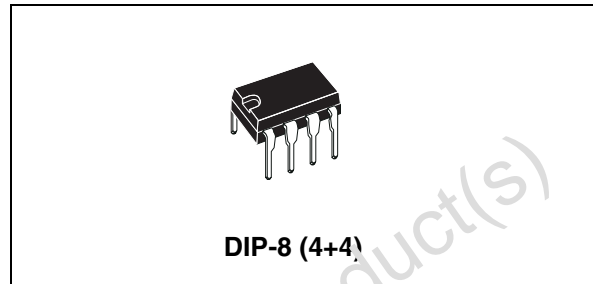


### Features

- 2 W output power into 8  $\Omega$  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



### Description

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

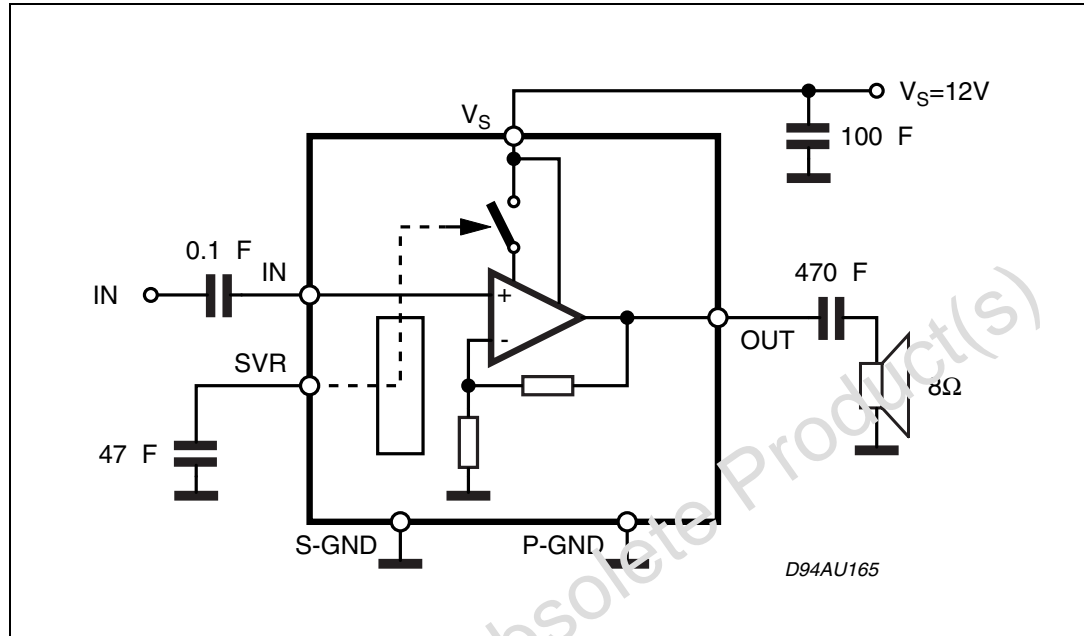
Thanks to the fully complementary output configuration the device delivers a rail-to-rail voltage swing without the need for bootstrap capacitors.

**Table 1. Device summary**

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

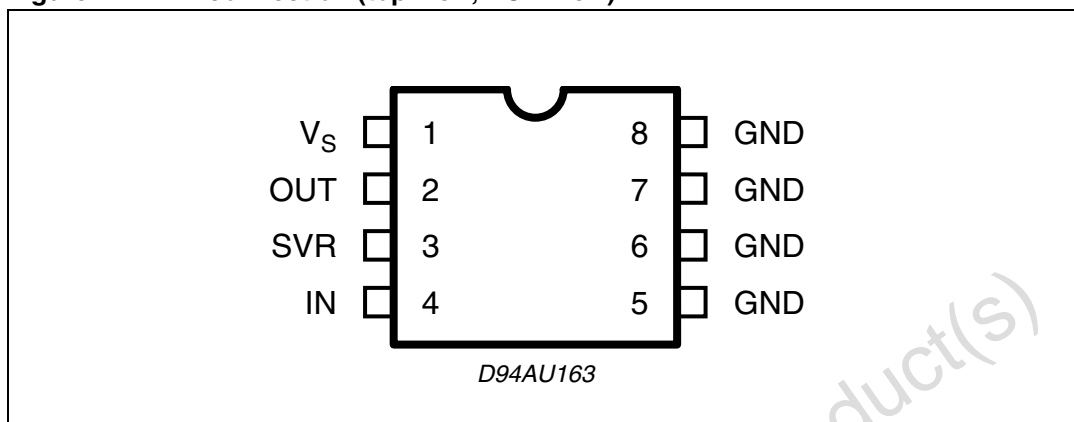
# 1 Block diagram and applications circuit

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
$R_{th\ j-amb}$	Thermal resistance, junction to ambient (on PCB)	-	76	-	°C/W
$R_{th\ j-case}$	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:  $V_S = 12\text{ V}$ ,  $R_L = 8\ \Omega$ ,  $f = 1\text{ kHz}$  and  $T_{amb} = 25^\circ\text{C}$ .

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	-	k $\Omega$
$P_O$	Output power	THD = 10%	1.8	2.0	-	W
THD	Total harmonic distortion	$P_O = 1\text{ W}$	-	-	1.0	%
SVR	Supply voltage rejection	$f_{ripple} = 1\text{ kHz}$ , $V_{ripple} = 150\text{ mV RMS}$	-	50	-	dB

**Table 4. Electrical specifications (continued)**

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$E_I$	Input noise voltage	$R_G = 10\text{ k}\Omega$ , BW = 20 Hz to 20 kHz	-	1.5	5.0	$\mu\text{V}$
$V_{\text{STBY}}$	Standby enable voltage	-	-	-	1.0	V

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## 4 Applications information

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

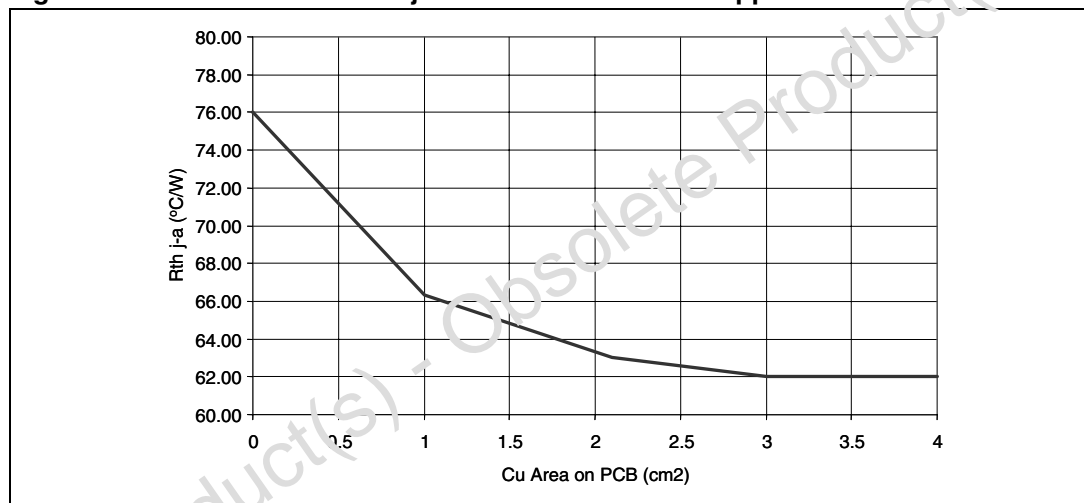
Assuming that the maximum ambient temperature is 70° C the required thermal resistance of the devices must be equal to  $(150 - 70) / 1.2 = 67 \text{ }^\circ\text{C/W}$ .

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**

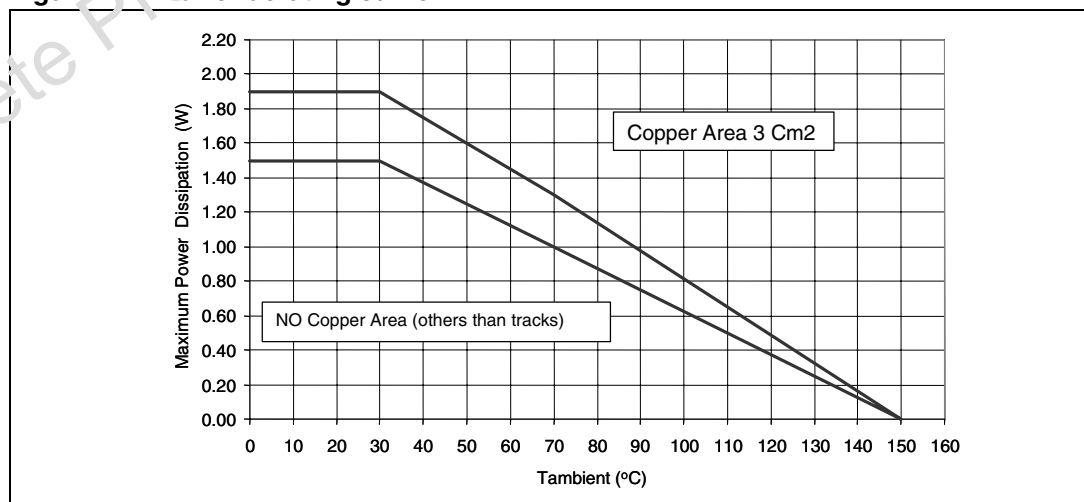
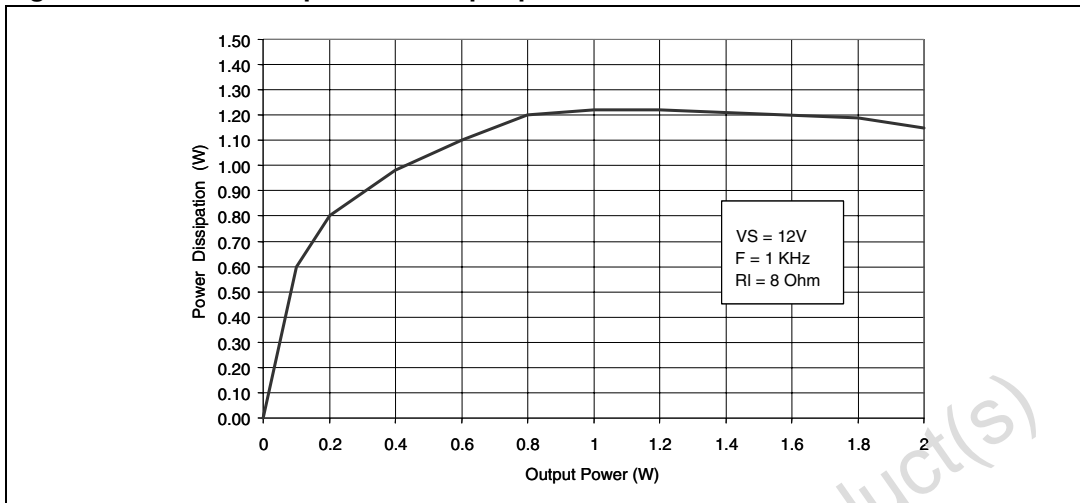


Figure 5. Power dissipation vs output power



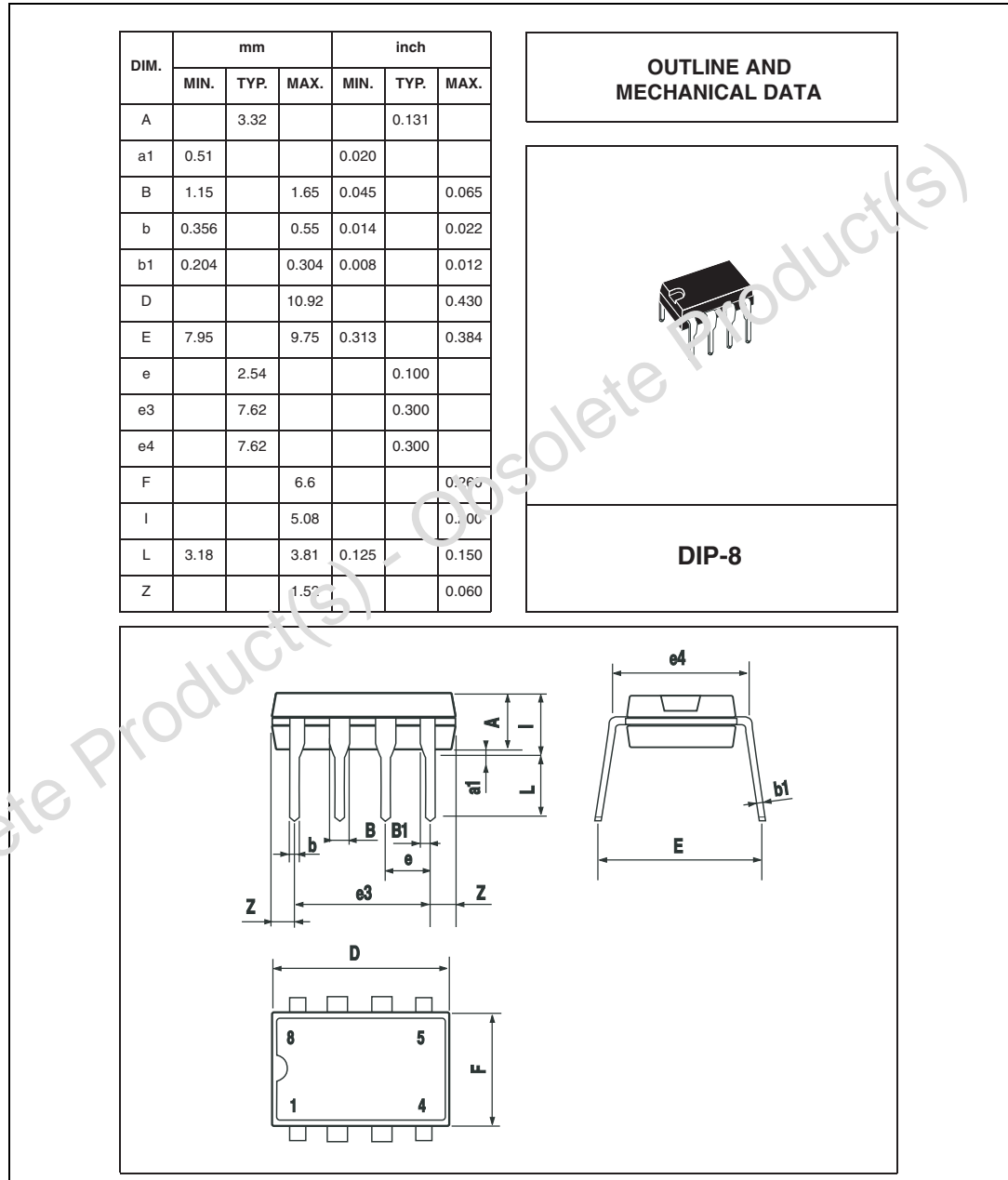
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## 5 Package mechanical data

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



In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK<sup>®</sup> packages, depending on their level of environmental compliance. ECOPACK<sup>®</sup> specifications, grade definitions and product status are available at: [www.st.com](http://www.st.com). ECOPACK<sup>®</sup> is an ST trademark.



## 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 <a href="#">Chapter 4 on page 6</a> .

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