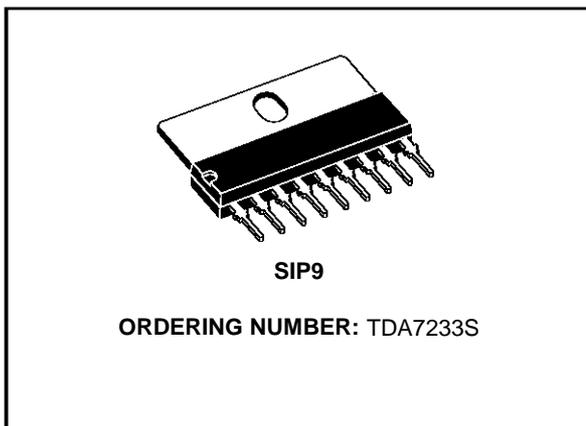


1W AUDIO AMPLIFIER WITH MUTE

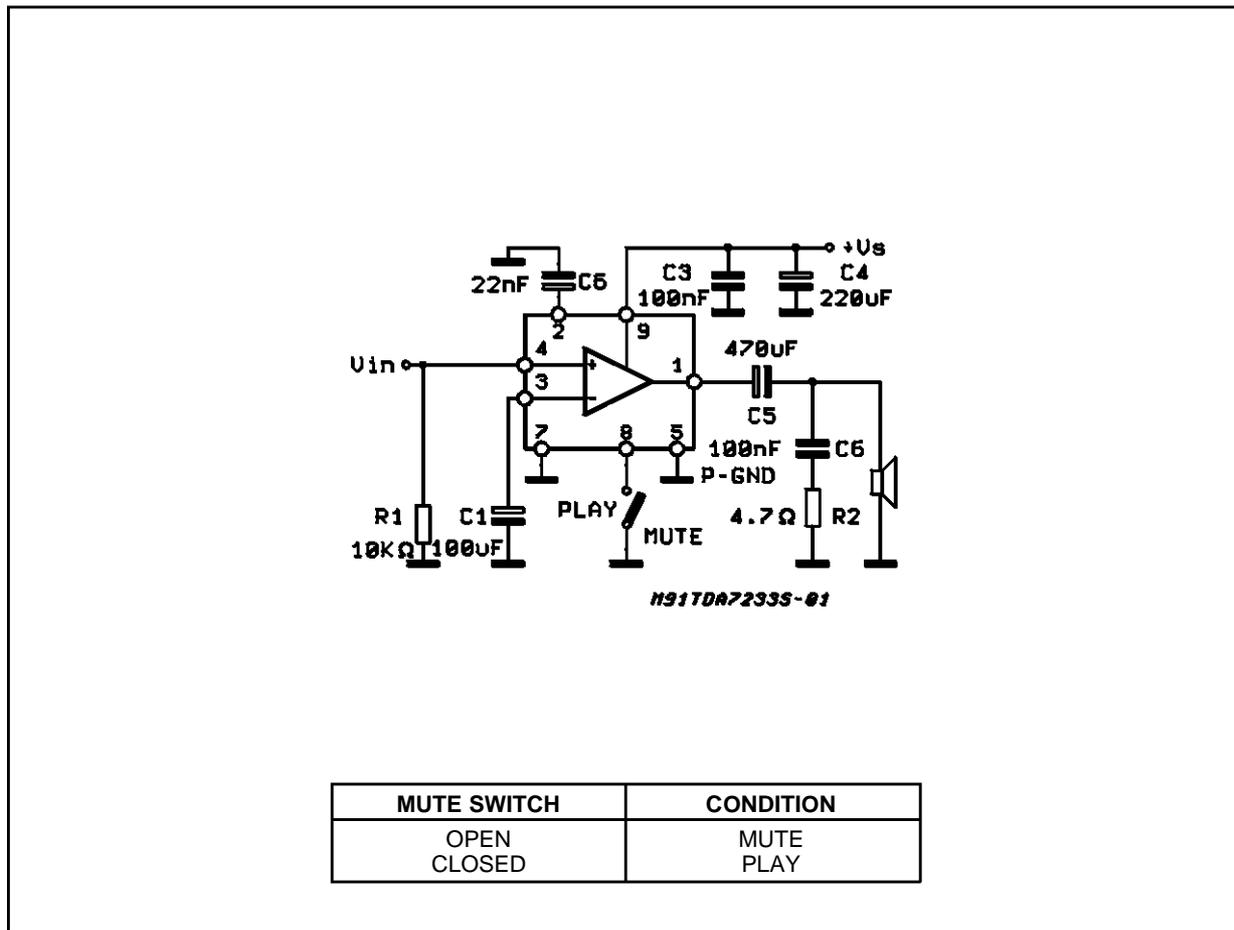
- OPERATING VOLTAGE 1.8 TO 15V
- EXTERNAL MUTE OR POWER DOWN FUNCTION
- IMPROVED SUPPLY VOLTAGE REJECTION
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION

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.

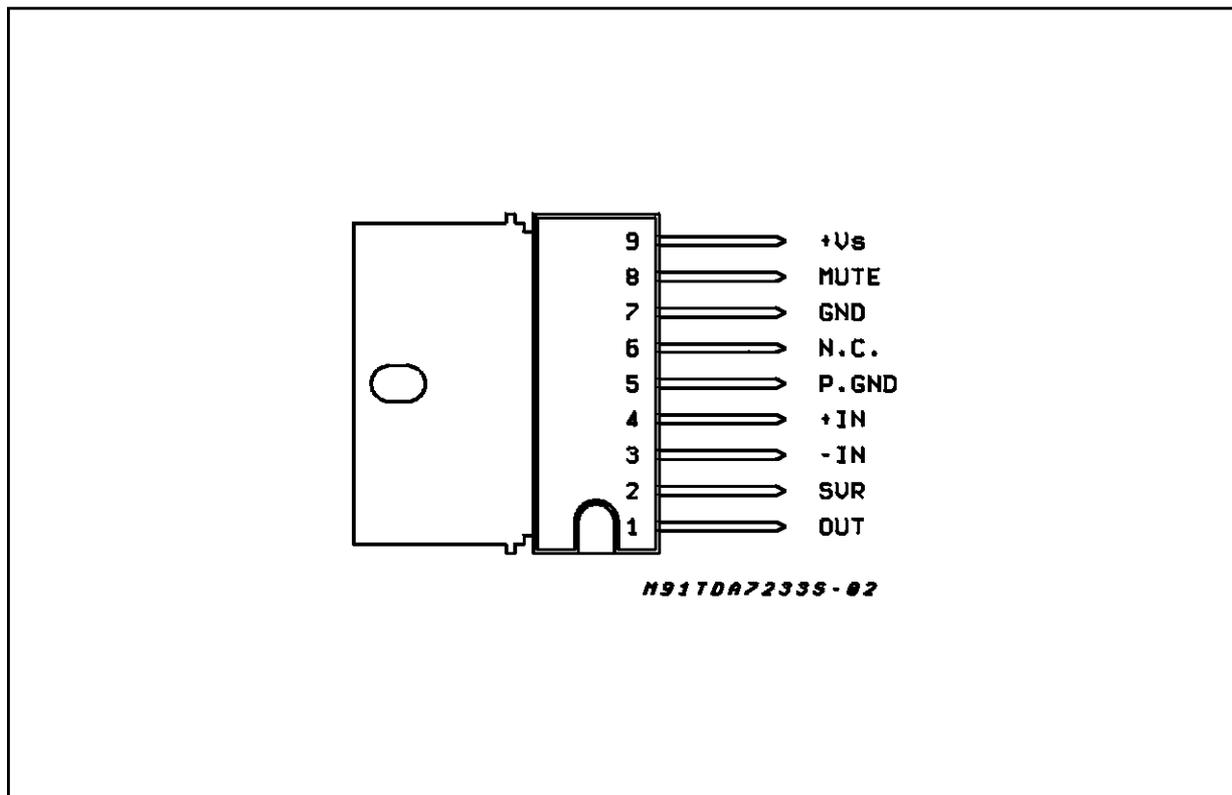


TEST AND APPLICATION CIRCUIT



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 $T_{amb} = 50^{\circ}\text{C}$	1	W
T_{stg}, T_j	Storage and Junction Temperature	-40 to 150	$^{\circ}\text{C}$

THERMAL DATA

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

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 = Curve A		2		μV
		B = 22Hz to 22KHz		3		μV
SVR	Supply Voltage Rejection	$R_g = 10K\Omega$ $f = 100Hz$	40	45		dB
	MUTE Attenuation	$V_O = 1V$, $f = 100Hz$ 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

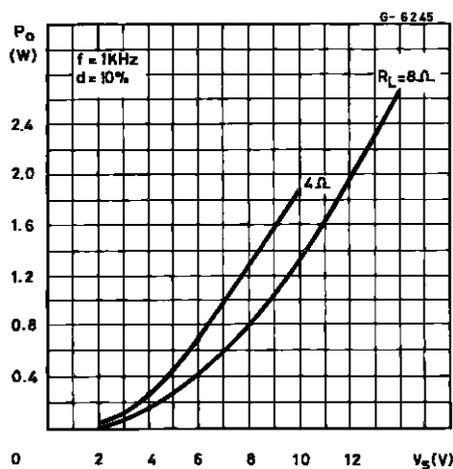


Figure 2: Supply Voltage Rejection vs. Frequency

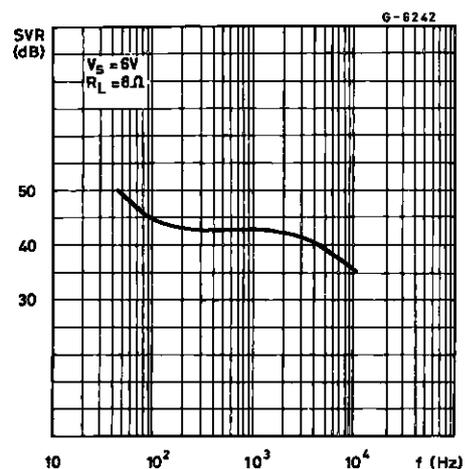


Figure 3: DC Output Voltage vs. Supply Voltage

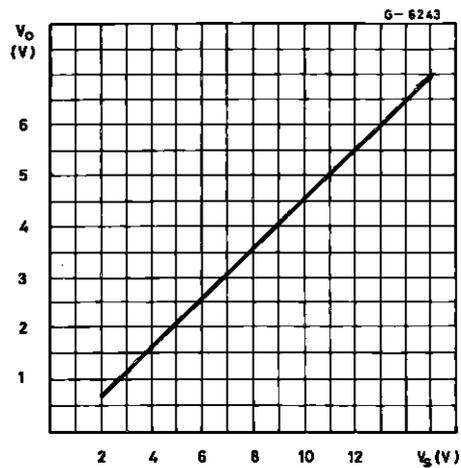


Figure 4: Quiescent Current vs. Supply Voltage

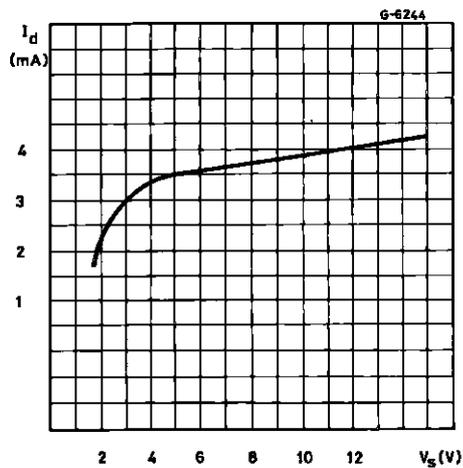
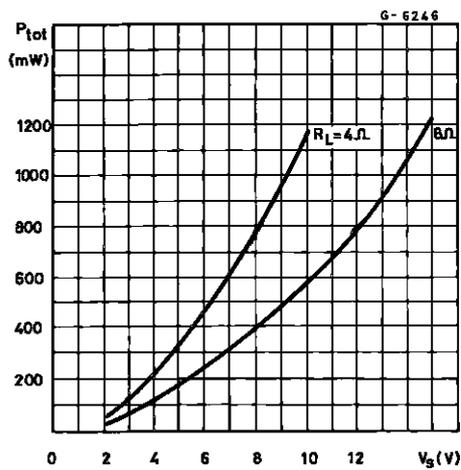
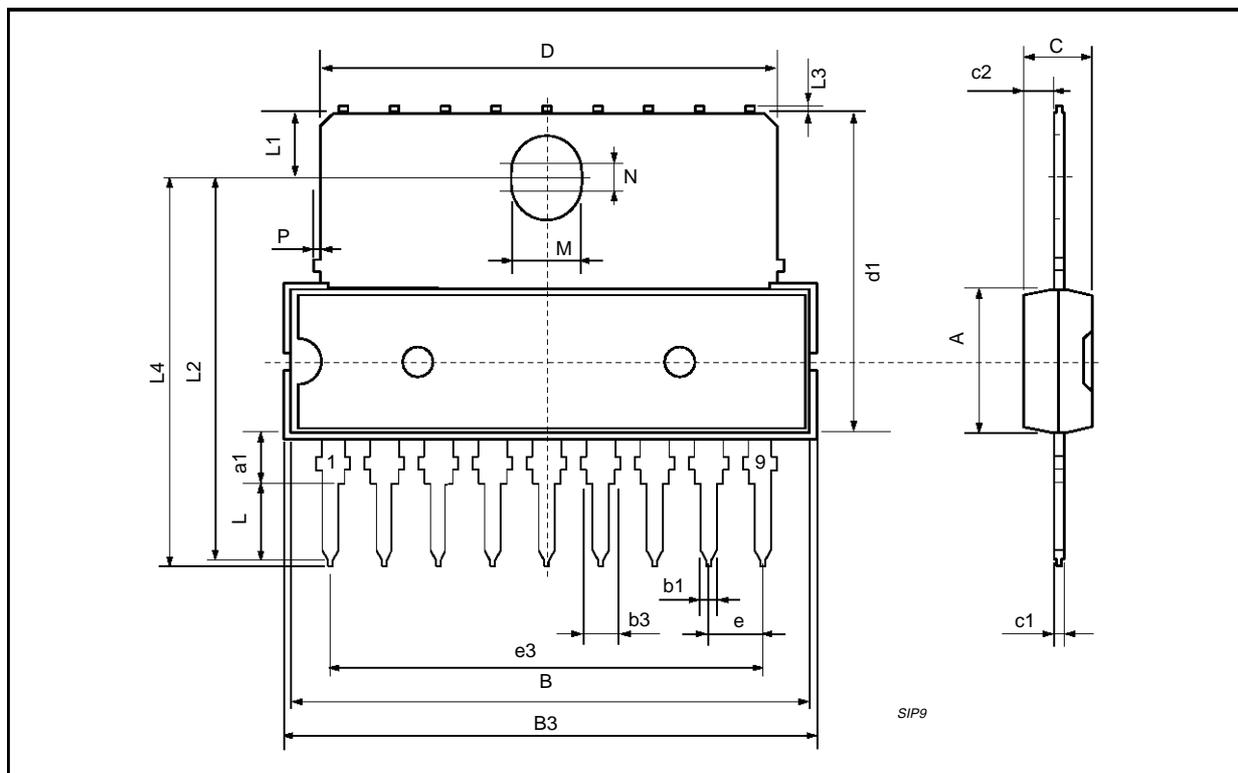


Figure 5: Total Dissipated Power vs. Supply Voltage



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



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