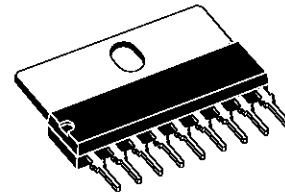


1W AUDIO AMPLIFIER WITH MUTE

- 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

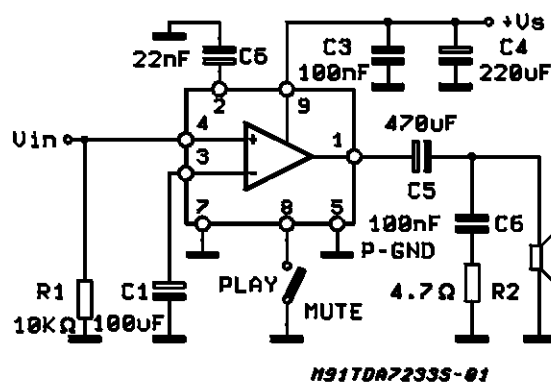
The TDA7233S is a monolithic integrated circuit in SIP 9, intended for use as class AB power amplifier with a wide range of supply voltage from 1.8V to 15V in portable radios, cassette recorders and players.



SIP9

ORDERING NUMBER: TDA7233S

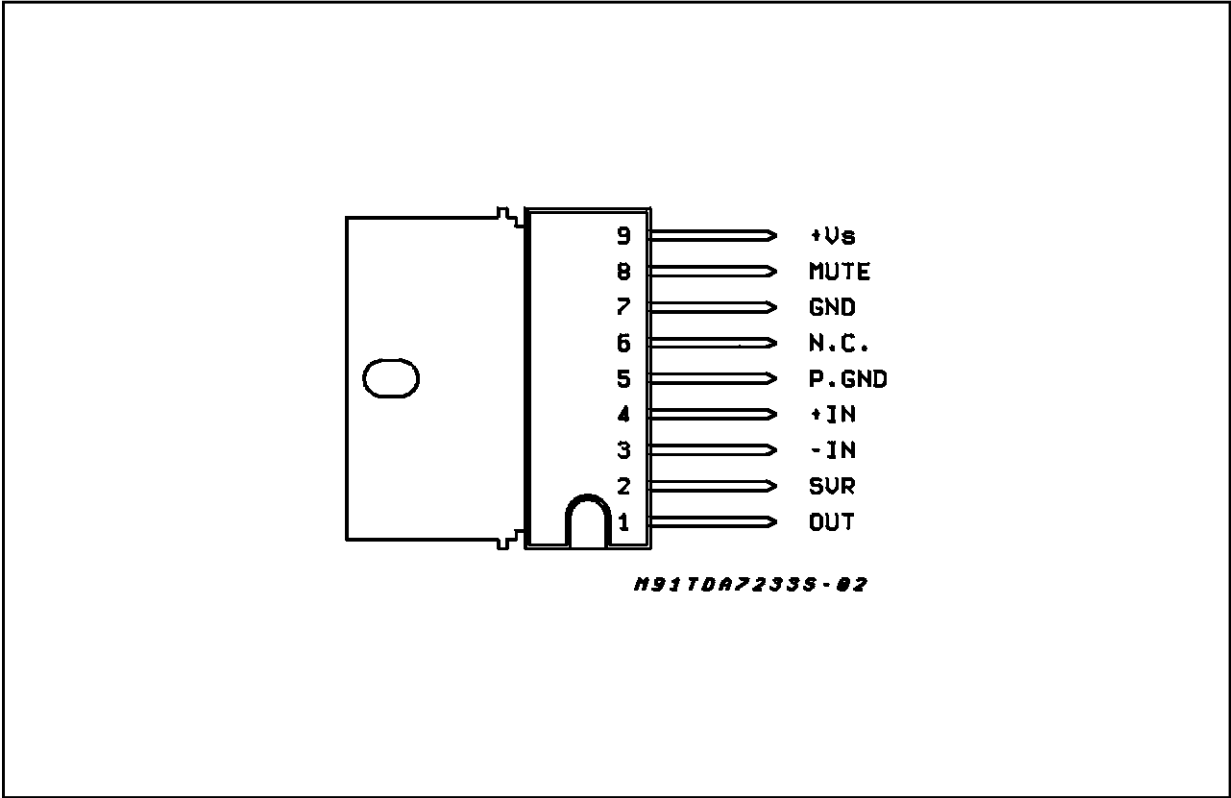
TEST AND APPLICATION CIRCUIT



MUTE SWITCH	CONDITION
OPEN	MUTE
CLOSED	PLAY

TDA7233S

PIN CONNECTION (Top view)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage	16	V
I_O	Output Peak Current	1	A
P_{tot}	Total Power Dissipation $T_{amb} = 50^{\circ}C$	1	W
T_{stg}, T_J	Storage and Junction Temperature	-40 to 150	$^{\circ}C$

THERMAL DATA

Symbol	Description	Value	Unit
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max 70	$^{\circ}C/W$
$R_{th\ j-case}$	Thermal Resistance Junction-pins	Max 10	$^{\circ}C/W$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage		1.8		15	V
V_O	Quiescent Output Voltage			27		V
		$V_S = 3V$		1.2		V
		$V_S = 9V$		4.2		V
I_d	Quiescent Drain Current	PLAY		3.6	9	mA
		MUTE		0.4		mA
I_b	Input Bias Current			100		nA
P_O	Output Power	$d = 10\%$ $f = 1kHz$				
		$V_S = 12V$ $R_L = 8\Omega$		1.9		W
		$V_S = 9V$ $R_L = 4\Omega$		1.6		W
		$V_S = 9V$ $R_L = 8\Omega$	0.8	1		W
		$V_S = 6V$ $R_L = 8\Omega$		0.4		W
		$V_S = 6V$ $R_L = 4\Omega$	0.45	0.7		W
		$V_S = 3V$ $R_L = 4\Omega$		110		mW
		$V_S = 3V$ $R_L = 8\Omega$		70		mW
d	Distortion	$P_O = 0.5W$ $R_L = 8\Omega$ $f = 1KHz$ $V_S = 9V$		0.3		%
G_V	Closed Loop Voltage Gain	$f = 1KHz$		39		dB
R_{IN}	Input Resistance	$f = 1KHz$	100			$K\Omega$
e_N	Total Input Noise ($R_S = 10K\Omega$)	$B = \text{Curve A}$		2		μV
		$B = 22Hz \text{ to } 22KHz$		3		μV
SVR	Supply Voltage Rejection	$R_g = 10K\Omega$ $f = 100Hz$	40	45		dB
	MUTE Attenuation	$V_O = 1V$, $f = 100Hz \text{ to } 10KHz$		70		dB
	MUTE Threshold			0.6		V
I_M	MUTE Current	$V_S = 15V$		0.4	2	mA

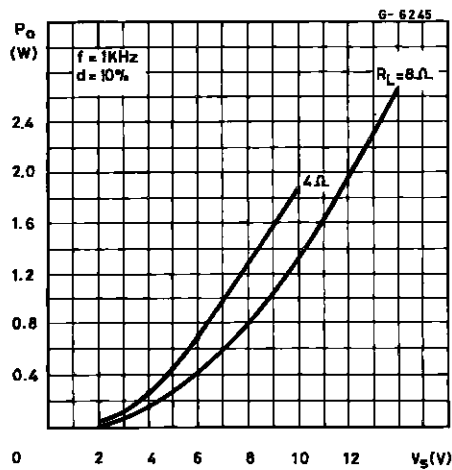
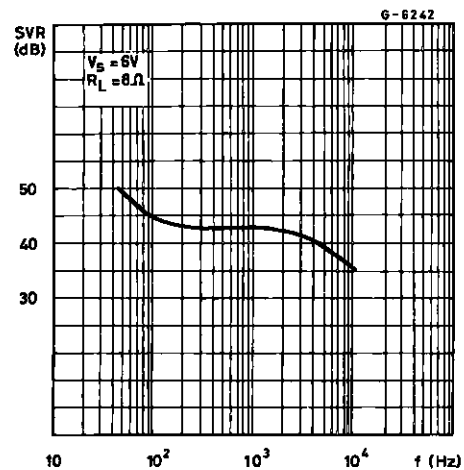
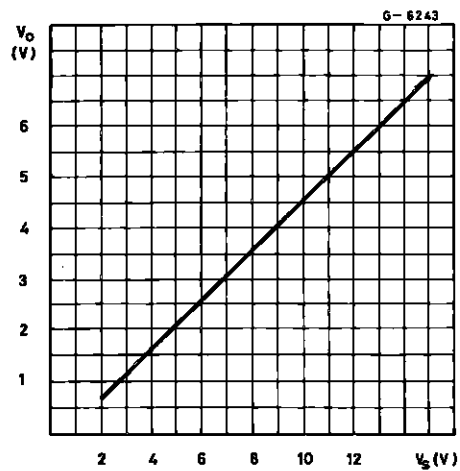
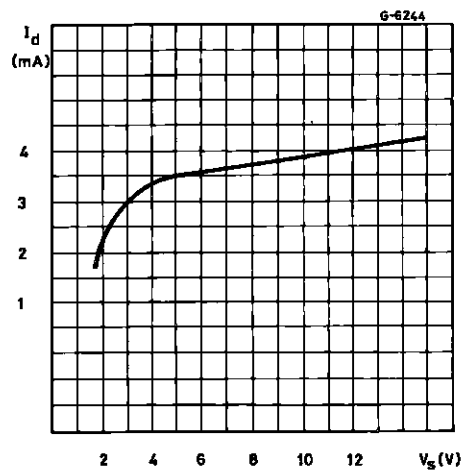
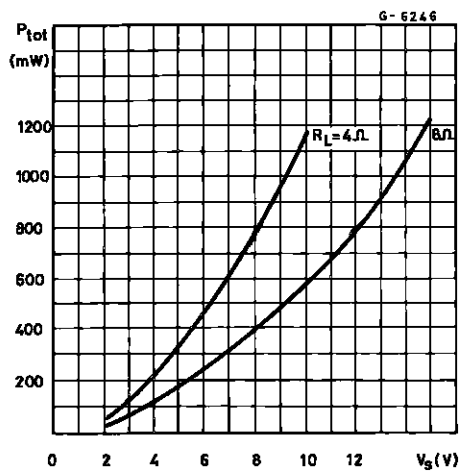
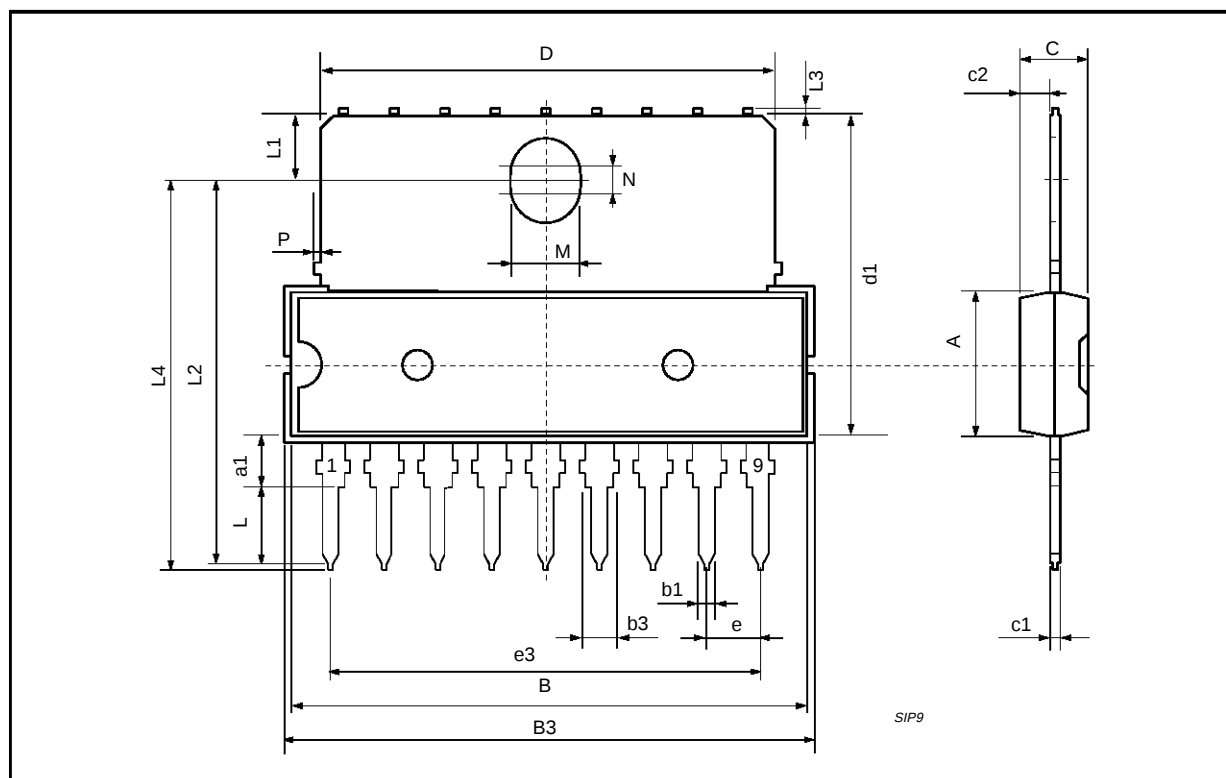
Figure 1: Output Power vs. Supply Voltage**Figure 2:** Supply Voltage Rejection vs. Frequency

Figure 3: DC Output Voltage vs. Supply Voltage**Figure 4:** Quiescent Current vs. Supply Voltage**Figure 5:** Total Dissipated Power vs. Supply Voltage

SIP9 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			7.1			0.280
a1	2.7		3	0.106		0.118
B			23			0.90
B3			24.8			0.976
b1		0.5			0.020	
b3	0.85		1.6	0.033		0.063
C		3.3			0.130	
c1		0.43			0.017	
c2		1.32			0.052	
D			21.2			0.835
d1		14.5			0.571	
e		2.54			0.100	
e3		20.32			0.800	
L	3.1			0.122		
L1		3			0.118	
L2		17.6			0.693	
L3			0.25			0.010
L4	17.4		17.85	0.685		0.702
M		3.2			0.126	
N		1			0.039	
P			0.15			0.006



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1997 SGS-THOMSON Microelectronics – Printed in Italy – All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.