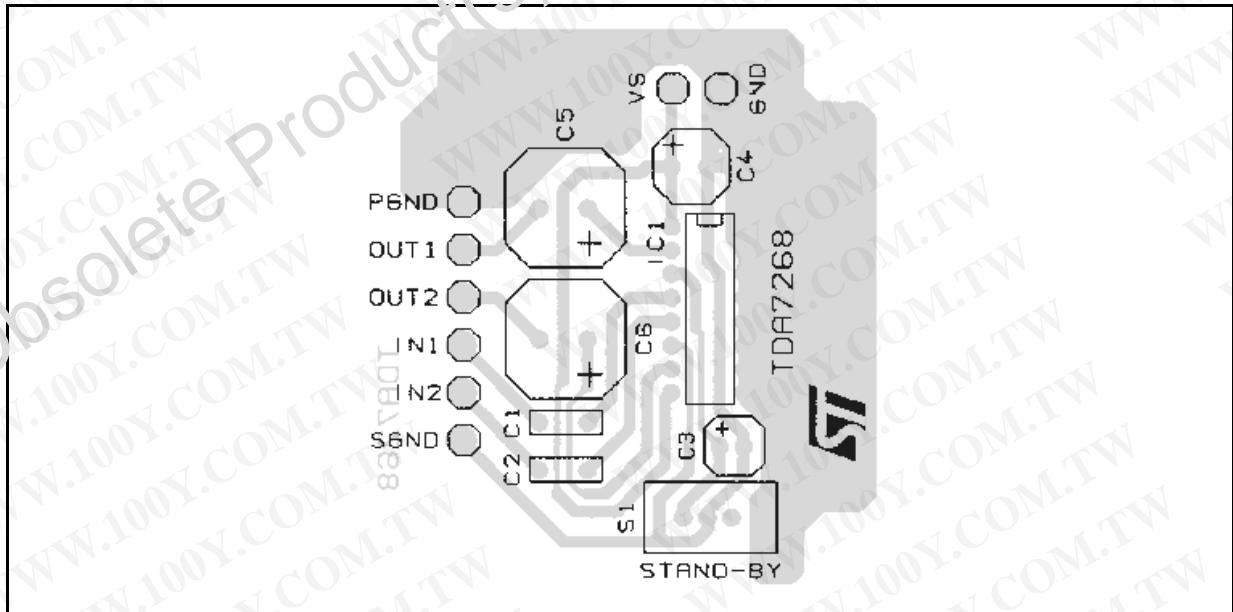


Fig. 2: PCB And Components Layout Of The Application Circuit of Figure 1



**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  $(150$

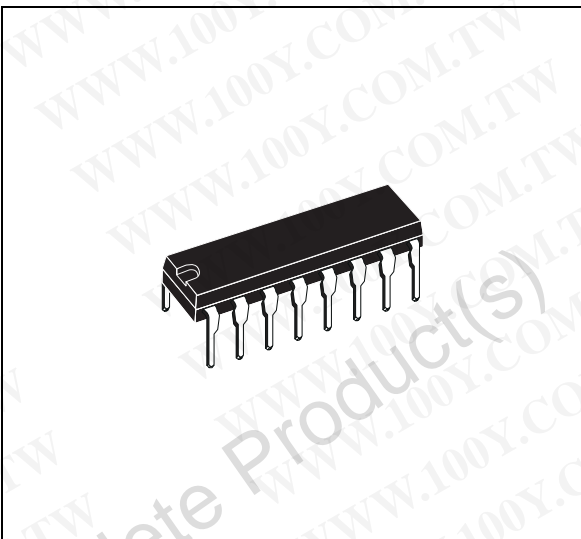
$$- 70)/2 = 40^{\circ}\text{C/W}.$$

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

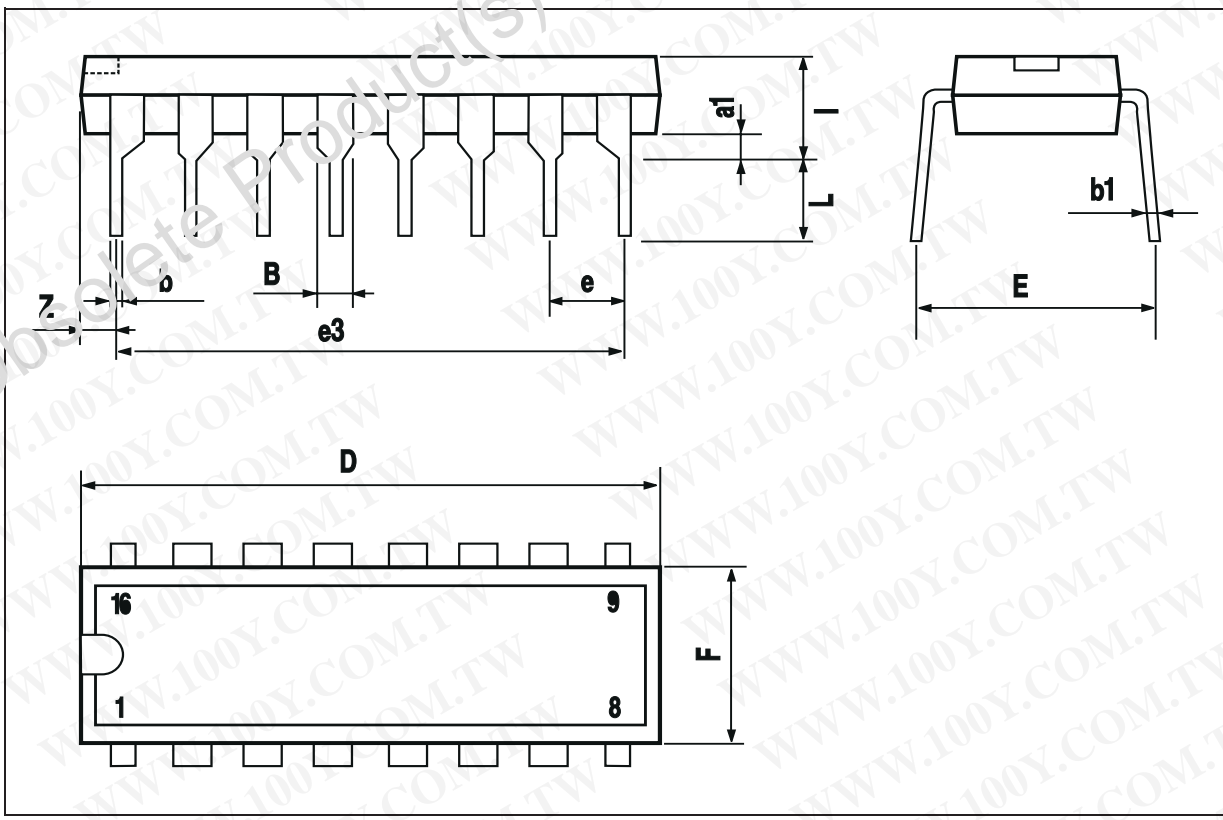
That means external heat sink of about 25°C/W is required. Stand-By switches must be able to discharge  $C_{SVR}$  current.

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**



Obsolete Product(s) - Obsolete Product(s)

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics.  
All other names are the property of their respective owners

© 2003 STMicroelectronics - All rights reserved

**STMicroelectronics GROUP OF COMPANIES**

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan -  
Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States  
[www.st.com](http://www.st.com)