



7W MONO BRIDGE AMPLIFIER

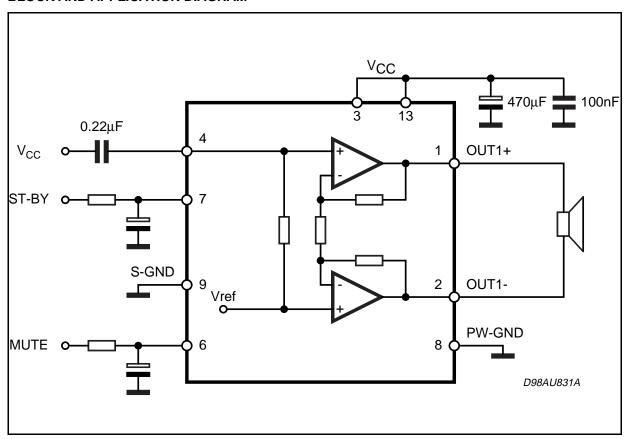
- WIDE SUPPLY VOLTAGE RANGE (3-18V)
- MINIMUM EXTERNAL COMPONENTS
 - NO SWR CAPACITOR
 - NO BOOTSTRAP
 - NO BOUCHEROT CELLS
 - INTERNALLY FIXED GAIN
- STAND-BY & MUTE FUNCTIONS
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION



The TDA7266M is a mono bridge amplifier specially designed for TV and Portable Radio applications.

Multiwatt 15 ORDERING NUMBER: TDA7266M

BLOCK AND APPLICATION DIAGRAM



July 2002 1/9

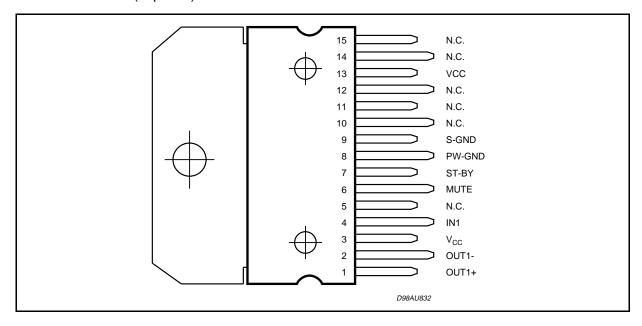
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
Vs	Supply Voltage	20	V
lo	Output Peak Current (internally limited)	2	Α
P _{tot}	Total Power Dissipation (T _{case} = 70°C)	33	W
T _{op}	Operating Temperature	0 to 70	°C
T _{stq} , T _i	Storage and Junction Temperature	-40 to +150	°C

THERMAL DATA

Symbol	Symbol Description		Value		
R _{th j-case}	Thermal Resistance Junction to case	Typ. 1.4	Max. 2	°C/W	

PIN CONNECTION (Top view)



ELECTRICAL CHARACTERISTICS (V_{CC} = 11V, R_L = 8Ω , f = 1kHz, T_{amb} = 25°C unless otherwise specified.)

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Unit
Vcc	Supply Range		3	11	18	V
I_q	Total Quiescent Current			50	65	mA
Vos	Output Offset Voltage				120	mV
Po	Output Power	THD = 10%	6.3	7		W
THD	Total Harmonic Distortion	$P_O = 1W$		0.05	0.2	%
		$P_0 = 0.1W$ to 2W f = 100Hz to 15kHz			1	%
SVR	Supply Voltage Rejection	f = 100Hz VR = 0.5V	40	56		dB
A _{MUTE}	Mute Attenuation		60	80		dB
T_W	Thermal Threshold			150		°C
Gv	Closed Loop Voltage Gain		25	26	27	dB
Ri	Input Resistance		25	30		KΩ
VT _{MUTE}	Mute Threshold	for $V_{CC} > 6.4V$; $V_{O} = -30dB$ for $V_{CC} < 6.4V$; $V_{O} = -30dB$	2.3 V _{CC} /2 -1	2.9 V _{CC} /2 -0.75	4.1 V _{CC} /2 -0.5	V V

ELECTRICAL CHARACTERISTICS (Continued)

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Unit
VT _{ST-BY}	St-by Threshold		0.8	1.3	1.8	V
I _{ST-BY}	ST-BY current V6 = GND				100	μΑ
e _N	Total Output Noise Voltage	A curve f = 20Hz to 20kHz		150		μV

APPLICATION SUGGESTION

STAND-BY AND MUTE FUNCTIONS

(A) Microprocessor Application

In order to avoid annoying "Pop-Noise" during Turn-On/Off transients, it is necessary to guarantee the right St-by and mute signals sequence. It is quite simple to obtain this function using a microprocessor (Fig. 1 and 2).

At first St-by signal (from mP) goes high and the voltage across the St-by terminal (Pin 7) starts to increase exponentially. The external RC network is intended to turn-on slowly the biasing circuits of

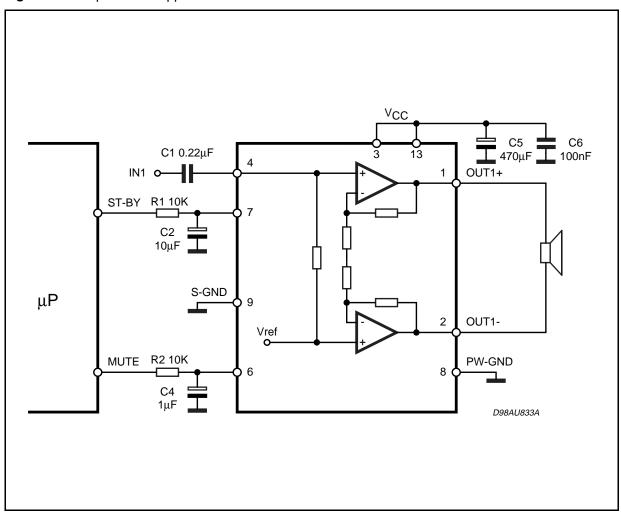
the amplifier, this to avoid "POP" and "CLICK" on the outputs.

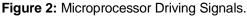
When this voltage reaches the St-by threshold level, the amplifier is switched-on and the external capacitors in series to the input terminals (C3, C5) start to charge.

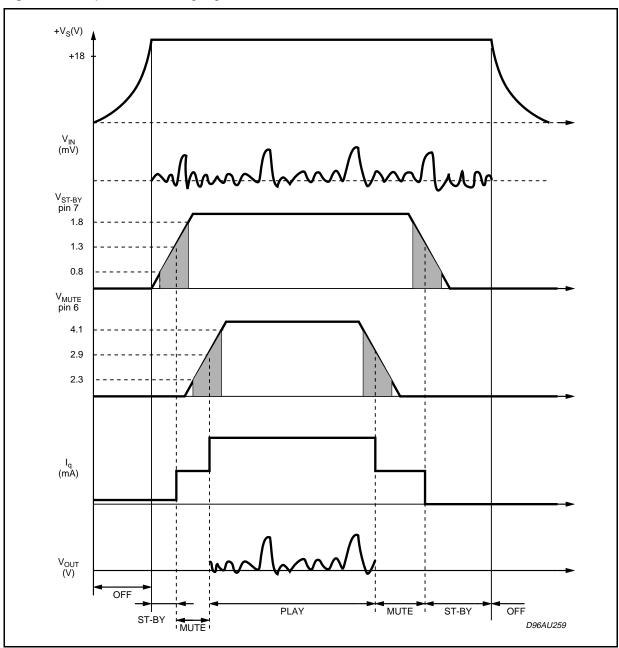
It's necessary to mantain the mute signal low until the capacitors are fully charged, this to avoid that the device goes in play mode causing a loud "Pop Noise" on the speakers.

A delay of 100-200ms between St-by and mute signals is suitable for a proper operation.

Figure 1: Microprocessor Application







(B) Low Cost Application

The St-by and mute terminals are tied together and they are connected to the supply line via an

external voltage divider.

The device is switched-on/off from the supply line and the external capacitor C4 is intended to delay the St-by and mute threshold exceeding, avoiding "Popping" problems.

Figure 3a: Stand-alone Low-cost Application.

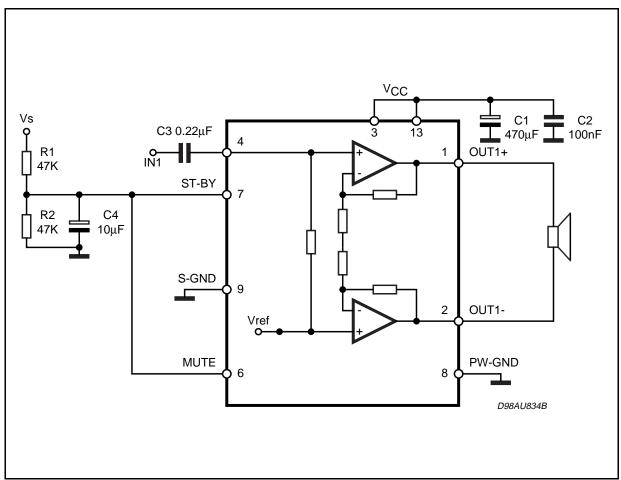


Figure 3b: PCB and Component Layout of the Application Circuit (Fig. 1).

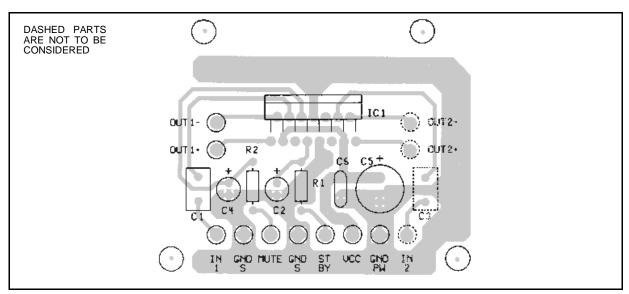


Figure 4: Distortion vs Output Power

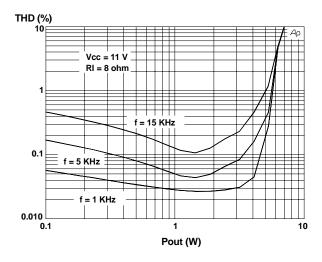


Figure 6: Distortion vs Frequency

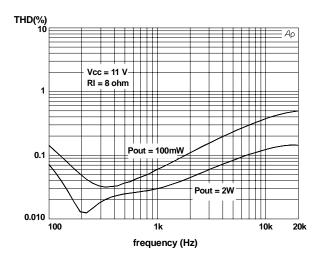


Figure 8: Output Power vs. Supply Voltage

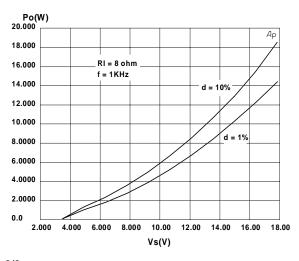


Figure 5: Distortion vs Output Power

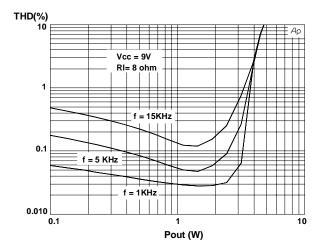


Figure 7: Gain vs Frequency

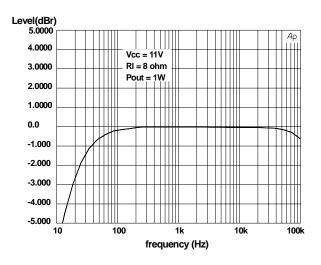


Figure 9: Total Power Dissipation & Efficiency vs. Output Power

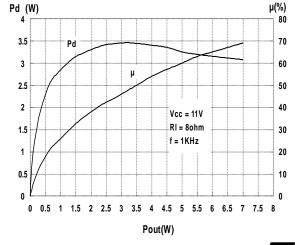


Figure 10: Mute Attenuation vs. V pin.6

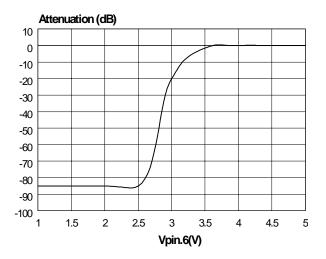


Figure 11: Stand-By Attenuation vs Vpin.7

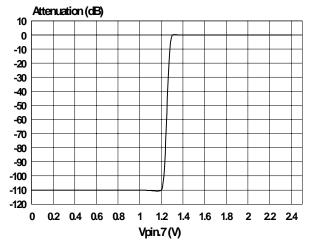
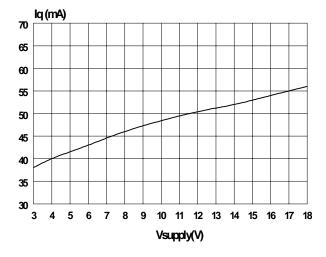


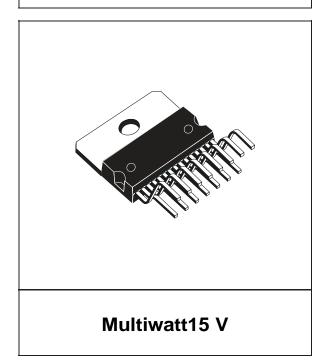
Figure 12: Quiescent Current vs. Supply Voltage

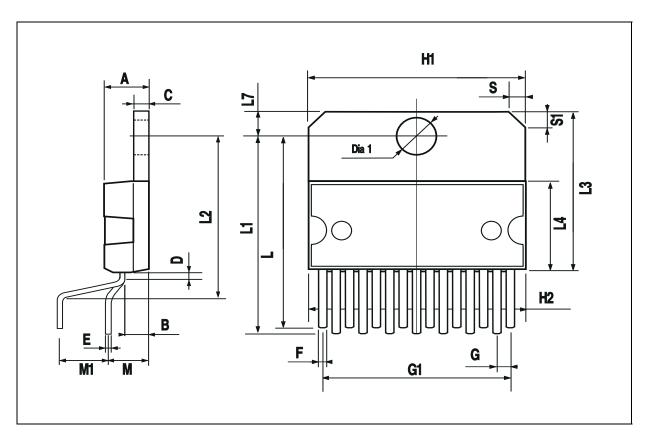


L7/

DIM.	mm			inch			
DIIVI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Α			5			0.197	
В			2.65			0.104	
С			1.6			0.063	
D		1			0.039		
Е	0.49		0.55	0.019		0.022	
F	0.66		0.75	0.026		0.030	
G	1.02	1.27	1.52	0.040	0.050	0.060	
G1	17.53	17.78	18.03	0.690	0.700	0.710	
H1	19.6			0.772			
H2			20.2			0.795	
L	21.9	22.2	22.5	0.862	0.874	0.886	
L1	21.7	22.1	22.5	0.854	0.870	0.886	
L2	17.65		18.1	0.695		0.713	
L3	17.25	17.5	17.75	0.679	0.689	0.699	
L4	10.3	10.7	10.9	0.406	0.421	0.429	
L7	2.65		2.9	0.104		0.114	
М	4.25	4.55	4.85	0.167	0.179	0.191	
M1	4.63	5.08	5.53	0.182	0.200	0.218	
S	1.9		2.6	0.075		0.102	
S1	1.9		2.6	0.075		0.102	
Dia1	3.65		3.85	0.144		0.152	

OUTLINE AND MECHANICAL DATA





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