SGS-THOMSON MICROELECTRONICS

TDA7233

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

The TDA7233 is a monolithic integrated circuit in 8 pin Minidip or SO-8 package, 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.

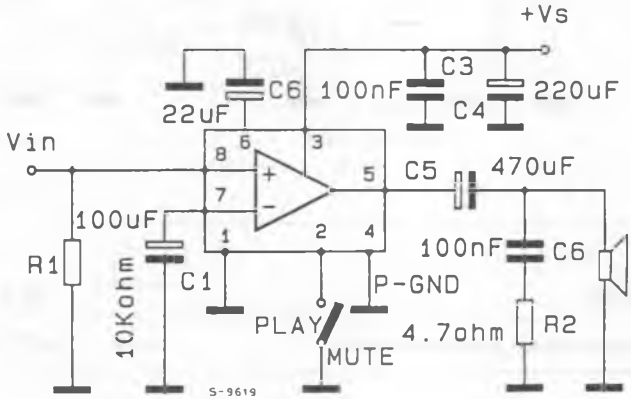
Minidip Plastic SO-8J

ORDERING NUMBER: TDA7233 (Minidip)
TDA7233D (SO-8)

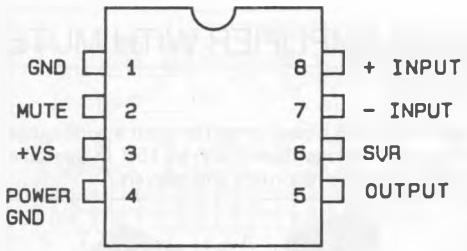
ABSOLUTE MAXIMUM RATINGS

V_s	Supply voltage	16	V
I_o	Output peak current	1	A
P_{tot}	Total power dissipation at T_{amb} = 50°C	1	W
T_{stg}, T_j	Storage and junction temperature	-40 to 150	°C

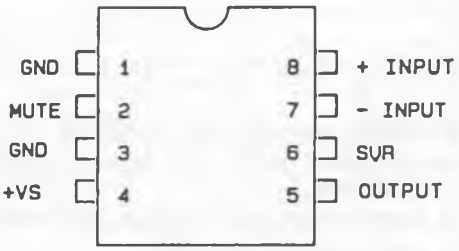
APPLICATION CIRCUIT



CONNECTION DIAGRAMS
(Top view)

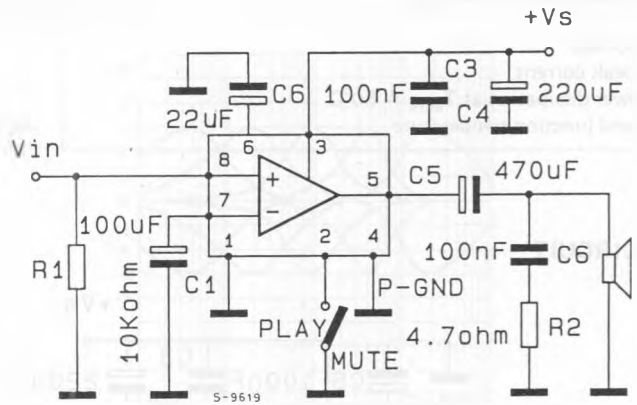


Minidip



SO-8

Fig. 1 - Test and application circuit



THERMAL DATA			SO-8	Minidip
$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	200°C/W	100°C/W

ELECTRICAL CHARACTERISTICS (V_s = 6V, T_{amb} = 25°C, unless otherwise speficied)

Parameter		Test Conditions	Min.	Typ.	Max.	Unit
V_s	Supply voltage		1.8		15	V
V_o	Quiescent out voltage			2.7		V
		V_s = 3V V_s = 9V		1.2 4.2		V V
I_d	Quiescent drain current	MUTE HIGH		3.6	9	mA
		MUTE LOW		0.4		
I_b	Input bias current			100		nA
P_o	Output power	d = 10% f = 1KHz V_s = 12V R_L = 8Ω V_s = 9V R_L = 4Ω V_s = 9V R_L = 8Ω V_s = 6V R_L = 8Ω V_s = 6V R_L = 4Ω V_s = 3V R_L = 4Ω V_s = 3V R_L = 8Ω		 1.9 1.6 1 0.4 0.7 110 70		 W W W W W mW mW
d	Distortion	P_o = 0.5W R_L = 8Ω f = 1KHz V_s = 9V		0.3		%
G_v	Closed loop voltage gain	f = 1KHz		39		dB
R_{IN}	Input resistance	f = 1KHz	100			KΩ
e_N	Total input noise (R_s = 10KΩ)	B = Curve A		2		μV
		B = 22Hz to 22KHz		3		
SVR	Supply voltage rejection	f = 100Hz, Rg = 10KΩ		45		dB
	MUTE attenuation	V_o = 1V f = 100Hz to 10KHz		70		dB
	MUTE threshold			0.6		V
I_M	MUTE current			0.4		mA

Fig. 2 - Output power vs. supply voltage

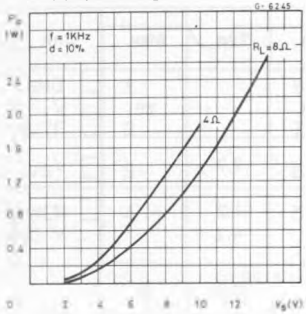


Fig. 3 - Supply voltage rejection vs. frequency

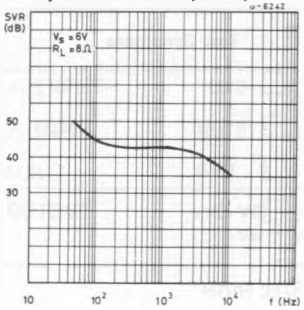


Fig. 4 - DC output voltage vs. supply voltage

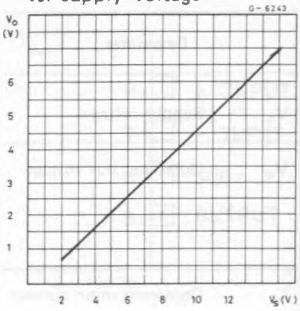


Fig. 5 - Quiescent current vs. supply voltage

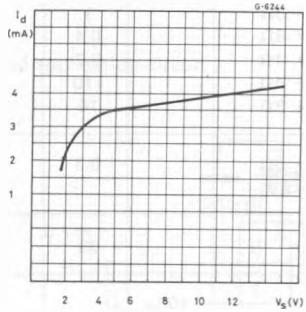


Fig. 6 - Total dissipated power vs. supply voltage