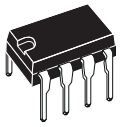
TDA7267T

2 W mono amplifier

Features

- 2 W output power into 8 Ω at 12 V, THD = 10%
- Internally fixed gain of 32 dB
- No feedback capacitor
- No boucherot cell
- Thermal protection
- AC short-circuit protection
- SVR capacitor for better ripple rejection
- Low turn-on/off “pop” noise
- Standby mode



DIP-8 (4+4)

Description

The TDA7267T is a new technology mono audio amplifier in a DIP-8 package specifically designed for TV applications.

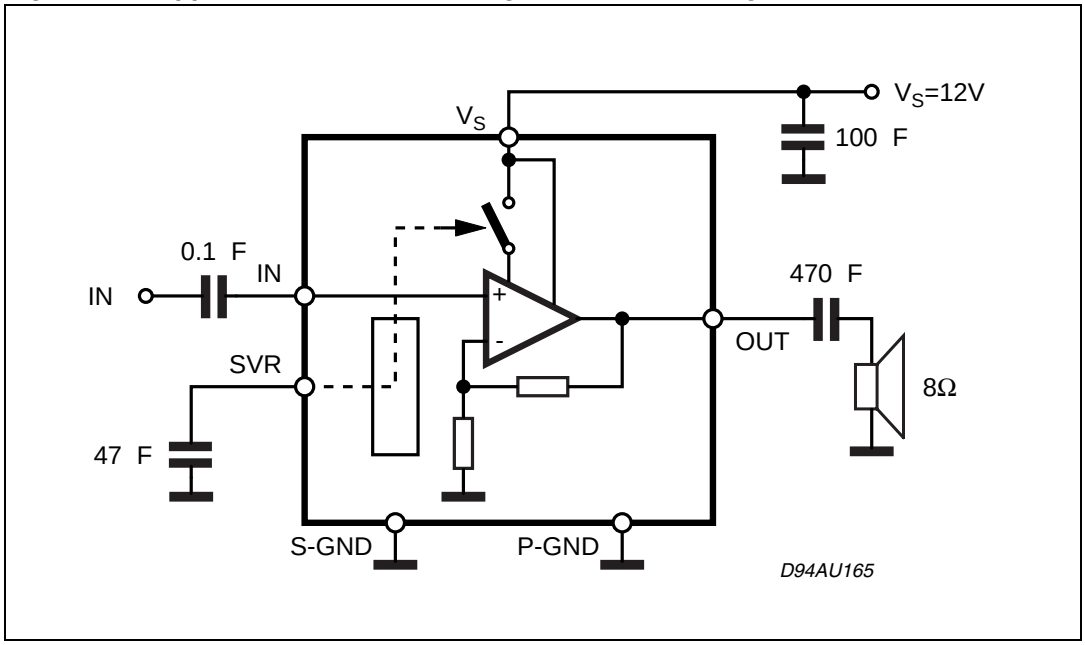
Thanks to the fully complementary output configuration the device delivers a rail-to-rail voltage swing without the need for boostrap capacitors.

Table 1. Device summary

Order code	Operating Temp. range	Package	Packaging
TDA7267T	0° to 70° C	DIP-8 (4+4)	Tube

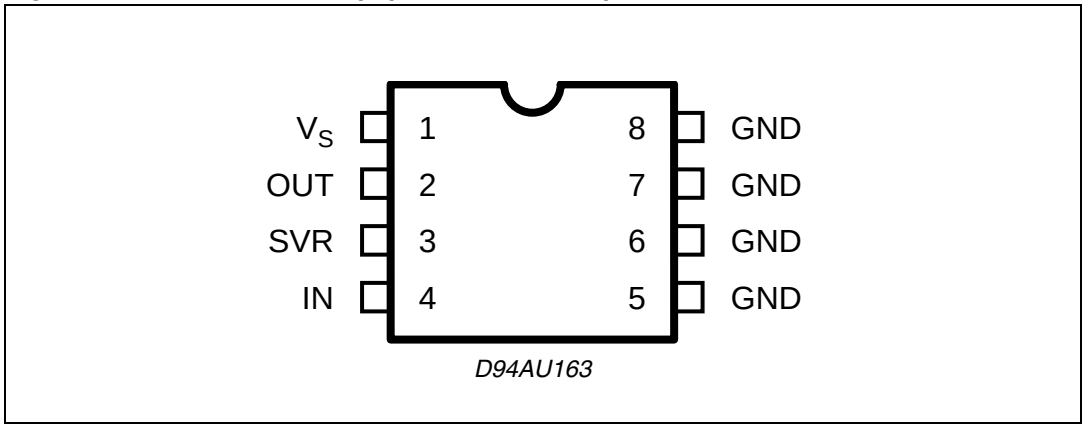
1 Block diagram and applications circuit

Figure 1. Applications circuit showing internal block diagram



2 Pin description

Figure 2. Pin connection (top view, PCB view)



3 Electrical specifications

3.1 Absolute maximum ratings

Table 2. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_S	DC supply voltage	18	V
I_O	Peak output 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 150	°C

3.2 Thermal data

Table 3. Thermal data

Symbol	Parameter	Min	Typ	Max	Unit
$R_{th\ j\text{-}amb}$	Thermal resistance, junction to ambient (on PCB)	-	76	-	°C/W
$R_{th\ j\text{-}case}$	Thermal resistance, junction to case pin (6 or 7)	-	23	-	°C/W

3.3 Electrical specifications

Unless otherwise stated, the results in *Table 4* below are given for the conditions: V_S = 12 V, R_L = 8 Ω, f = 1 kHz and Tamb = 25° C.

Table 4. Electrical specifications

Symbol	Parameter	Condition	Min	Typ	Max	Unit
V_S	Supply voltage range	-	4.5	-	18	V
I_q	Total quiescent current	-	-	20	30	mA
I_{STBY}	Current in standby	Pin 3 shorted to GND	-	-	0.3	mA
V_O	Quiescent output voltage	-	-	6	-	V
A_V	Voltage gain	-	-	32	-	dB
R_{IN}	Input resistance	-	-	100	-	kΩ
P_O	Output power	THD = 10%	1.8	2.0	-	W
THD	Total harmonic distortion	P_O = 1 W	-	-	1.0	%
SVR	Supply voltage rejection	f_{ripple} = 1 kHz, V_{ripple} = 150 mV RMS	-	50	-	dB

Table 4. Electrical specifications (continued)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
E_I	Input noise voltage	R_G = 10 kΩ, BW = 20 Hz to 20 kHz	-	1.5	5.0	µV
V_{STBY}	Standby enable voltage	-	-	-	1.0	V

4 Applications information

For 12-V supply and 8-Ω speaker applications the maximum power dissipation is approximately 1.2 W.

Assuming that the maximum ambient temperature is 70° C the required thermal resistance of the devices must be equal to (150 - 70) / 1.2 = 67 °C/W.

The junction-to-pin thermal resistance of the package is about 23 °C/W. This means that an external heatsink of around 43 °C/W is required.

The copper ground plane of the PCB can be used for dissipating this heat.

Standby switches must be able to discharge the C_{SVR} current.

Figure 3. Thermal resistance junction-to-ambient vs copper area on PCB

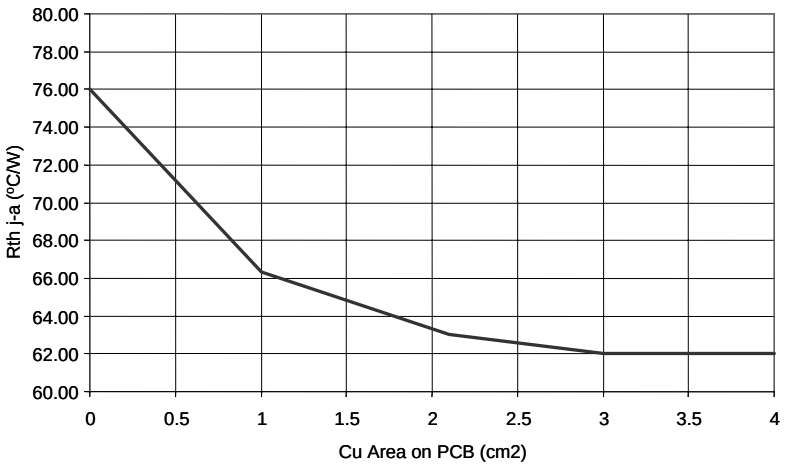


Figure 4. Power derating curve

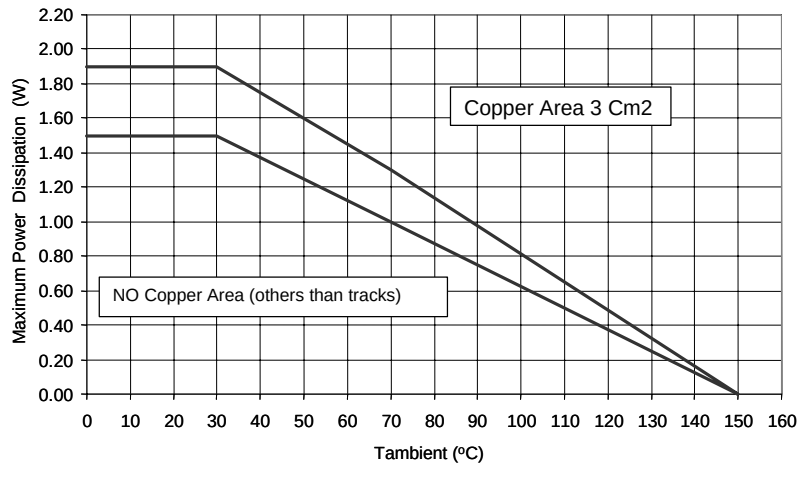
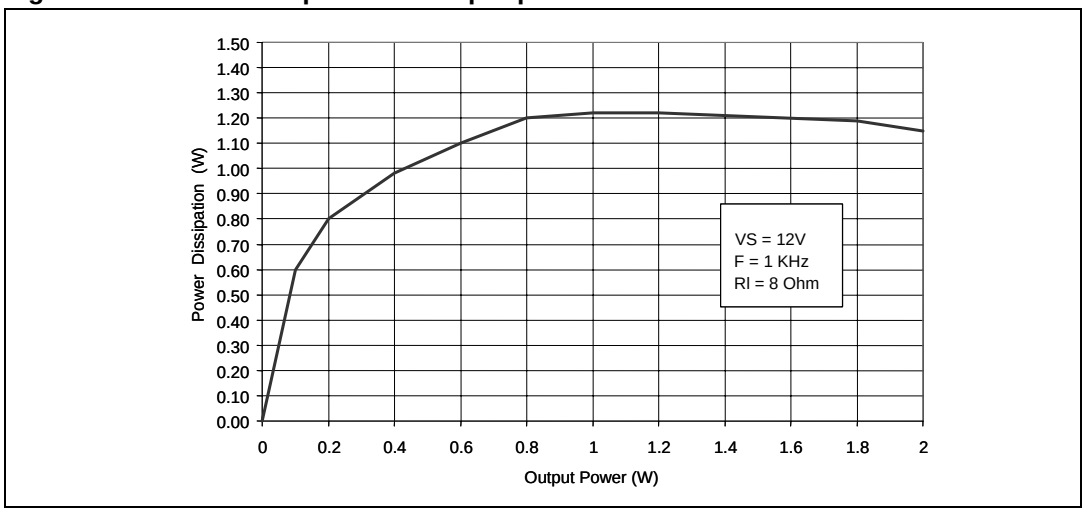


Figure 5. Power dissipation vs output power



5 Package mechanical data

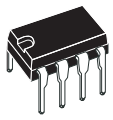
The TDA7267T comes in a 8-pin DIP package.

Figure 6 below gives the package outline and dimensions.

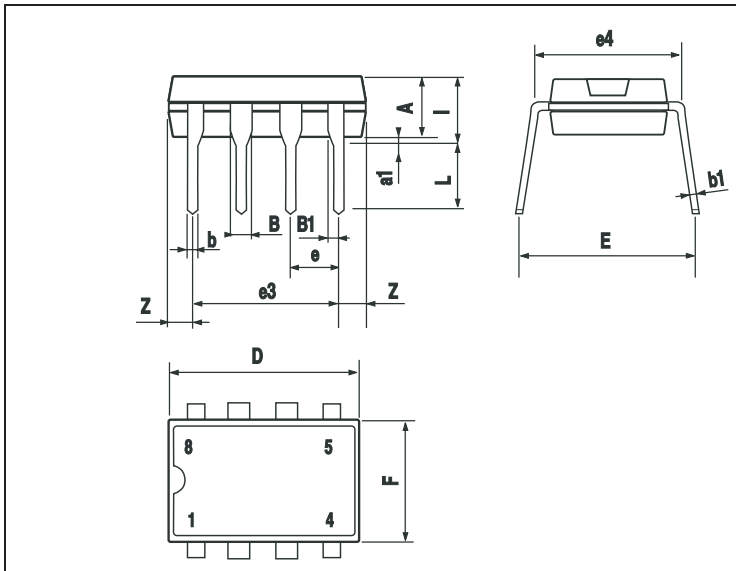
Figure 6. DIP-8 outline drawing and dimensions

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
I			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

OUTLINE AND MECHANICAL DATA



DIP-8



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6 Revision history

Table 5. Document revision history

Date	Revision	Changes
Dec-2005	1	Initial release.
29-May-2009	2	Updated temperature to 70° C in *Chapter 4 on page 6*.

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