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Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
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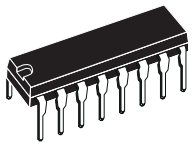
TDA7267A

3W MONO AMPLIFIER

- CAN DELIVER 3W THD 10% 14.5V/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
- STAND-BY MODE



PowerDIP 8+8

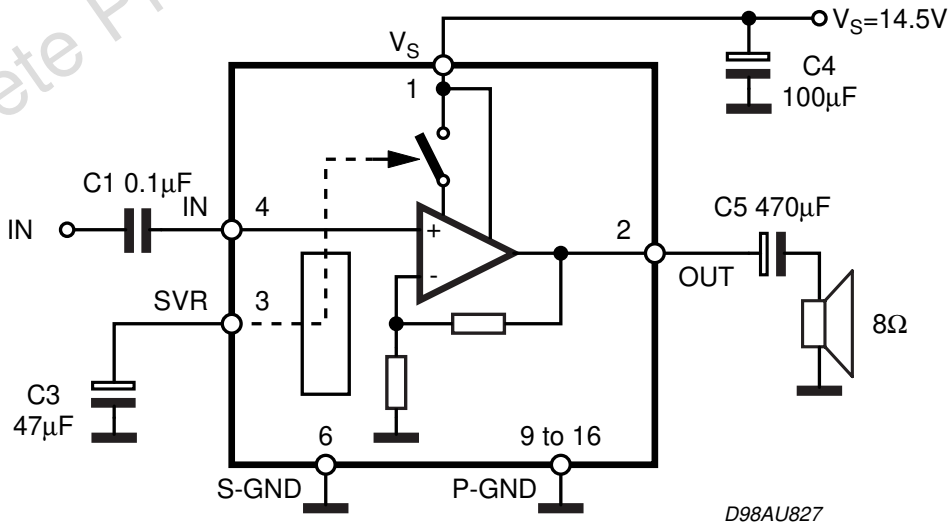
ORDERING NUMBER: TDA7267A

DESCRIPTION

The device TDA7267A is a new technology Mono Audio Amplifier in PowerDIP package specifically designed for TV application.

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

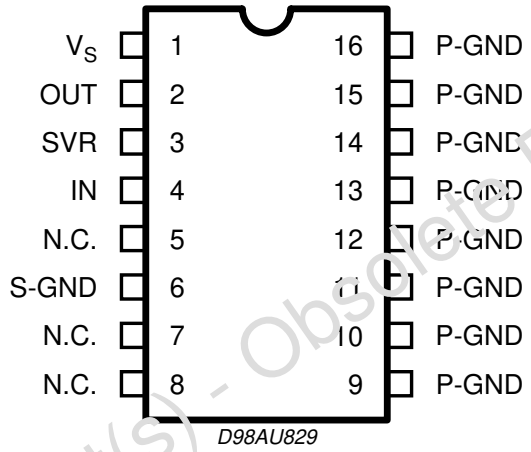
BLOCK DIAGRAM



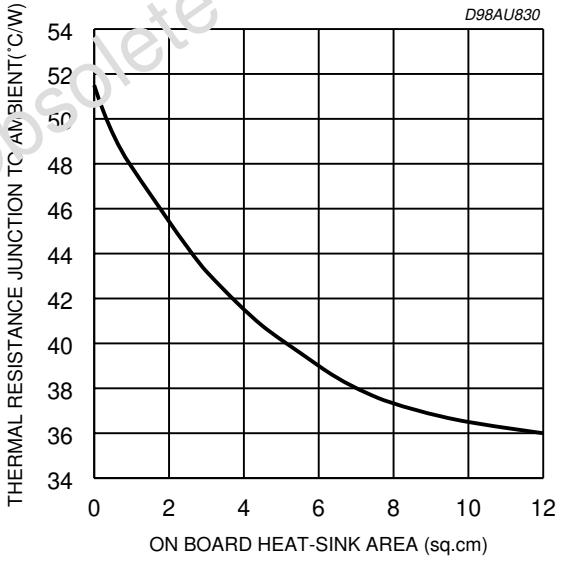
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Operating Supply Voltage	18	V
I_O	Output Put 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

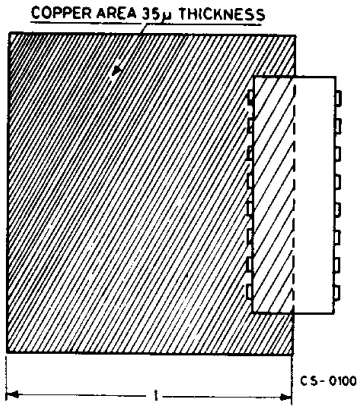
PIN CONNECTION (Top view)



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



Example of heatsink using PC board copper



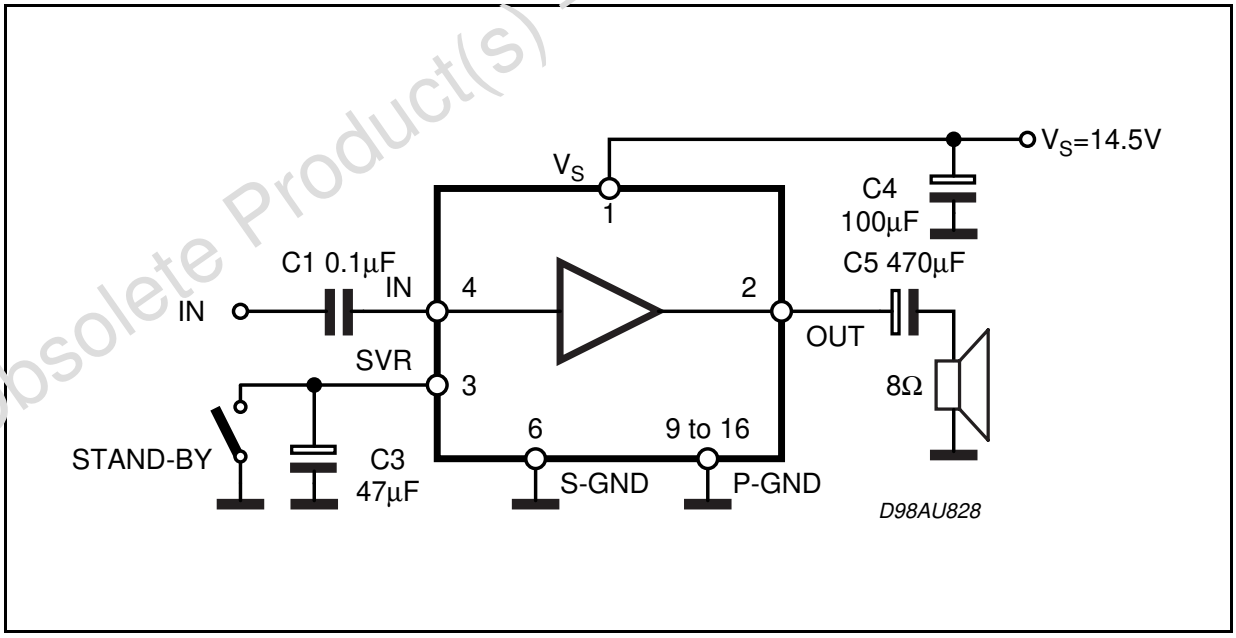
THERMAL DATA

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

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C; V_S = 14.5V; R_L = 8Ω; f = 1KHz; unless otherwise specified.)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage Range		5		18	V
I_S	Quiescent Current			23	35	mA
I_{sb}	Stand-By Current	Pin 3 shorted to GND			0.3	µA
V_O	Quiescent Output Voltage			7.5		V
A_V	Voltage Gain		31		33	dB
R_{IN}	Input Impedance		50	00		KΩ
P_O	Output Power	THD = 10%	2.7	3		W
THD	Distortion	P_O = 1W		0.1	0.3	%
SVR	Supply Voltage Rejection	V_{ripple} = 150mVrms; F_{ripple} = 1KHz		50		dB
E_I	Input Noise Voltage	Rg = 10KΩ; BW = 20Hz to 20KHz		5	10	µV
V_{sb}	Stand-By Enable Voltage				1	V

Figure 1. Application Circuit



APPLICATION HINTS:

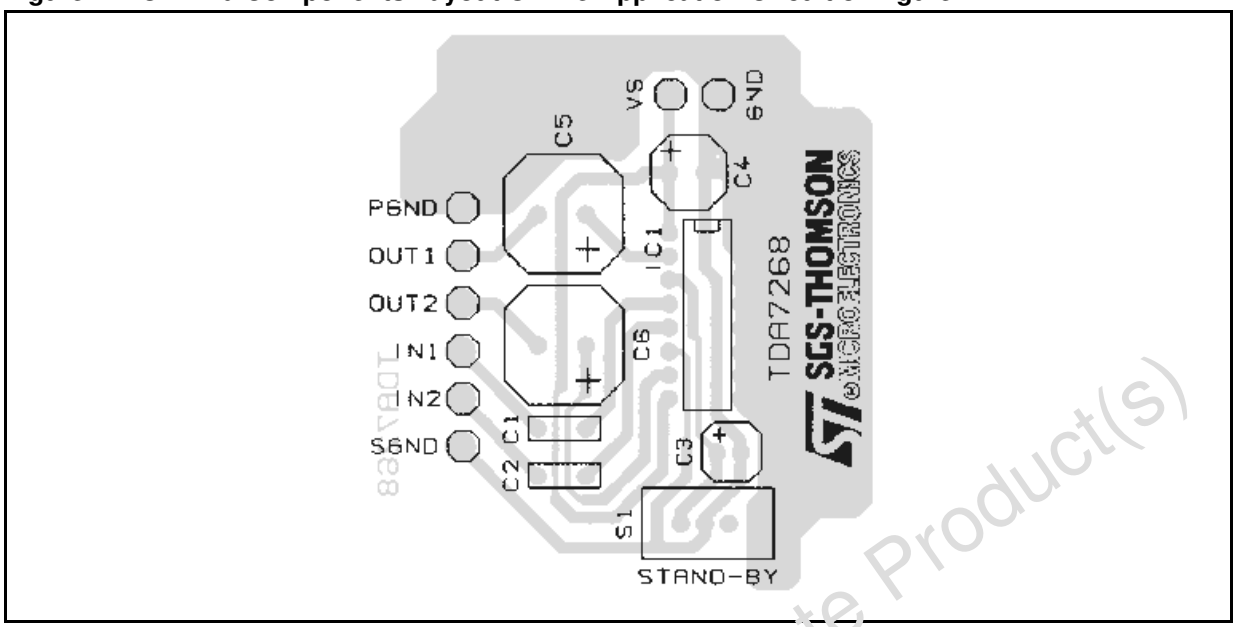
For 14.5V supply and 8Ω speaker application, its maximum power dissipation is about 1.8W.

Assumming that max ambient temperature is 70°C, the required thermal resistance of the device mounted on the PCB with a dissipating area must be equal to: (150 - 70)/1.8 = 44.4°C/W.

Junction to pin thermal resistance of the package is about 15°C/W. That means external heat sink of about 30°C/W is required.

Cu ground plane of PCB can be used as heat dissipating means.

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



Components C2 and C6 must be ignored.

Figure 3. Distortion vs Output Power

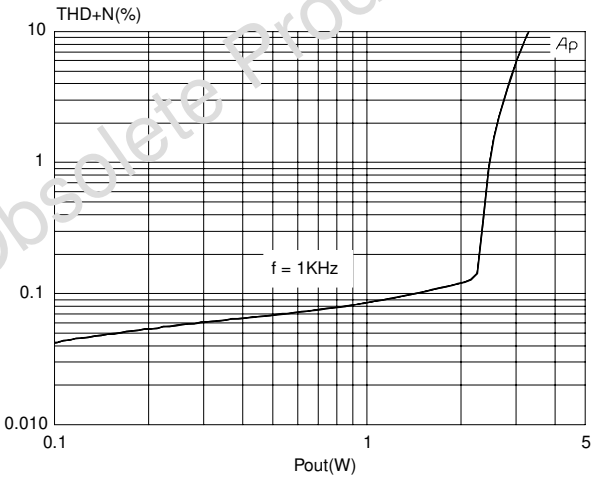
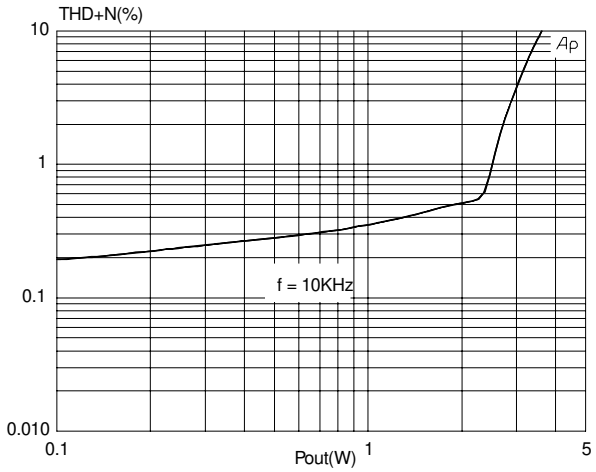


Figure 4. Distortion vs Output Power



Remark: all the characterization curves refer to the electrical test conditions.

Figure 5. Distortion vs Output Power

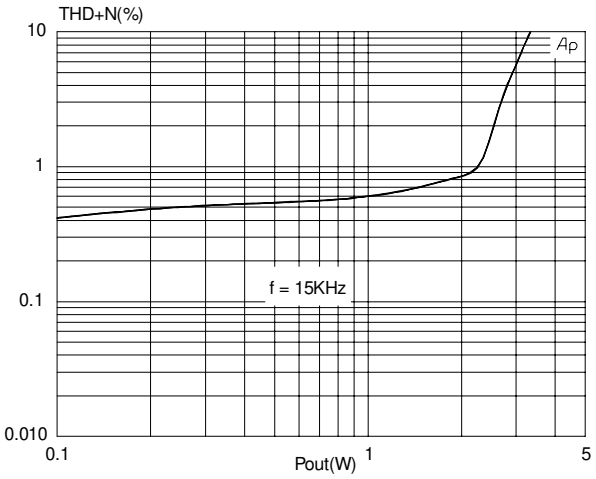


Figure 6. Output Power vs Supply Voltage

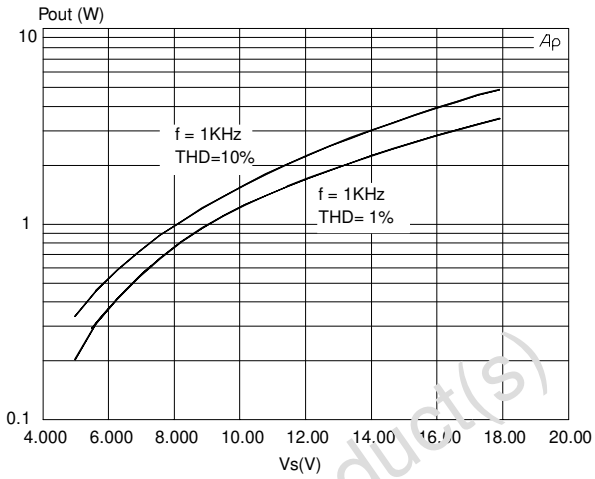


Figure 7. Distortion vs Frequency

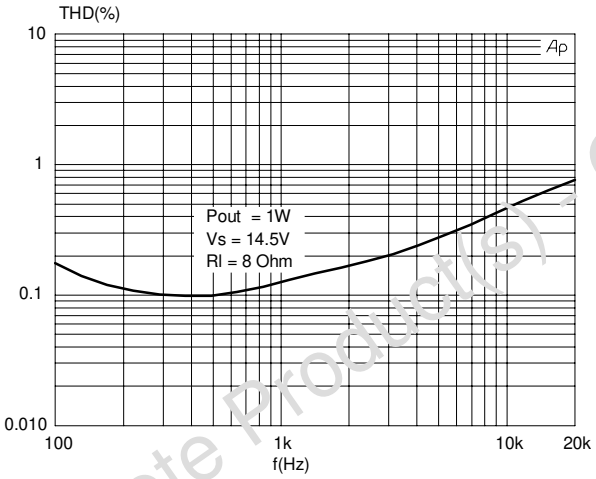


Figure 8. Quiescent current vs Supply Voltage

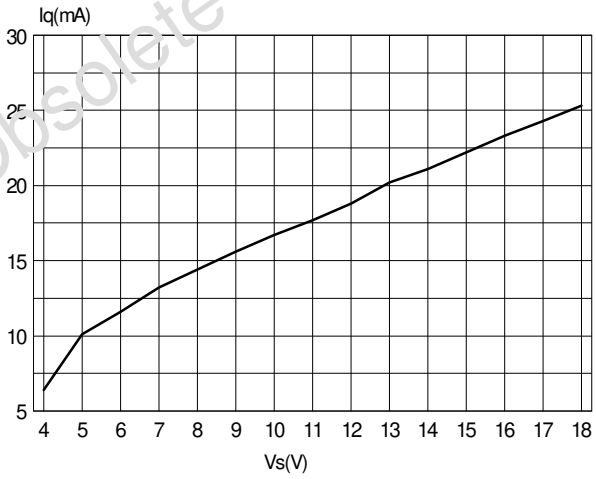
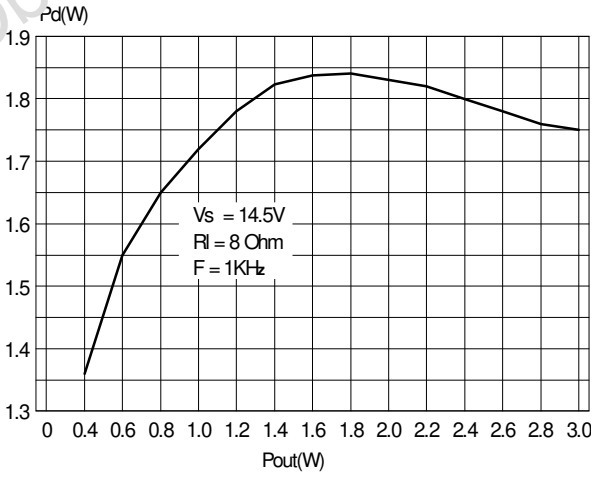


Figure 9. Power dissipation vs Output Power



POWERDIP 8+8 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.51			0.020		
B	0.77		1.65	0.030		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		17.78			0.700	
F			7.1			0.280
I			5.1			0.201
L		3.3			0.130	
Z			1.27			0.050