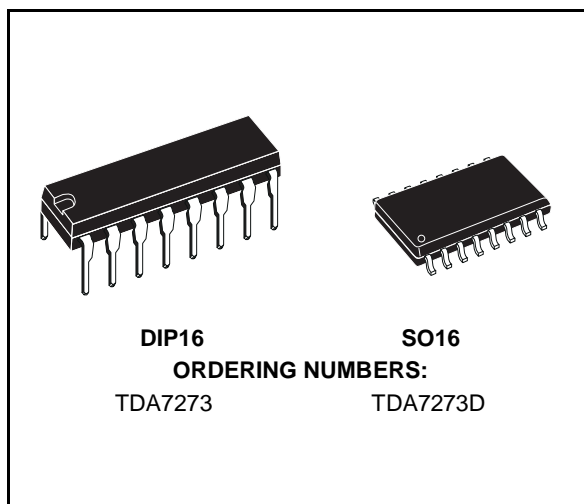


SINGLE CHIP STEREO CASSETTE PLAYBACK SYSTEM

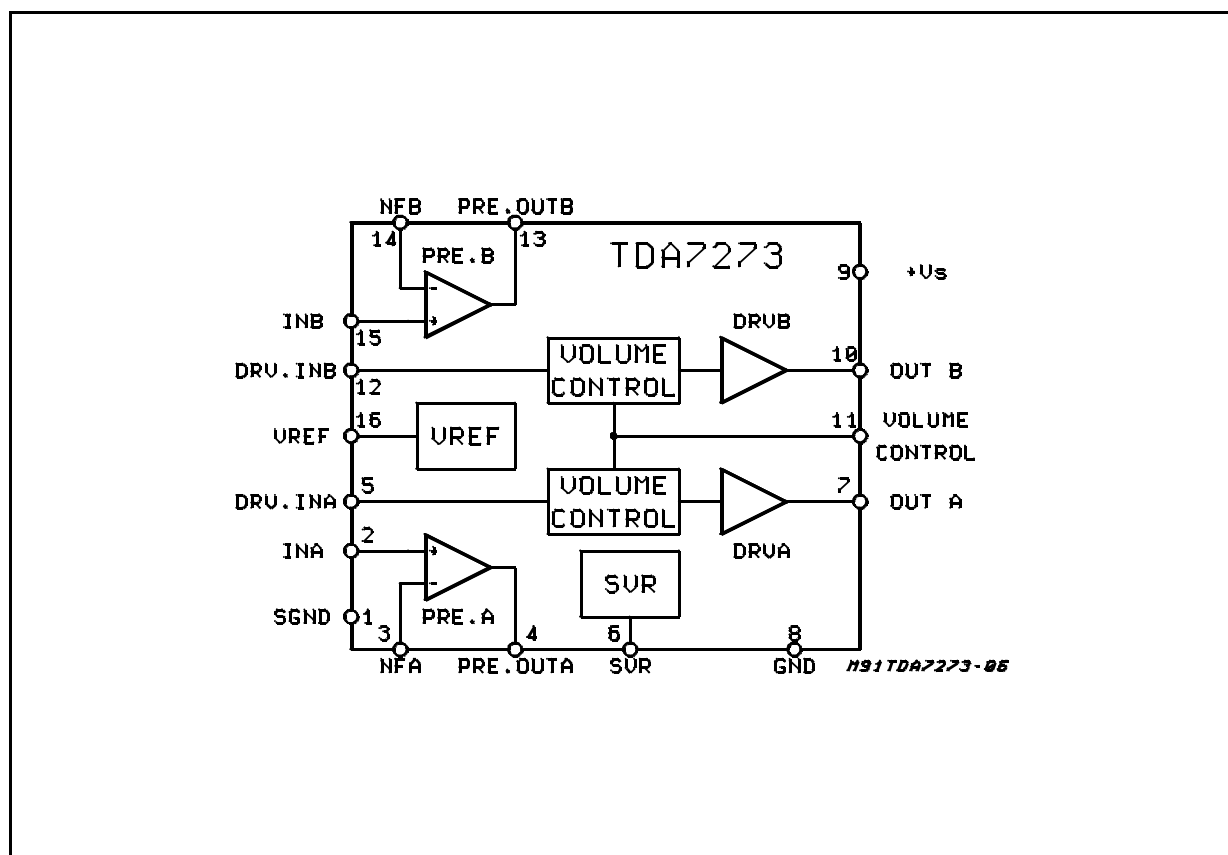
- WIDE OPERATING SUPPLY VOLTAGE (1.8V to 7V)
- INPUT COUPLING WITHOUT CAPACITORS
- BUILT-IN DC STEREO VOLUME CONTROL
- BUILT-IN RIPPLE FILTERS
- LOW QUIESCENT CURRENT
- NO EXTERNAL BOUCHEROT CELL
- MAX OUTPUT CURRENT 70mA PEAK

DESCRIPTION

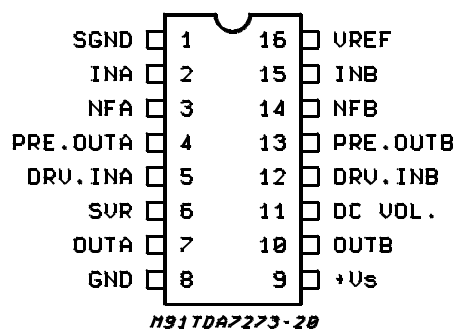
The TDA7273 is a monolithic integrated circuit designed for portable cassette players market. It comprises preamplifiers, DC volume control, and headphone drivers.



BLOCK DIAGRAM



PIN CONNECTION (Top view)



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, $V_S = 3\text{V}$, $f = 1\text{KHz}$, $R_L = 32\Omega$ Vol. control = $2/3V_{ref}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage		1.8		7	V
I_d	Quiescent Current			14	20	mA
V_{ref}	Reference Voltage		1.3	1.49	1.7	V

PREAMPLIFIER SECTION

G_{VO}	Open Loop Gain			70		dB
G_V	Close Loop Gain		30	33	35	dB
V_o	Output Voltage	THD = 1%	600	850		mV
I_b	Bias Current			3		μA
THD	Total Harmonic Distortion	$V_o = 330\text{mVrms}$		0.05	0.25	%
C_t	Cross Talk	$R_g = 2.2\text{K}\Omega$; $V_o = 330\text{mVrms}$		74		dB
E_N	Output Noise	$R_g = 2.2\text{K}\Omega$; BW = 22Hz to 22KHz		100		μV
SVR	Ripple Rejection	$R_g = 2.2\text{K}\Omega$ $V_R = 100\text{mVrms}$ $f = 100\text{Hz}$; $C_{SVR} = 100\mu\text{F}$	40	50		dB

HEADPHONE DRIVER

$V_{o(DC)}$	DC Output Voltage			1.50		V
P_o	Output Power	THD = 10%;	15	30		mW
P_o	Transient Output Power	THD = 10% $R_L = 16\Omega$		50		mW
G_V	Close Loop Gain	$P_o = 5\text{mW}$	28	31	34	dB
THD	Total Harmonic Distortion	$P_o = 5\text{mW}$		0.2	1	%
C_t	Cross Talk	$R_g = 10\text{K}\Omega$; $P_o = 5\text{mW}$	40	50		dB
SVR	Ripple Rejection	$V_r = 100\text{mVrms}$, $f = 100\text{Hz}$ Vol. control = $1/3V_{ref}$ $C_{SVR} = 100\mu\text{F}$; $R_g = 600\Omega$		47		dB
	Volume Control Range		66	75		dB

Figure 1: Application Circuit

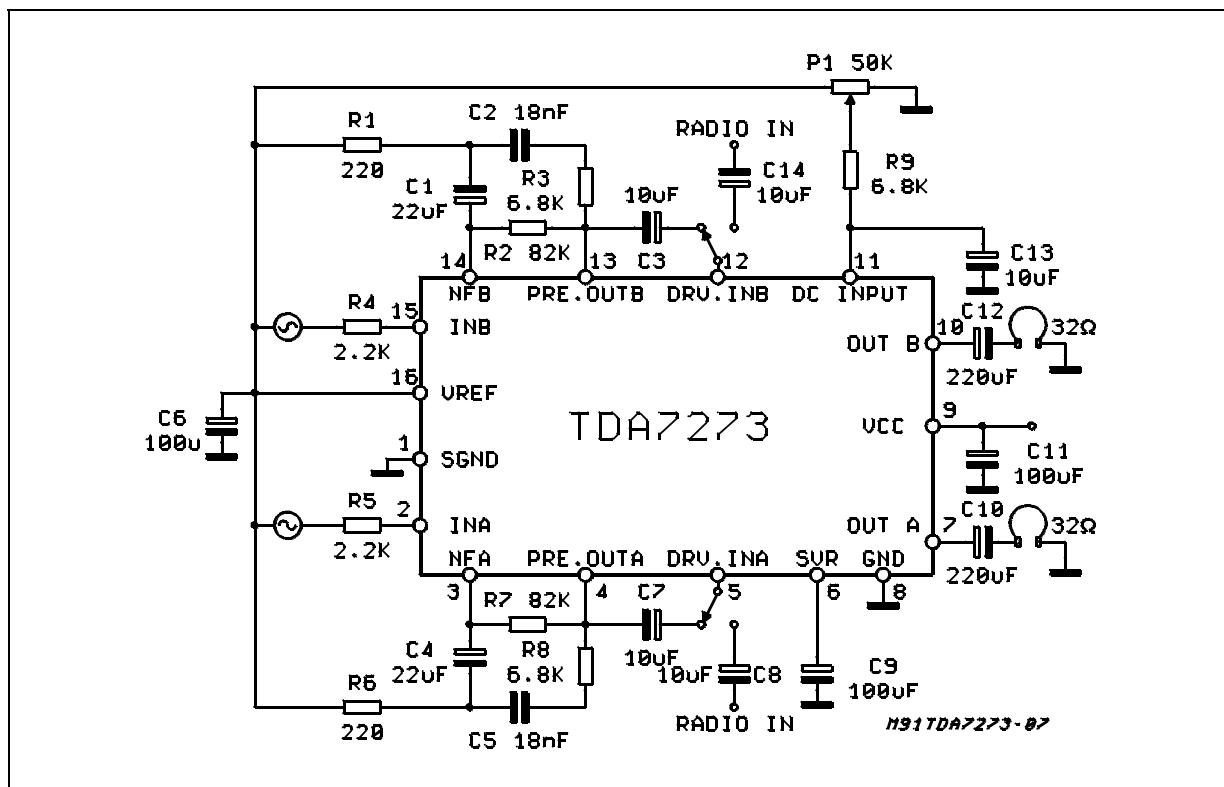


Figure 2: P.C. Board and Component Layout of the Circuit of Figure 1 (1:1 scale)

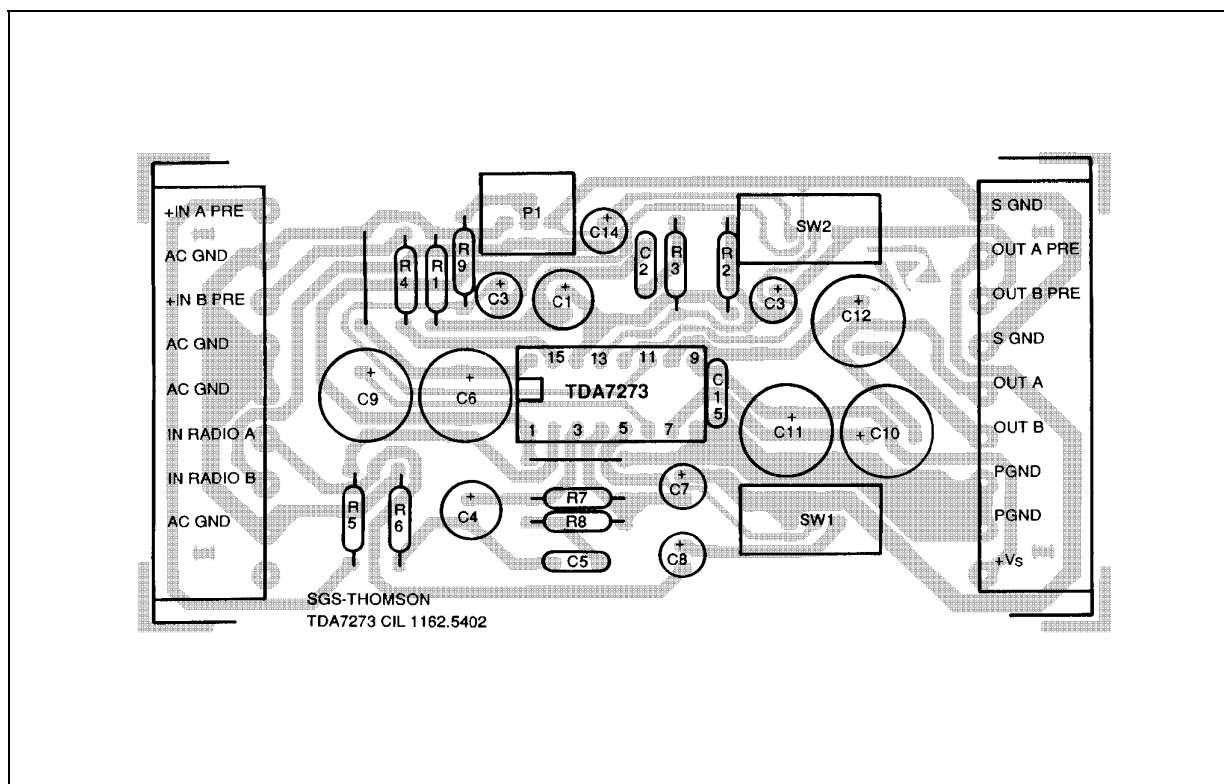


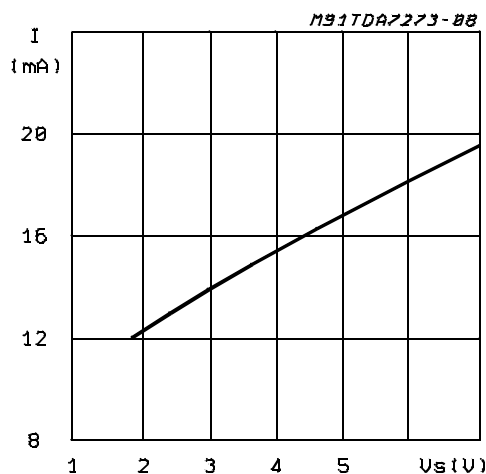
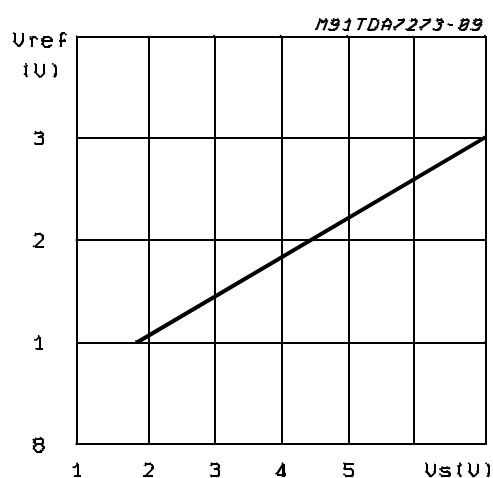
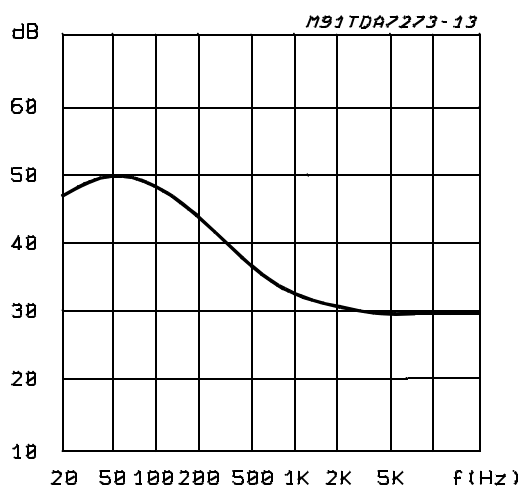
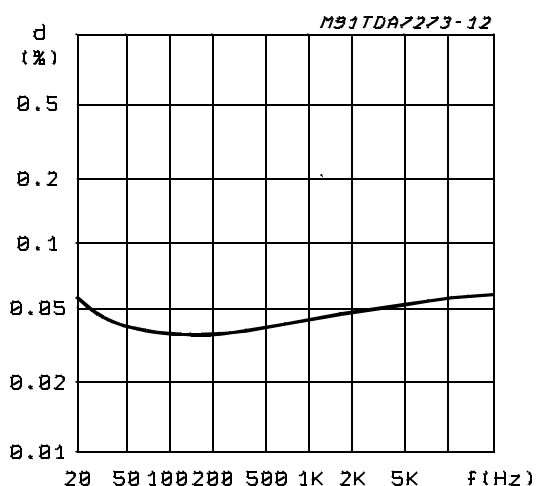
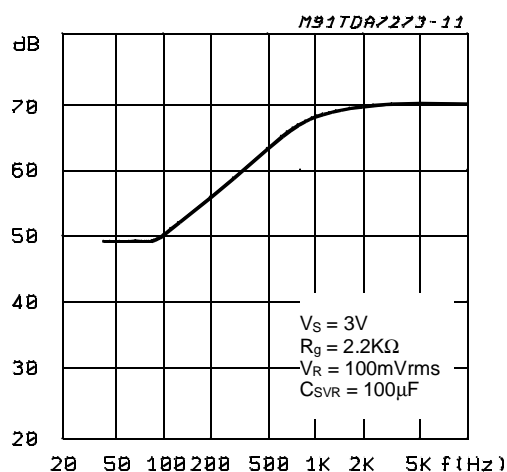
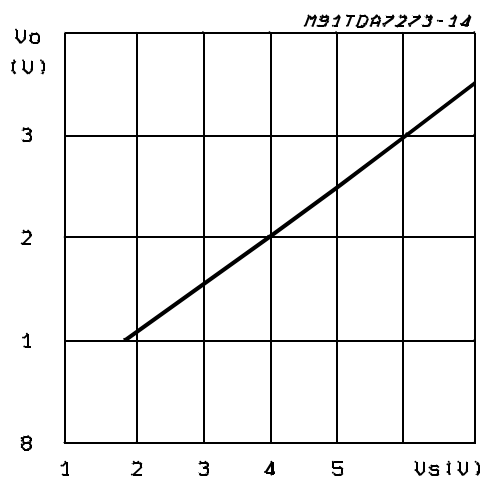
Figure 3: Supply Current vs. Supply Voltage
(Preamplifier + Driver)**Figure 4:** V_{ref} vs. Supply Voltage (pin 16)**Figure 5:** Closed Loop Gain vs. Frequency
($V_S = 3V$) (PREAMPLIFIER)**Figure 6:** THD vs. Frequency ($V_S = 3V$,
 $V_O = 330mV_{rms}$, $R_L = 10K\Omega$)
(PREAMPLIFIER)**Figure 7:** SVR vs. Frequency (PREAMPLIFIER)**Figure 8:** Quiescent Output Voltage vs. Supply Voltage (DRIVER)

Figure 9: Closed Loop Gain vs Frequency
($V_S = 3V$, $R_L = 32\Omega$) (DRIVER)

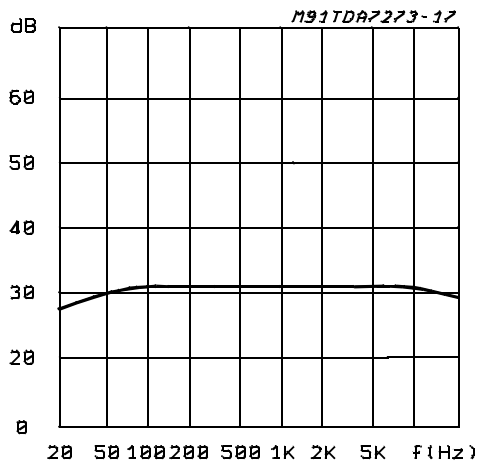


Figure 10: Output Power vs. Supply Voltage
($V_{ol} = 2/3V_{ref}$, $R_L = 32\Omega$, THD = 10%,
 $f = 1KHz$) (DRIVER)

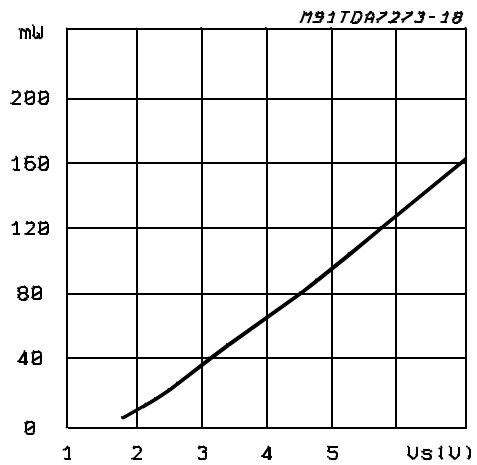


Figure 11: THD vs. Output Power ($V_o = 2/3V_{ref}$,
 $V_S = 3V$, $R_L = 32\Omega$, $f = 1KHz$)
(DRIVER)

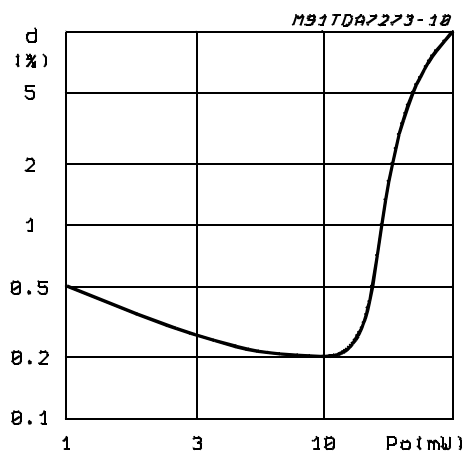


Figure 12: THD vs. Frequency ($P_o = 5mW$, $V_S = 3V$, $R_L = 32\Omega$) (DRIVER)

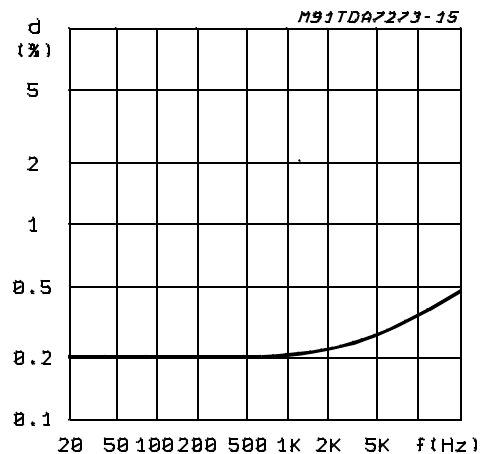


Figure 13: SVR vs. Frequency $V_S = 3V$ ($R_L = 32\Omega$, $V_r = 100V_{rms}$, $R_g = 600\Omega$,
 $C_{SVR} = 100mV$) (DRIVER)

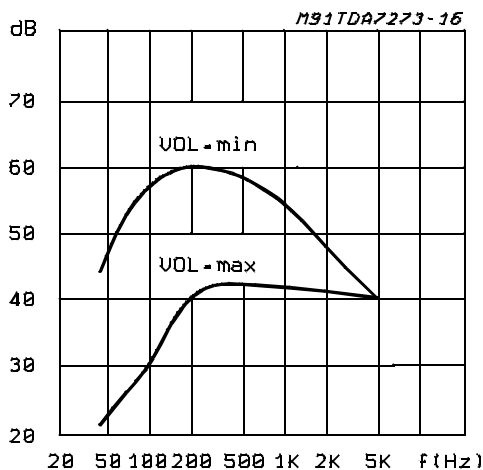
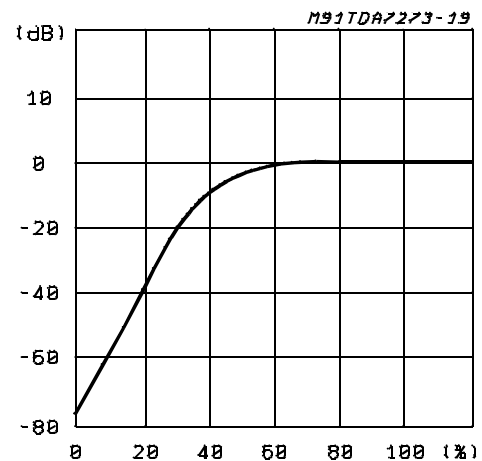
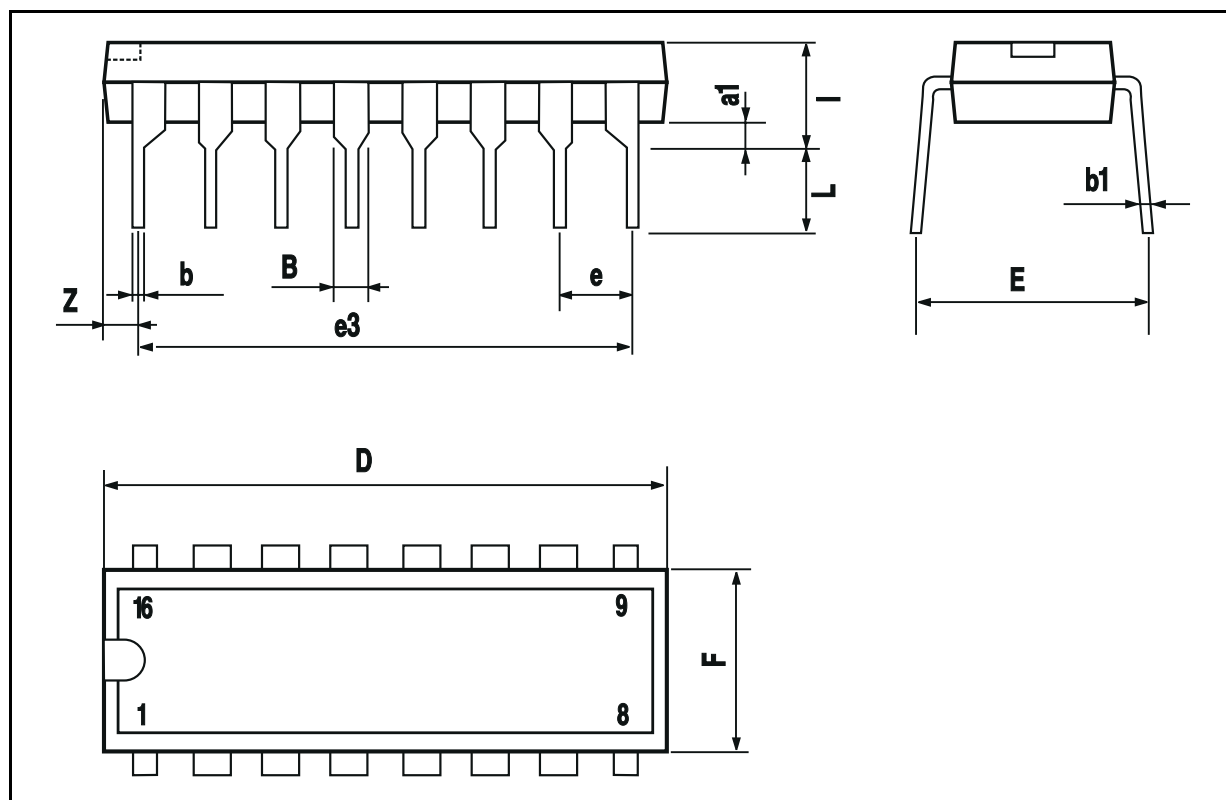


Figure 14: Volume Control (0dB = 10mW,
 $V_S = 3V$, $R_{vol} = 50K\Omega$, $R_L = 32\Omega$,
 $f = 1KHz$) vs. Volume Setting (DRIVER)



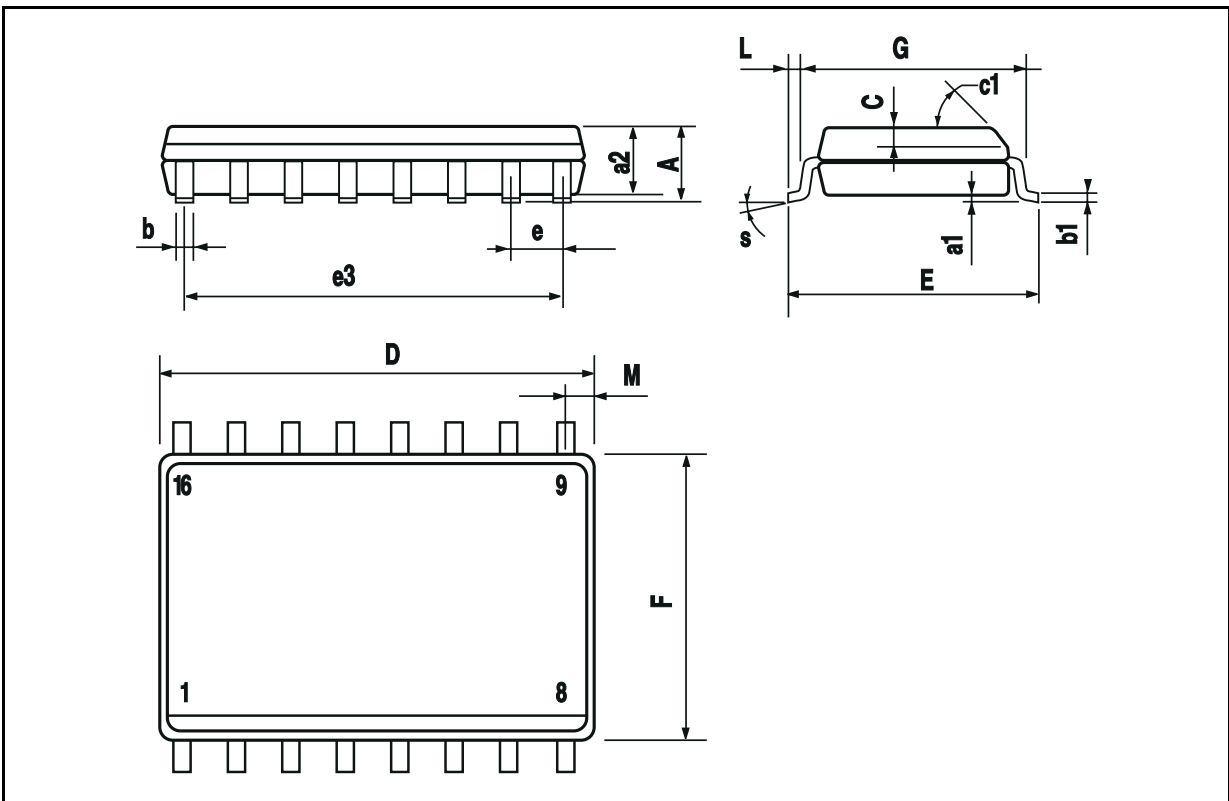
DIP16 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.51			0.020		
B	0.77		1.65	0.030		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		17.78			0.700	
F			7.1			0.280
I			5.1			0.201
L		3.3			0.130	
Z			1.27			0.050



SO16 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			2.65			0.104
a1	0.1		0.2	0.004		0.012
a2			2.45			0.096
b	0.35		0.49	0.014		0.019
b1	0.23		0.32	0.009		0.013
C		0.5			0.020	
c1	45° (typ.)					
D	10.1		10.5	0.398		0.413
E	10.0		10.65	0.394		0.419
e		1.27			0.050	
e3		8.89			0.350	
F	7.4		7.6	0.291		0.299
L	0.5		1.27	0.020		0.050
M			0.75			0.030
S	8° (max.)					



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.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.