

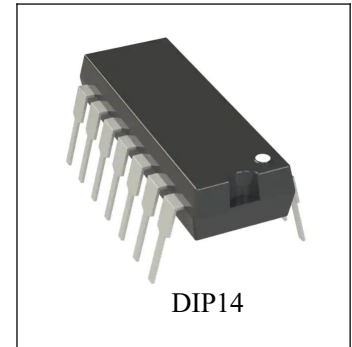
D7312

Dual Channel PRE-AMP with ALC Circuit

General Description

The D7312 is a monolithic integrated circuit designed for dual pre-amplifier circuit with ALC for record /playback amplifier of cassette tape recorder.

D7312 is available in DIP14 package.



Features

- High open loop gain
- Incorporates ALC detector circuit
- No input coupling condenser
- Low noise and current consumption
- Wide ALC range
- Wide operating voltage range: $V_{cc}=5V \sim 12V$
- Low Power ON shock noise DIP14

Package Information

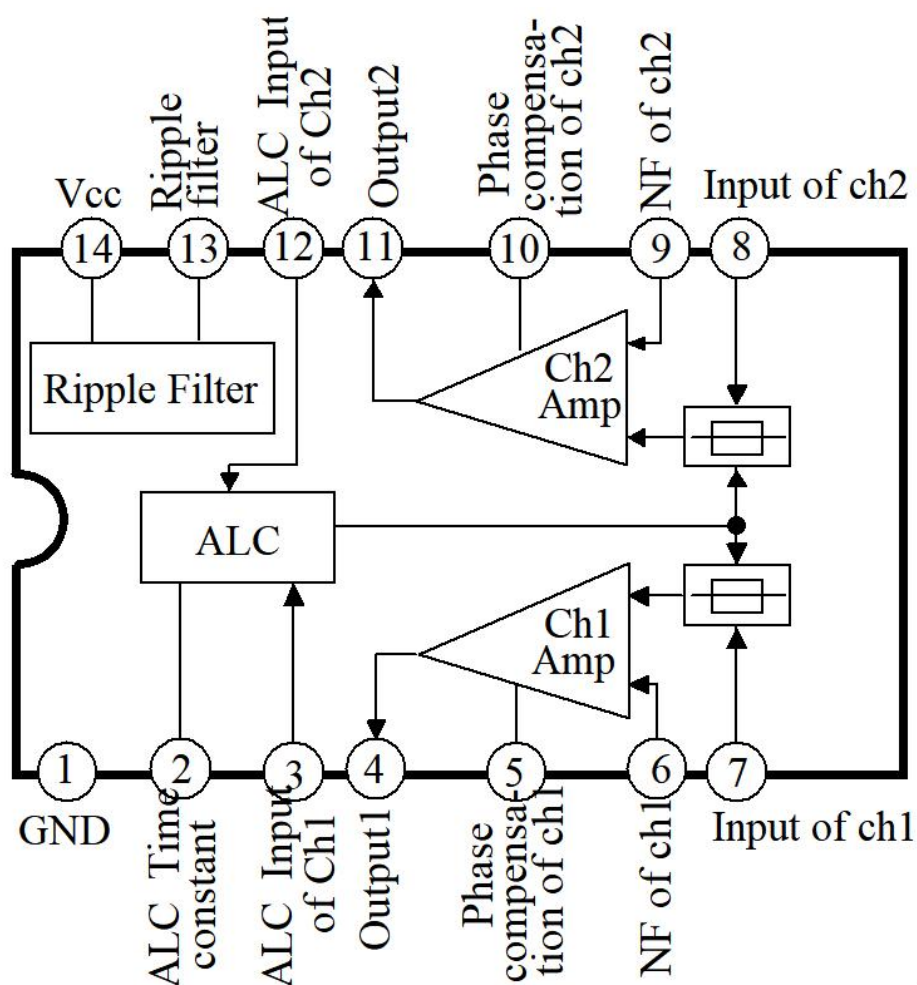
Part NO.	Order NO.	Package Description	Package Marking	Package Option
D7312	D7312	DIP14	CHMC SXXXX D7312	25/Tube

CHMC:Trademark

D7312:Part NO.

SXXXX:Lot NO.

Functional Block Diagram and Pin Configuration



Absolute Maximum Ratings (T_{amb}=25℃)

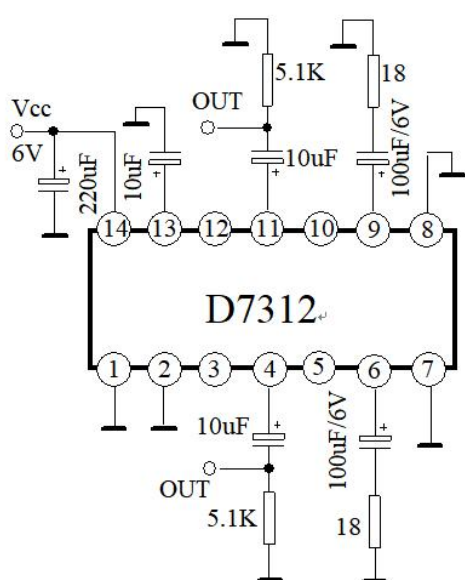
Characteristic	Symbol	Value	Unit
Supply Voltage	V _{cc}	14	V
Supply Current	I _{cc}	50	mA
Power Dissipation	P _D	700	mW
Operating Temperature	T _{opr}	-55~125	℃
Storage Temperature	T _{stg}	-65~150	℃

Electrical Characteristics

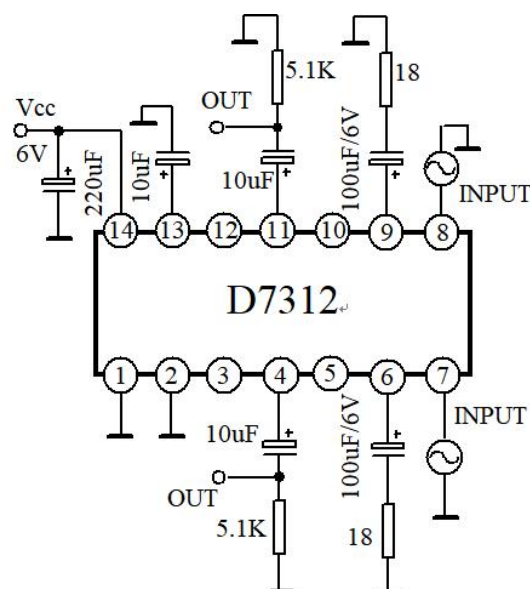
(unless otherwise specified: $T_a=25^{\circ}\text{C}$, $V_{cc}=6\text{V}$; $f=1\text{kHz}$, $R_L=5.1\text{k}\Omega$)

Characteristics	Test conditions	Symbol	Test Circuit	Min.	Typ.	Max.	Unit
Quiescent Current	$V_{in}=0\text{V}$	I_{CQ}	1	2.5	4.5	8.0	mA
Operating Voltage		V_{cc}	1	5.0		12.0	V
Closed-loop Voltage Gain	$V_o=0.5\text{V}$	G_v	2	66	69	72	dB
Feedback resistor	$V_o=0.5\text{V}$	R_f	2	36	56	72	Ω
Total Harmonic Distortion	$V_o=0.5\text{V}$	THD	2		0.5	1.0	%
Output Voltage	THD=1%	V_{omax}	2	1.2	1.6		V
Output noise Voltage	$R_g=0\Omega$	V_{NO}	1		2.0	5.0	mV
ALC Voltage	$V_{in}=400\mu\text{V}$	V_{ALC}	3	0.55	0.63	0.7	V
ALC Width	Beginning 0dB to 3dB	W_{ALC}	3	35	47		dB
Channel Valance	$V_o=0.5\text{V}$, $CB=G_{v1}-G_{v2}$	CB	2	-1.0	0	+1.0	dB

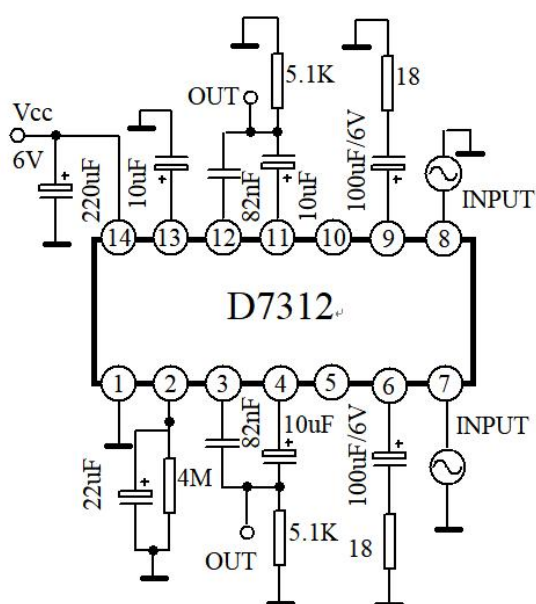
Test Circuit



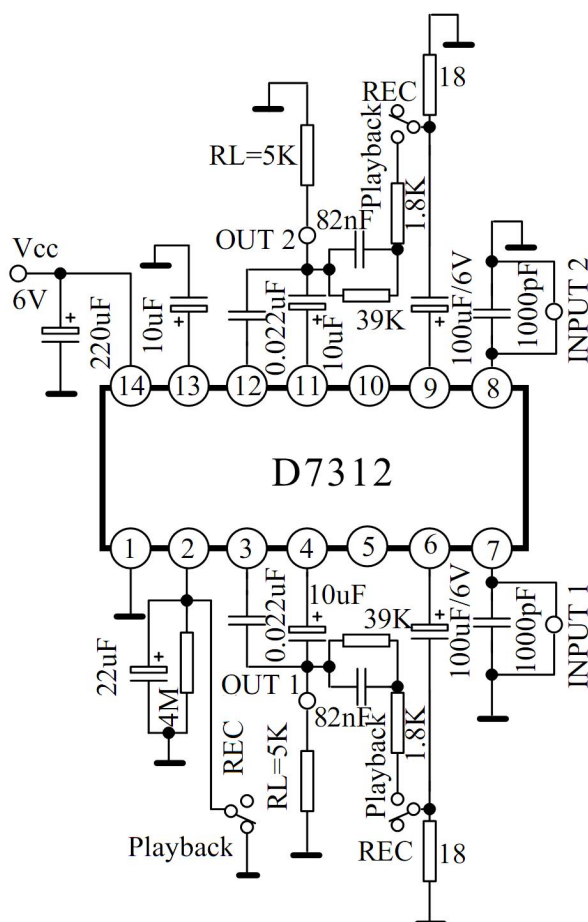
Test circuit 1 (I_{CQ} , V_{cc} , V_{NO})



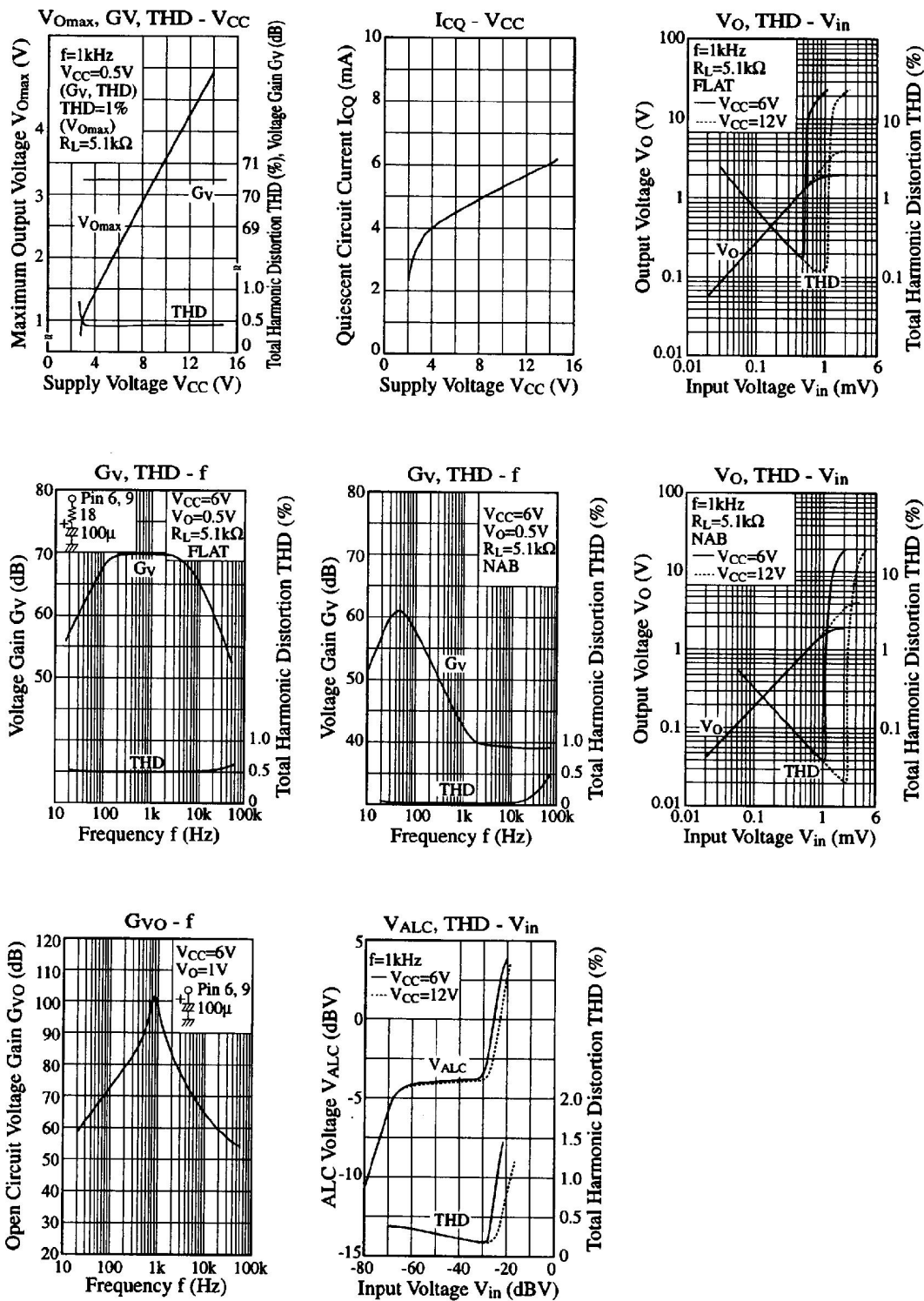
Test circuit 2 (G_v , THD, V_{omax} , CB)

Test circuit 3 (V_{ALC}, W_{ALC})

Application Circuit



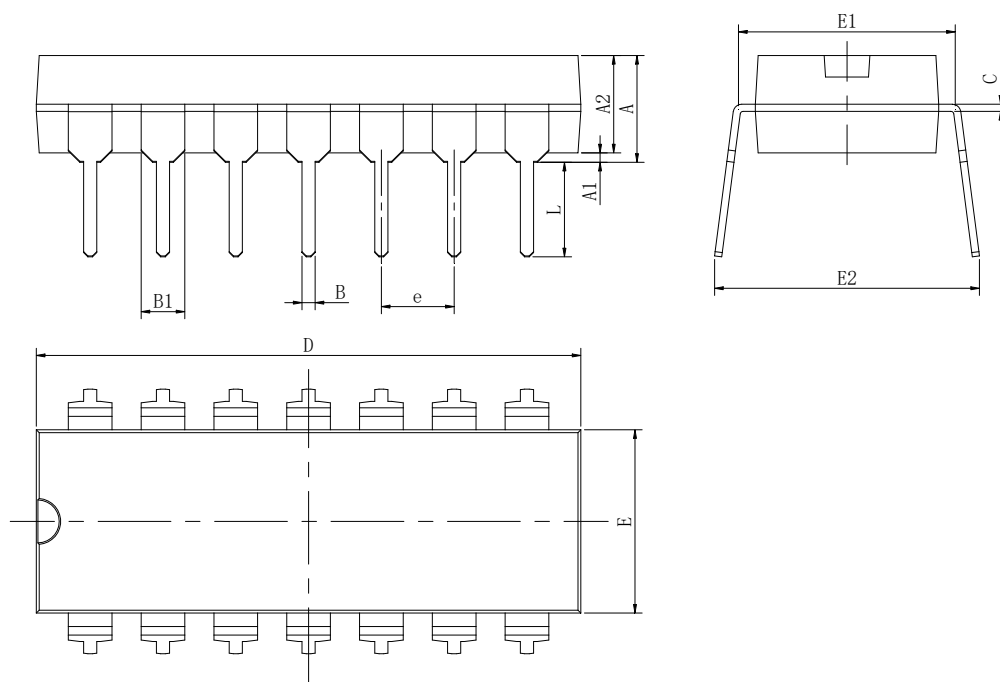
Characteristic Curves



Outline Dimensions

DIP14

Unit:mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.710	4.310	0.146	0.170
A1	0.510		0.020	
A2	3.200	3.600	0.126	0.142
B	0.380	0.570	0.015	0.022
B1	1.524(BSC)		0.060(BSC)	
C	0.204	0.360	0.008	0.014
D	18.800	19.200	0.740	0.756
E	6.200	6.600	0.244	0.260
E1	7.320	7.920	0.288	0.312
e	2.540(BSC)		0.100(BSC)	
L	3.000	3.600	0.118	0.142
E2	7.800	9.000	0.307	0.354

Statements

- Silicore Technology reserves the right to make changes without further notice to any products or specifications herein. Before customers place an order, customers need to confirm whether datasheet obtained is the latest version, and to verify the integrity of the relevant information.
- Failure or malfunction of any semiconductor products may occur under particular conditions, customers shall have obligation to comply with safety standards when customers use Silicore Technology products to do their system design and machine manufacturing, and take corresponding safety measures in order to avoid potential risk of failure that may cause personal injury or property damage.
- The product upgrades without end, Silicore Technology will wholeheartedly provide customers integrated circuits that have better performance and better quality.