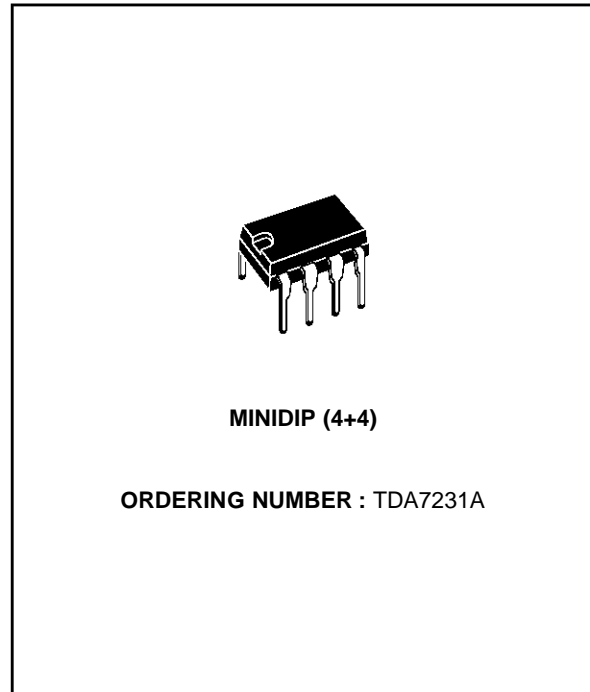


1.6W AUDIO AMPLIFIER

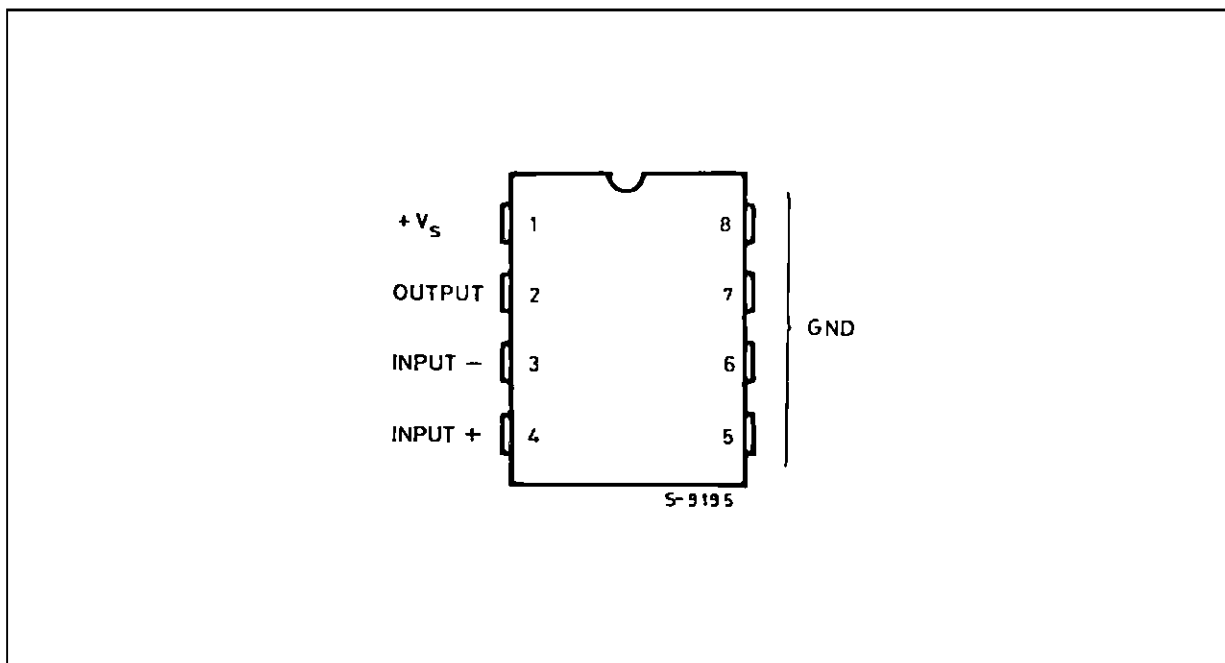
- OPERATING VOLTAGE 1.8 TO 15 V
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION
- SOFT CLIPPING



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



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_s	Supply Voltage	16	V
P_{tot}	Total Power Dissipation at $T_{amb} = 50\text{ }^\circ\text{C}$ at $T_{case} = 70\text{ }^\circ\text{C}$	1.25 4	W W
I_o	Output Peak Current	1	A
T_{stg}, T_j	Storage and Junction Temperature	- 40 to 150	$^\circ\text{C}$

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient Max.	80	$^\circ\text{C/W}$
$R_{th\ j-pins}$	Thermal Resistance Junction-pins Max.	15	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($V_s = 6\text{ V}$, $T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_s	Supply Voltage		1.8		15	V
V_o	Quiescent Out Voltage	$V_s = 6\text{ V}$ $V_s = 3\text{ V}$		2.7 1.2		V V
I_d	Quiescent Drain Current			3.6	9	mA
I_b	Input Bias Current			100		nA
P_o	Output Power	$d = 10\%$ $f = 1\text{ kHz}$ $V_s = 12\text{ V}$ $R_L = 8\Omega$ $V_s = 9\text{ V}$ $R_L = 4\Omega$ $V_s = 6\text{ V}$ $R_L = 8\Omega$ $V_s = 6\text{ V}$ $R_L = 4\Omega$ $V_s = 3\text{ V}$ $R_L = 4\Omega$ $V_s = 3\text{ V}$ $R_L = 8\Omega$		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		%
G_v	Closed Loop Voltage Gain			38		dB
R_{in}	Input Resistance	$f = 1\text{ kHz}$	100			$k\Omega$
e_N	Total Input Noise	$R_s = 10k\Omega$ $B = \text{Curve A}$ $B = 22\text{ Hz to } 22\text{ kHz}$		2 3		μV μV
SVR	Supply Voltage Rejection	$f = 100\text{ Hz}$, $R_g = 10k\Omega$	24	33		dB

Figure 1 : Test and Application Circuit

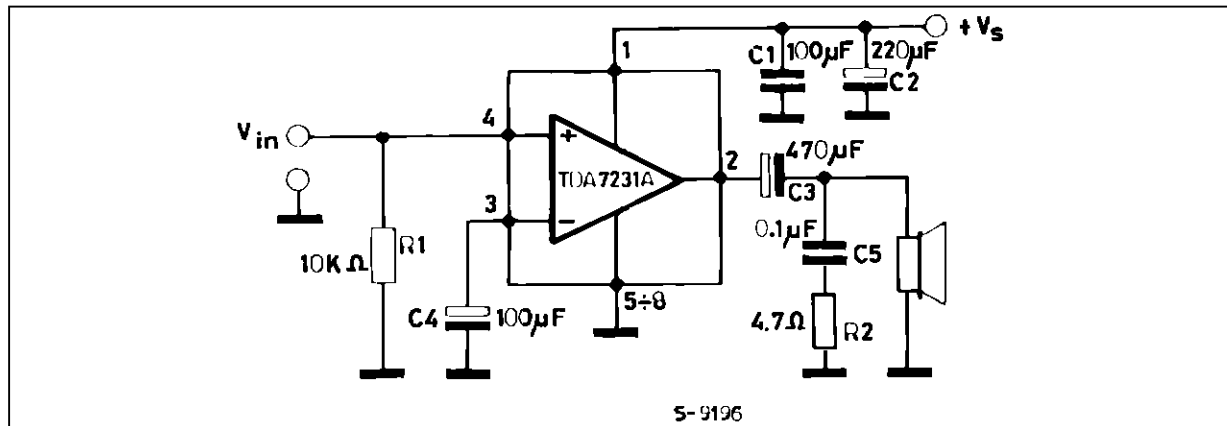


Figure 2 : P.C. Board and Components Layout of the figure 1 (1:1 scale)

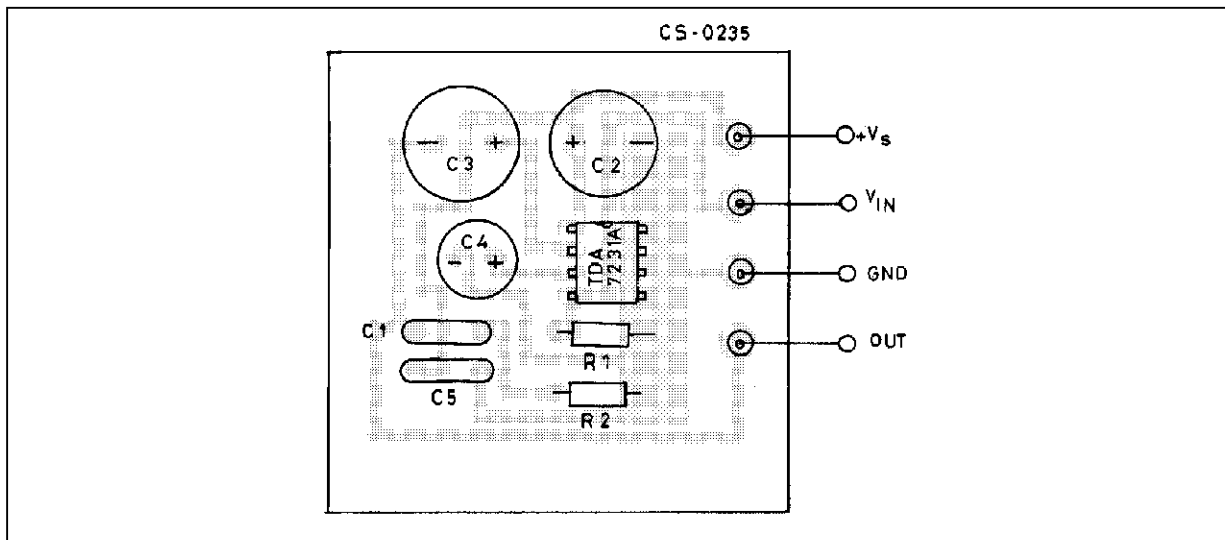


Figure 3 : Output Power versus Supply Voltage

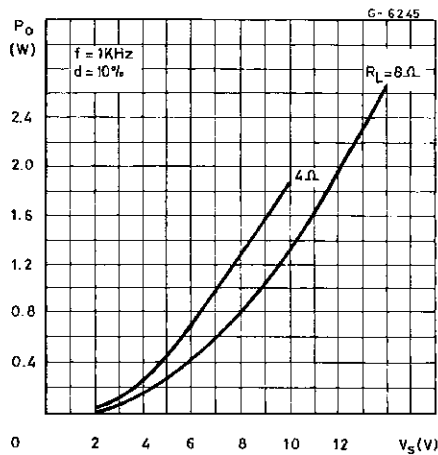


Figure 4 : Quiescent Current versus Supply Voltage

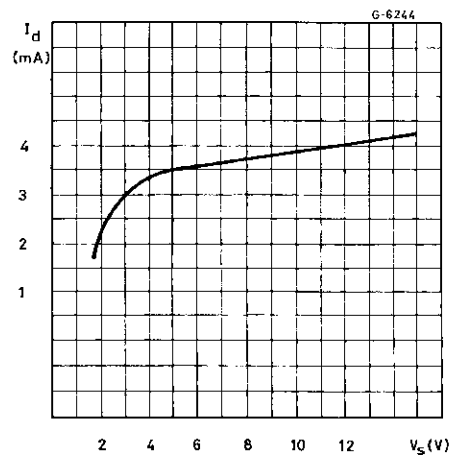


Figure 5 : Quiescent Output Voltage versus Supply Voltage

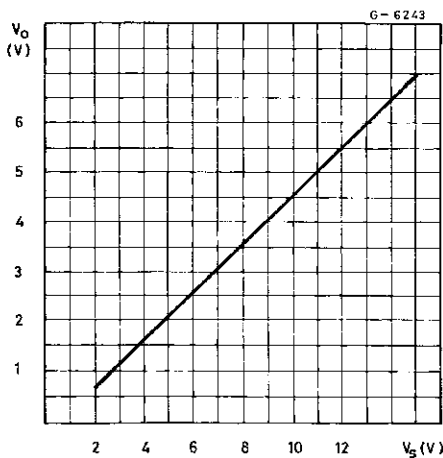
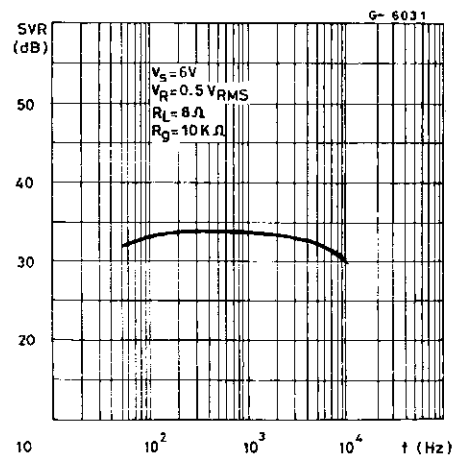


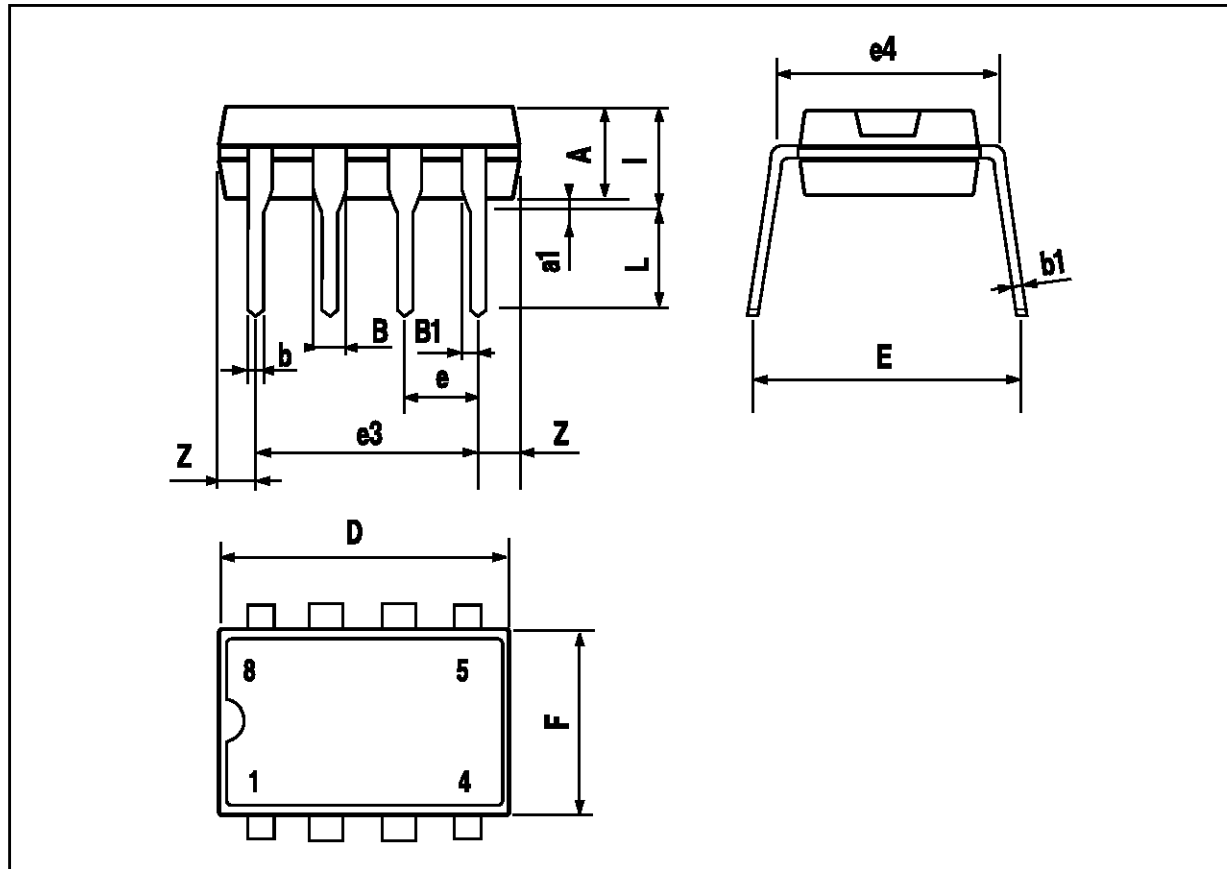
Figure 6 : Supply Voltage Rejection versus Frequency



TDA7231A

MINIDIP PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.3			0.130	
a1	0.7			0.028		
B	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	
e		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



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