



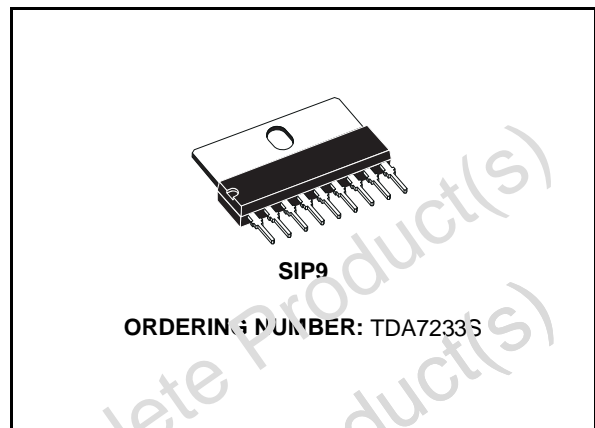
# TDA7233S

## 1W AUDIO AMPLIFIER WITH MUTE

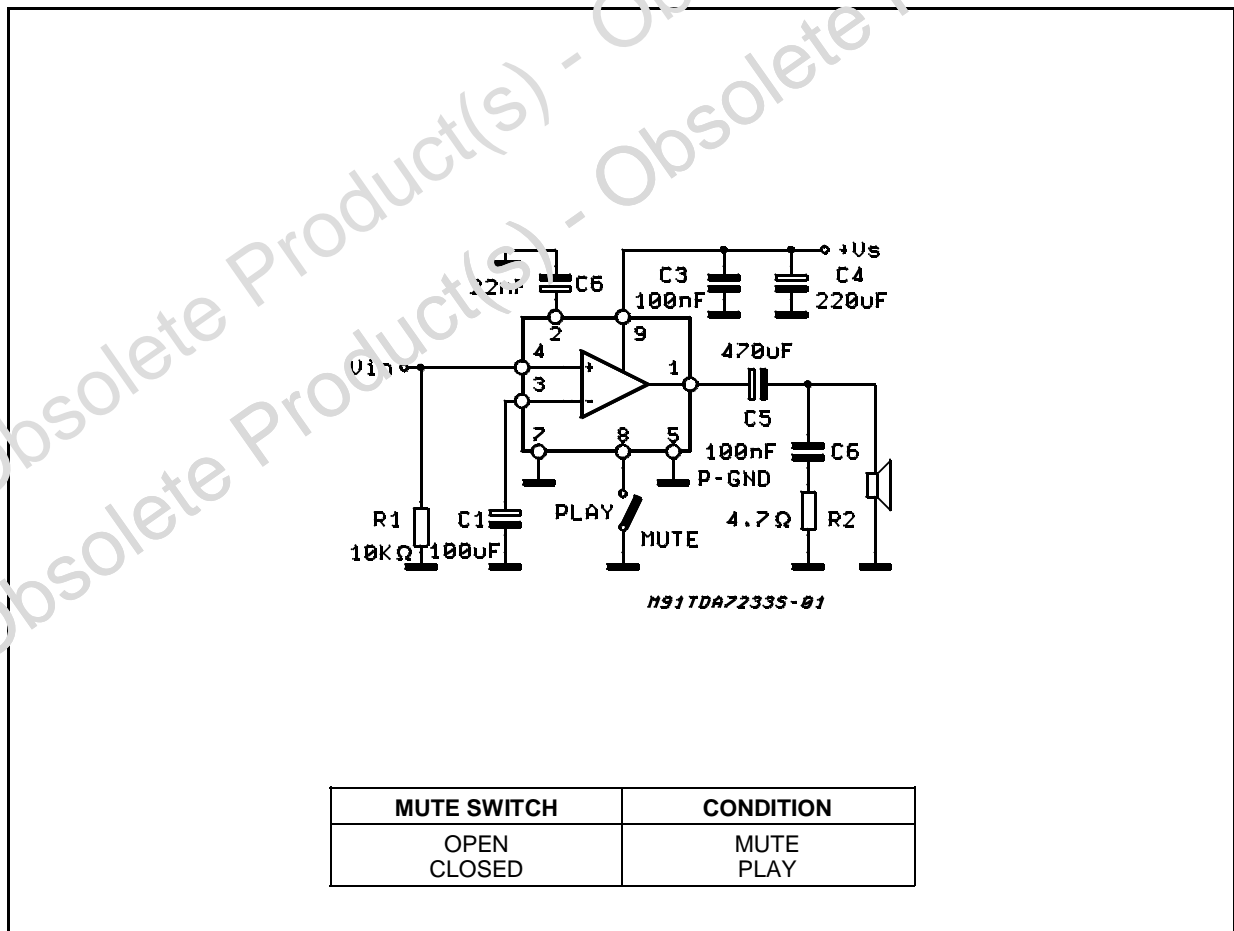
- OPERATING VOLTAGE 1.8 TO 15V
- EXTERNAL MUTE OR POWER DOWN FUNCTION
- IMPROVED SUPPLY VOLTAGE REJECTION
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION

### 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.

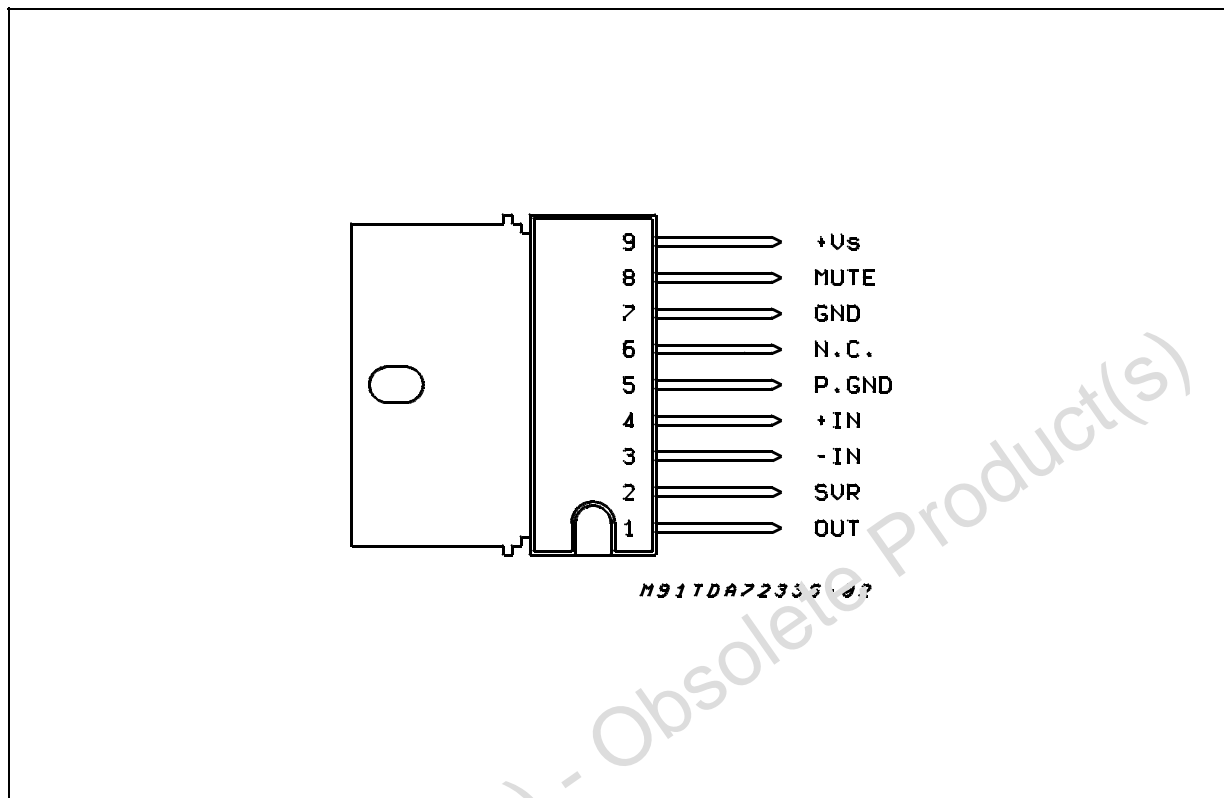


### TEST AND APPLICATION CIRCUIT



## 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
		$V_S = 3V$ $V_S = 9V$		1.2 4.2		V 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		$\mu V$
		B = 22Hz to 22KHz		3		$\mu V$
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

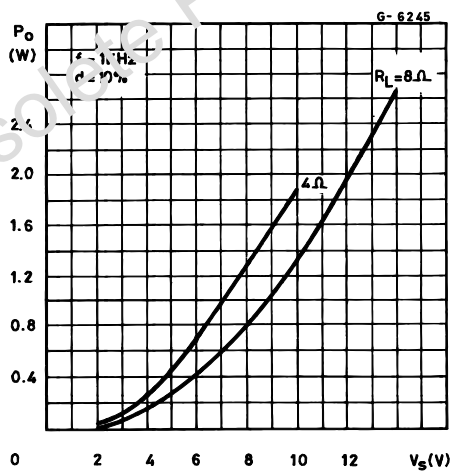


Figure 2: Supply Voltage Rejection vs. Frequency

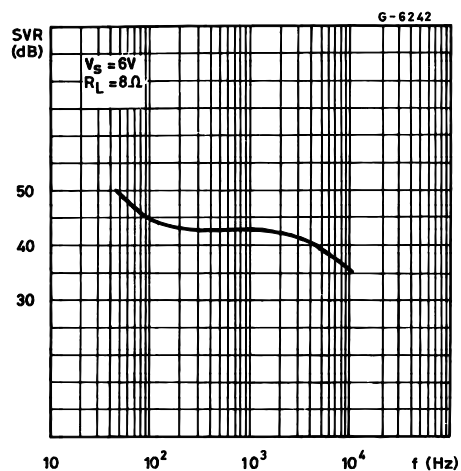


Figure 3: DC Output Voltage vs. Supply Voltage

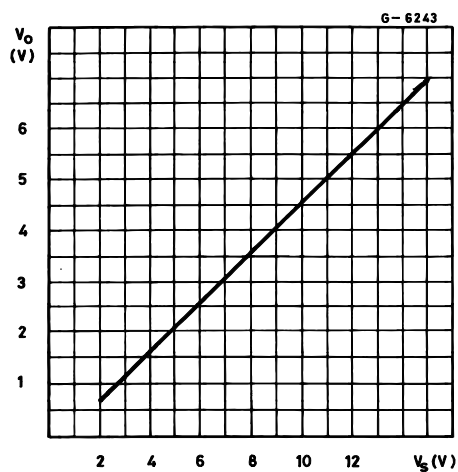


Figure 4: Quiescent Current vs. Supply Voltage

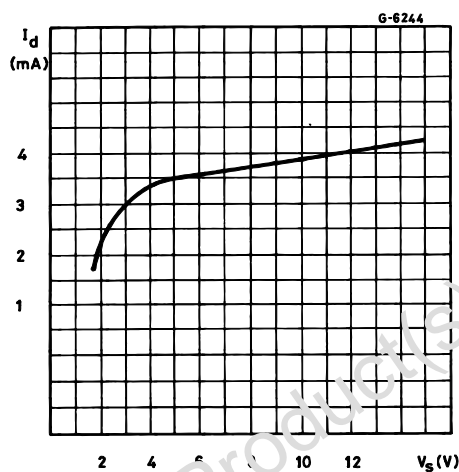
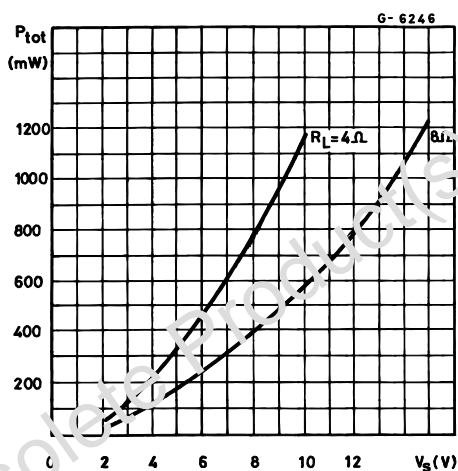
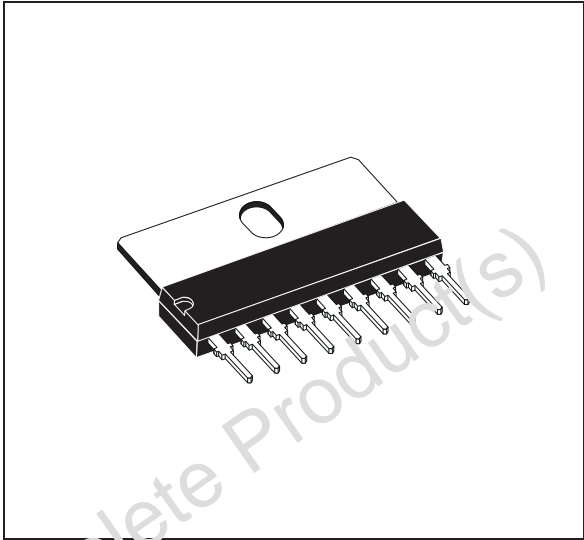


Figure 5: Total Dissipated Power vs. Supply Voltage

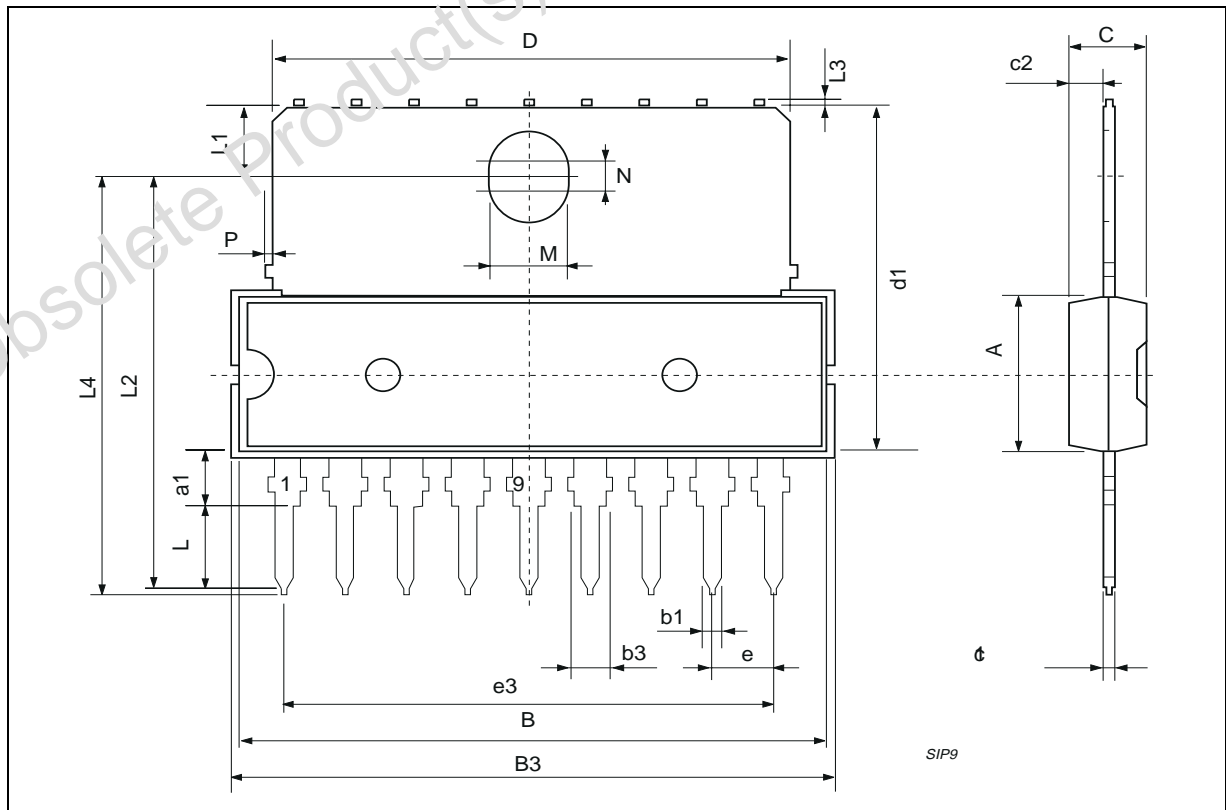


DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			7.1			0.280
a1	2.7		3	0.106		0.118
B			23			0.90
B3			24.8			0.976
b1		0.5			0.020	
b3	0.85		1.6	0.033		0.063
C		3.3			0.130	
c1		0.43			0.017	
c2		1.32			0.052	
D			21.2			0.835
d1		14.5			0.571	
e		2.54			0.100	
e3		20.32			0.800	
L	3.1			0.122		
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

**OUTLINE AND MECHANICAL DATA**



**SIP9**



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