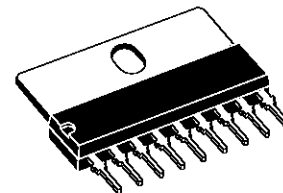


1W AUDIO AMPLIFIER WITH MUTE

- 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

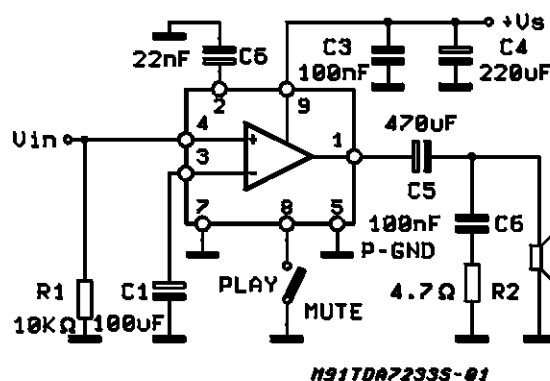
The TDA7233S is a monolithic integrated circuit in SIP 9, intended for use as class AB power amplifier with a wide range of supply voltage from 1.8V to 15V in portable radios, cassette recorders and players.



SIP9

ORDERING NUMBER: TDA7233S

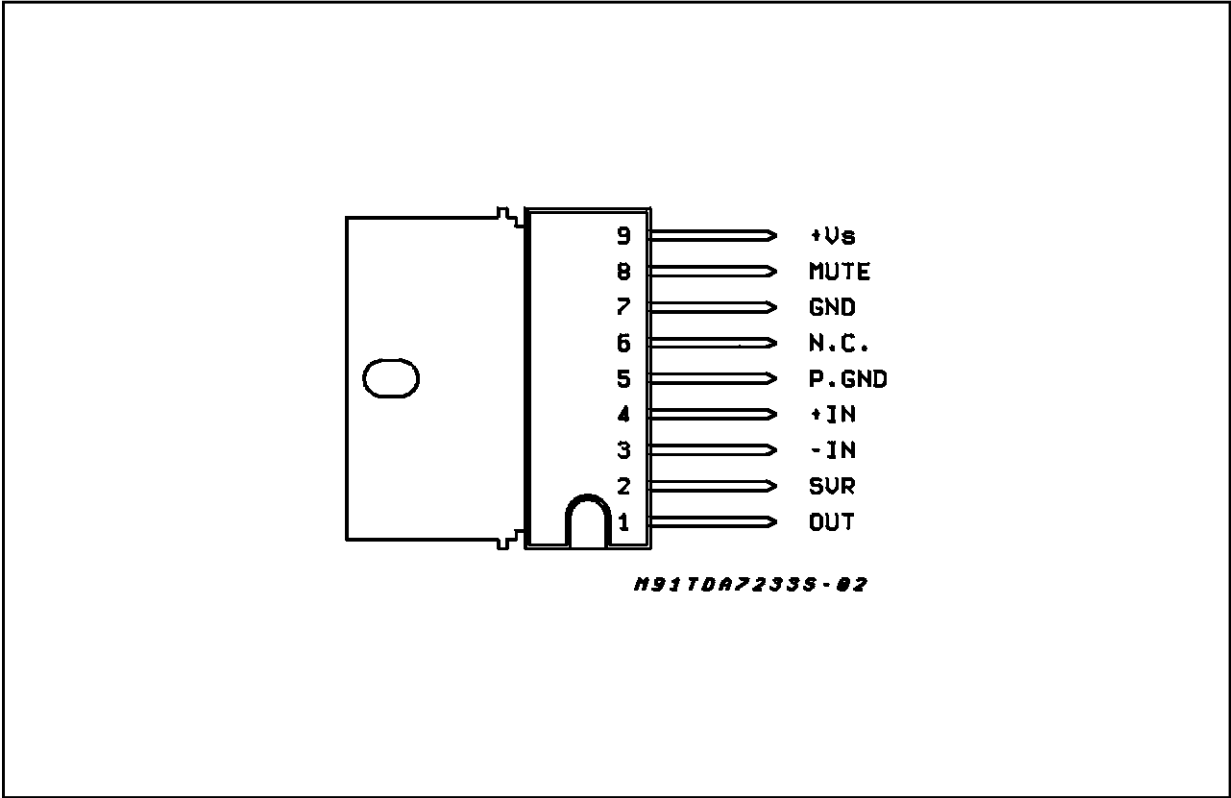
TEST AND APPLICATION CIRCUIT



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	70	$^{\circ}C/W$
$R_{th\ j-case}$	Thermal Resistance Junction-pins	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

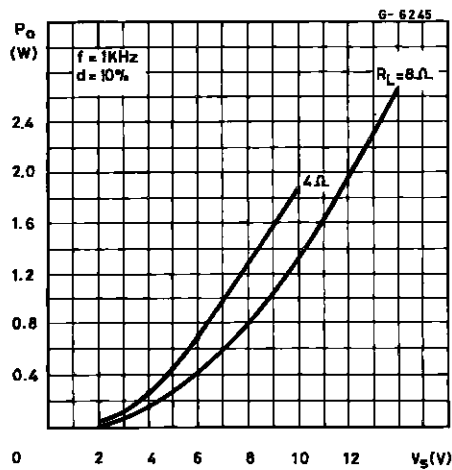
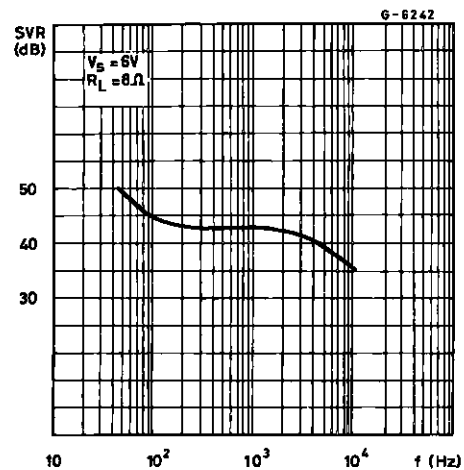
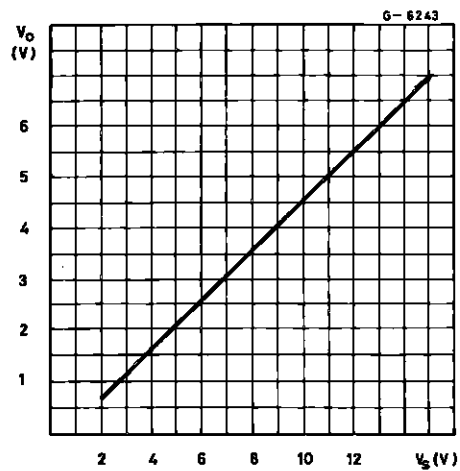
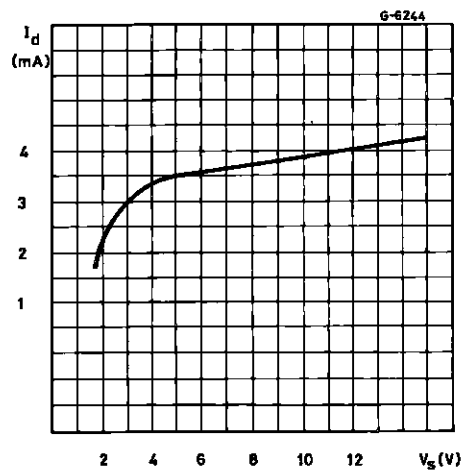
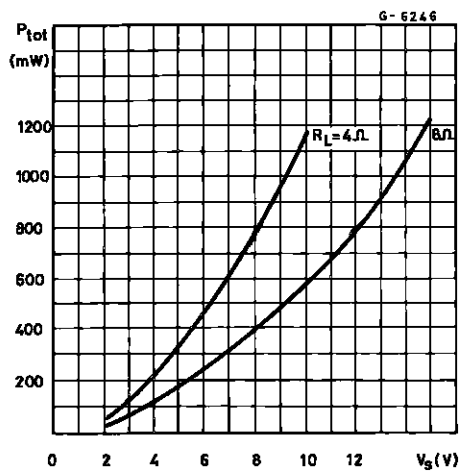
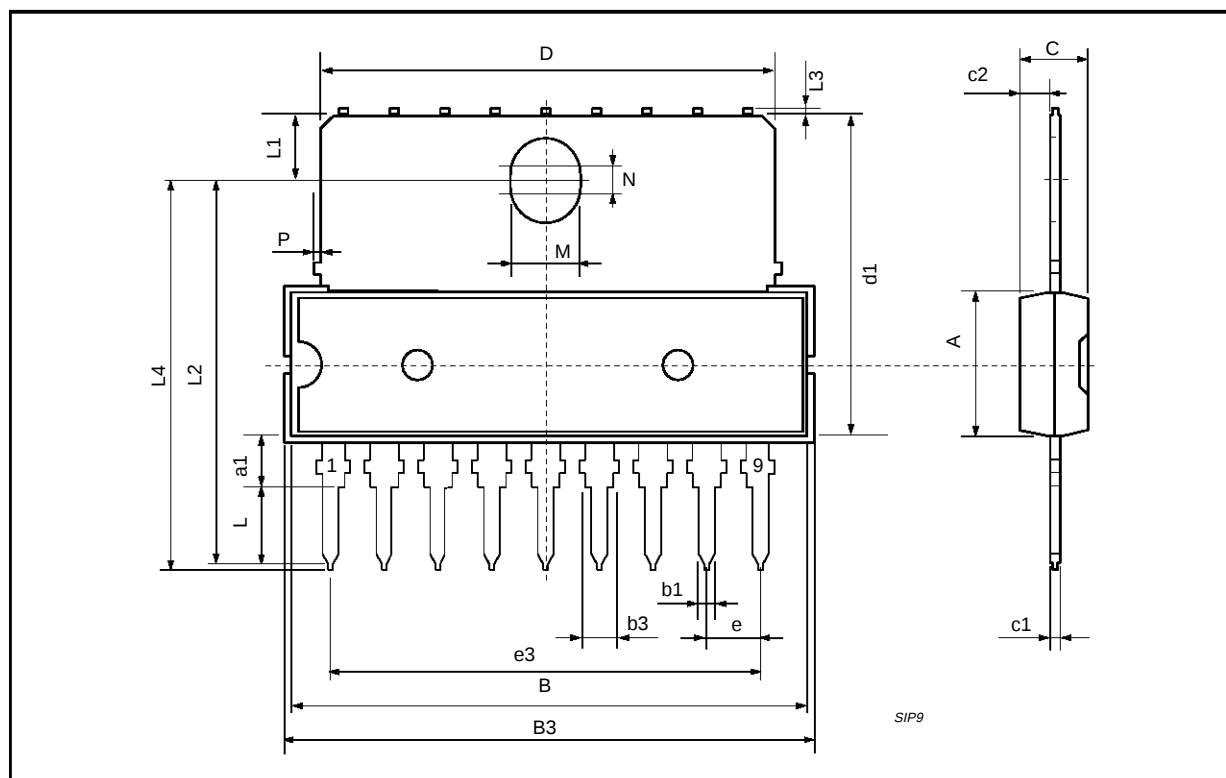
Figure 1: Output Power vs. Supply Voltage**Figure 2:** Supply Voltage Rejection vs. Frequency

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

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



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