

TDA7231A

1.6W AUDIO AMPLIFIER

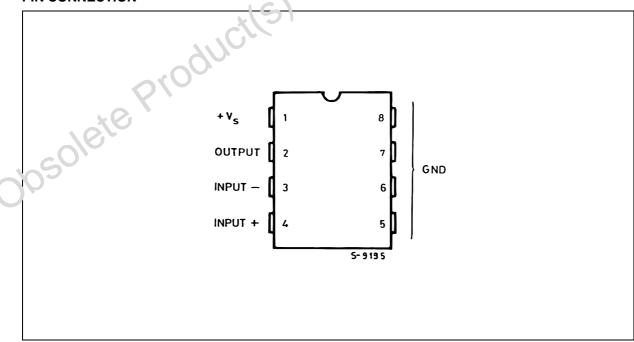
- OPERATING VOLTAGE 1.8 TO 15 V
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION
- SOFT CLIPPING



DESCRIPTION

The TDA7231A is a monolithic integrated circuit in 4 + 4 lead minidip package. It is intended for use as class AB power amplifier with wide range of supply voltage in portable radios, cassette recorders and players, etc.

PIN CONNECTION



September 2003

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
Vs	Supply Voltage	16	V
P _{tot}	Total Power Dissipation at T _{amb} = 50 °C at T _{case} = 70 °C	1.25 4	W
Io	Output Peak Current	1	Α
T _{stg} , T _j	Storage and Junction Temperature	- 40 to 150	°C

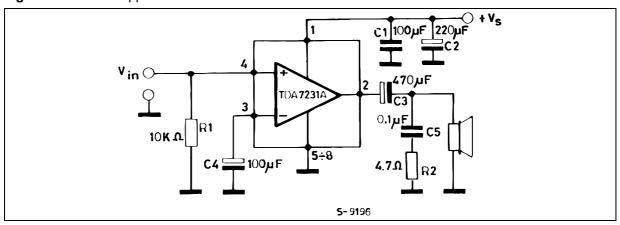
THERMAL DATA

Symbol	Parameter	Value	Unit	
R _{th j-amb}	Thermal Resistance Junction-ambient	Max.	80	°C/W
R _{th j-pins}	Thermal Resistance Junction-pins	Max.	15	°C/W

ELECTRICAL CHARACTERISTICS (V_s = 6 V, T_{amb} = 25 °C, unless otherwise specified)

Symbol	Parameter	Tes	st Conditions	Min.	Тур.	Max.	Unit
Vs	Supply Voltage			1.8		15	V
Vo	Quiescent Out Voltage	$V_S = 6 V$ $V_S = 3 V$			2.7 1.2		V
I _d	Quiescent Drain Current				3.6	9	mA
I _b	Input Bias Current				100		nA
P _o	Output Power	$d = 10\% \\ V_s = 12V \\ V_s = 9V \\ V_s = 6V \\ V_s = 6V \\ V_s = 3V \\ V_s = 3V$	$R_{L} = 8\Omega$ $R_{L} = 4\Omega$		1.8 1.6 0.4 0.7 110 70		W W W W mW mW
d	Distortion	$P_o = 0.2 \text{ W}$ $f = 1 \text{ kHz}$ $R_L = 8 \Omega$			0.3		%
Gv	Closed Loop Voltage Gain				38		dB
R _{in}	Input Resistance	f = 1kHz		100			kΩ
e _N	Total Input Noise	$R_s = 10k\Omega$	B = Curve A B = 22Hz to 22kHz		2 3		μV μV

Figure 1 : Test and Application Circuit



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Figure 2 : P.C. Board and Components Layout of the figure 1 (1:1 scale)

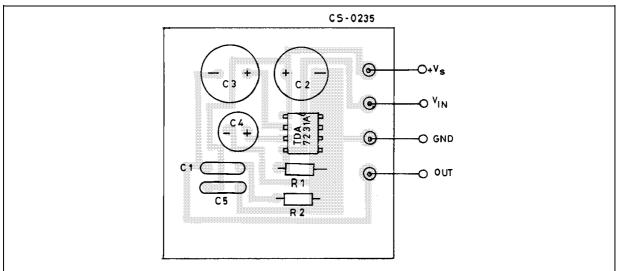


Figure 3: Output Power versus Supply Voltage

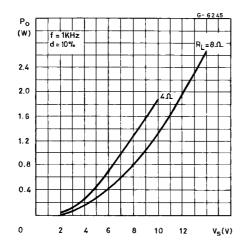


Figure 5: Quiescent Output Voltage versus Supply Voltage

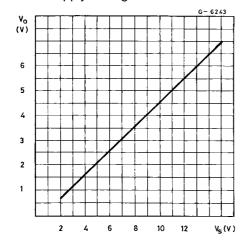


Figure 4: Quiescent Current versus Supply Voltage

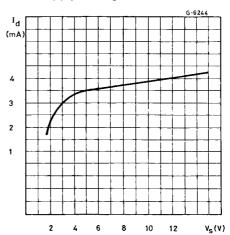
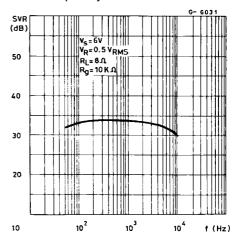


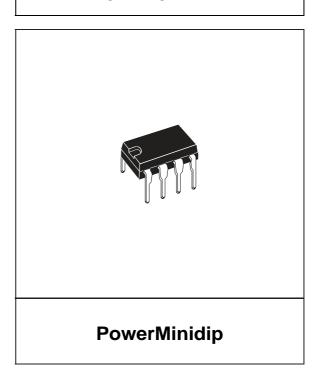
Figure 6 : Supply Voltage Rejection versus Frequency

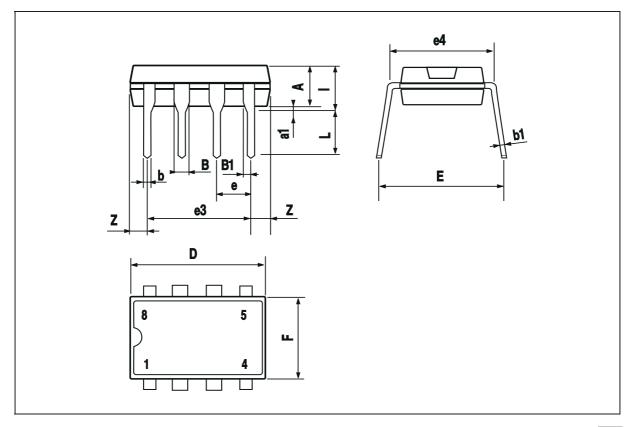


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DIM.	mm			inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Α		3.3			0.130		
a1	0.7			0.028			
В	1.39		1.65	0.055		0.065	
B1	0.91		1.04	0.036		0.041	
b		0.5			0.020		
b1	0.38		0.5	0.015		0.020	
D			9.8			0.386	
E		8.8			0.346		
е		2.54			0.100		
e3		7.62			0.300		
e4		7.62			0.300		
F			7.1			0.280	
I			4.8			0.189	
L		3.3			0.130		
Z	0.44		1.6	0.017		0.063	

OUTLINE AND MECHANICAL DATA





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