

TDA7233 TDA7233D

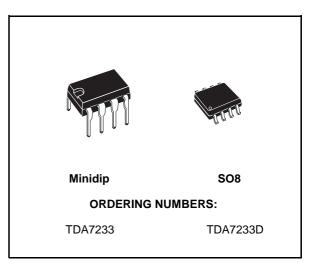
1W AUDIO AMPLIFIER WITH MUTE

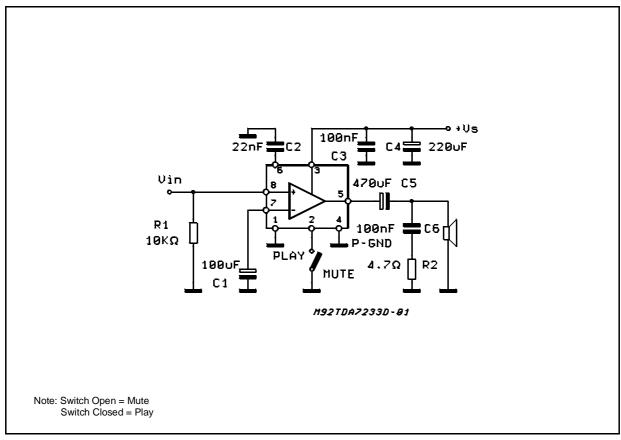
- OPERATING VOLTAGE 1.8 TO 15V
- EXTERNAL MUTE OR POWER DOWN FUNCTION
- IMPROVED SUPPLY VOLTAGE REJECTION
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION

DESCRIPTION

The TDA7233/D is a monolithic integrated circuit in 8 pin Minidip or SO8 package, intended for use as class AB power amplifier with a wide range of supply voltage from 1.8V to 15V in portable players, cordless telephones and Cellular Radios.







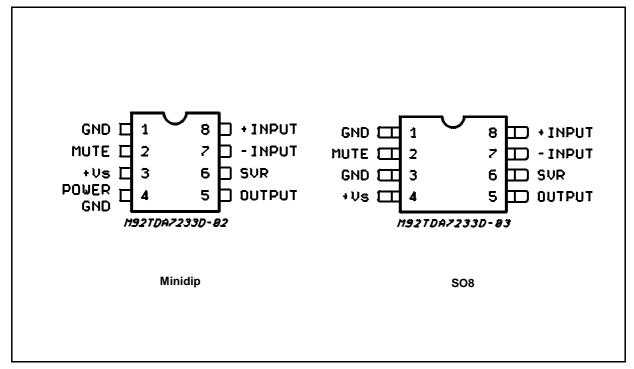
September 2003

TDA7233 - TDA7233D

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
Vs	Supply Voltage	16	V
lo	Output Peak Current	1	А
P _{tot}	Total Power Dissipation at $T_{amb} = 50^{\circ}C$	1	W
T _{stg} , T _j	Storage and Junction Temperature	-40 to 150	°C

PIN CONNECTIONS (Top views)



THERMAL DATA

Symbol	Parameter		SO8	Minidip	Unit
R _{th j-amb}	Thermal Resistance Junction-ambient	Max.	200	100	°C/W



Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Unit
Vs	Supply Voltage		1.8		15	V
Vo	Quiescent Out Voltage			2.7		V
		$V_{s} = 3 V$ $V_{s} = 9 V$		1.2 4.2		V V
ld	Quiescent Drain Current	MUTE HIGH		3.6	9	mA
		MUTE LOW		0.4		
I _b	Input Bias Current			100		nA
Po	Output Power	$\begin{array}{l} d = 10 \ \% f = 1 \ \text{KHz} \\ V_s = 12 \ \text{V} R_L = 8 \ \Omega \\ V_s = 9 \ \text{V} R_L = 4 \ \Omega \\ V_s = 9 \ \text{V} R_L = 8 \ \Omega \\ V_s = 6 \ \text{V} R_L = 8 \ \Omega \\ V_s = 6 \ \text{V} R_L = 4 \ \Omega \\ V_s = 3 \ \text{V} R_L = 4 \ \Omega \\ V_s = 3 \ \text{V} R_L = 8 \ \Omega \end{array}$		1.9 1.6 1 0.4 0.7 110 70		W W W W mW mW
d	Distortion	$P_{o} = 0.5 W$ f = 1 kHz R _L = 8 Ω V _s = 9 V		0.3		%
Gv	Closed Loop Voltage Gain	f = 1 kHz		39		dB
R _{IN}	Input Resistance	f = 1 kHz	100			KΩ
e _N	Total Input Noise $(R_s = 10 \text{ k}\Omega)$	B = Curve A		2		μV
		B = 22 Hz to 22 kHz		3		
SVR	Supply Voltage Rejection	$f = 100 Hz$, $R_g = 10 KΩ$		45		dB
	MUTE Attenuation	$V_{o} = 1 V f = 100 Hz to 10 kHz$		70		dB
	MUTE Threshold			0.6		V
IM	MUTE Current	V _S = 15V		0.4		mA

ELECTRICAL CHARACTERISTICS (Vs = 6 V, Tamb = 25 °C, unless otherwise specified)

57

Figure 1: Output Power vs. Supply Voltage

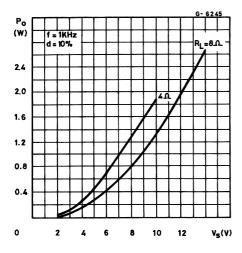


Figure 3: DC Output Voltage vs. Supply Voltage

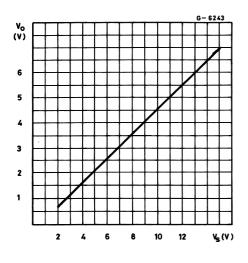


Figure 5: Total Dissipated Power vs. Supply Voltage

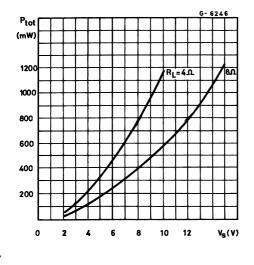


Figure 2: Supply Voltage Rejection vs. Frequency

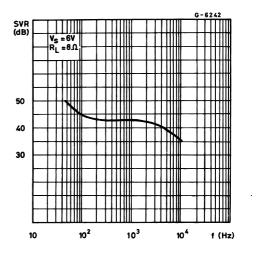
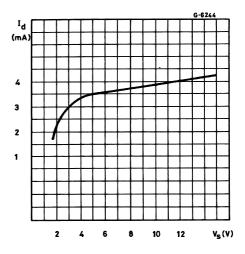
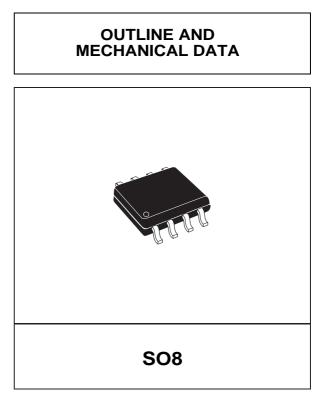


Figure 4: Quiescent Current vs. Supply Voltage

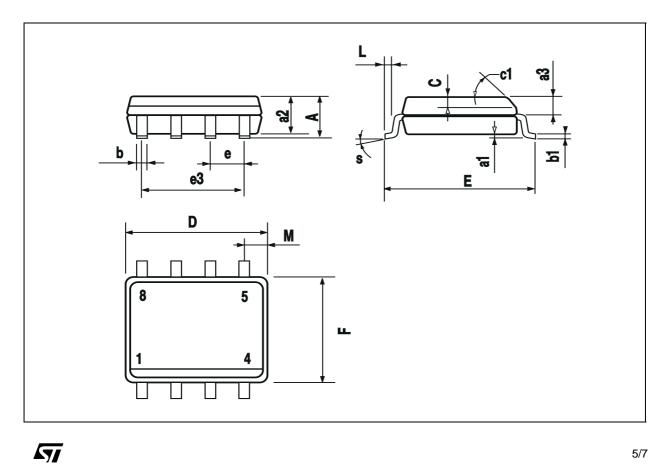




DIM.	mm			inch			
Dini.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А			1.75			0.069	
a1	0.1		0.25	0.004		0.010	
a2			1.65			0.065	
a3	0.65		0.85	0.026		0.033	
b	0.35		0.48	0.014		0.019	
b1	0.19		0.25	0.007		0.010	
С	0.25		0.5	0.010		0.020	
c1			45° ((typ.)			
D (1)	4.8		5.0	0.189		0.197	
E	5.8		6.2	0.228		0.244	
е		1.27			0.050		
e3		3.81			0.150		
F (1)	3.8		4.0	0.15		0.157	
L	0.4		1.27	0.016		0.050	
М			0.6			0.024	
S	8° (max.)						

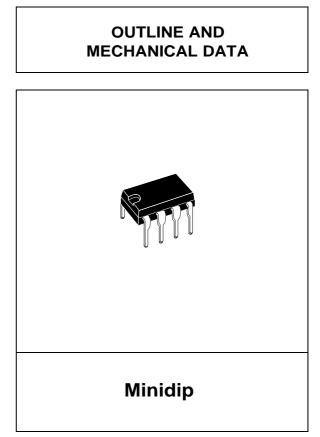


(1) D and F do not include mold flash or protrusions. Mold flash or potrusions shall not exceed 0.15mm (.006inch).

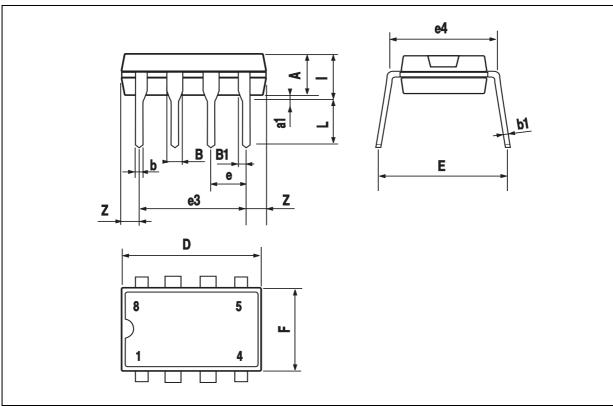


TDA7233 - TDA7233D

DIM.	mm			inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А		3.32			0.131		
a1	0.51			0.020			
В	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	
Е	7.95		9.75	0.313		0.384	
е		2.54			0.100		
e3		7.62			0.300		
e4		7.62			0.300		
F			6.6			0.260	
Ι			5.08			0.200	
L	3.18		3.81	0.125		0.150	
Z			1.52			0.060	



57



6/7

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57