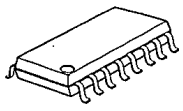
PRE & POWER AMPLIFIER WITH ALC

■ GENERAL DESCRIPTION

NJM2128 is a pre & power amplifier with ALC for micro and compact cassette recorders. It contains pre-amplifier, ALC circuit, power amplifiers, and ripple filter.

The pre-amplifier amplifies the signal come from magnetic head. The ALC circuit limits the input signal to optimize level in recording. The power amplifiers drive a speaker in play back and the magnetic head in recording. The ripple filter stabilizing the supply voltage to the internal pre-amplifier and an external condenser microphone.

■ PACKAGE OUTLINE

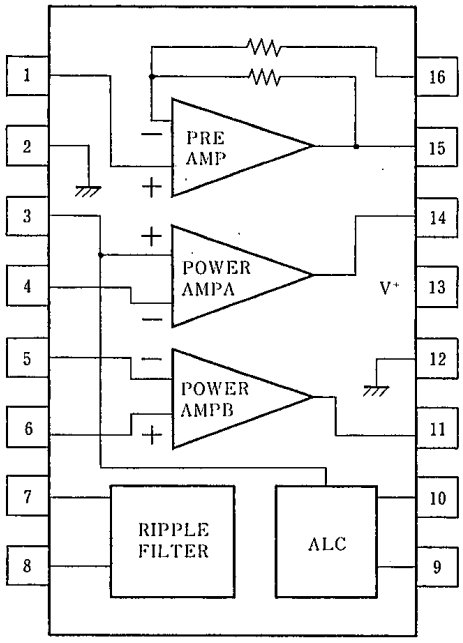


NJM2128M

■ FEATURES

- Operating Voltage 1.8V ~ 6.0V
- Automatic Level Control (ALC) Limit Level=100mVrms $_{typ.}$(f=1kHz)
- Ripple Filter R.R. (Ripple Rejection)=47dB $_{typ.}$(f=200Hz, C=47 μF)
- Bipolar Technology
- Package Outline DMP16

■ PIN CONFIGURATION



NJM2128M

PIN FUNCTION
1. PRE+IN
2. SGND
3. POWER+INA
4. POWER−INA
5. POWER−INB
6. POWER+INB
7. RFOUT
8. RFIN
9. ALCIN
10. TC
11. POWER OUT B
12. POWER GND
13. V+
14. POWER OUT A
15. PREOUT
16. PRE−IN

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■ ABSOLUTE MAXIMUM RATINGS

(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	+7.0	V
PA Output Peak Current	I_{op}	1	A
PA Intput Voltage Range	V_{IN}	±0.4	V
Power Dissipation	P_D	(DMP16) 300	mW
Operating Temperature Range	T_{opr}	−20～+75	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

■ ELECTRICAL CHARACTERISTICS

(V^+=3V, Ta=25℃)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V^+		1.8	3.0	6.0	V
Operating Current	I_{CC}	R_L=∞	−	9	14	mA
Power Amp						
Input Bias Current	I_B		−	140	−	nA
Output Offset	$\triangle V_O$	R_L=8Ω	−	0	50	mV
Output Power	P_O	THD=10%, f=1kHz, V^+=4V, R_L=8Ω	300	400	−	mW
(Note1)	P_O	THD=10%, f=1kHz, V^+=3V, R_L=4Ω	150	220	−	mW
T.H.D.	THD	V^+=4V, R_L=8Ω, P_O=200mV, f=1kHz	−	0.2	−	%
Close Loop V-Gain	A_V1	f=1kHz	41	44	47	dB
Equivalent Input Noise Voltage	V_{N1}	R_S=10kΩ, R_L=4Ω, A curve	−	2	−	μVrms
	V_{N2}	R_S=10kΩ, R_L=4Ω, BW=22Hz～22kHz	−	2.5	−	μVrms
Ripple Rejection	RR	f=100Hz	−	47	−	dB
Cut off Frequency	f_H	A_V=−3dB from f=1kHz, R_L=4Ω, P_O=0.1W	−	80	−	kHz
Pre Amp						
Output Voltage	V_0	f=1kHz, THD=1%	0.1	0.2	−	Vrms
Voltage Gain	Av	f=1kHz	35	38	41	dB
Output Noise Voltage	V_{NO}	R_S=3.3kΩ	−	0.1	0.4	mVrms
ALC						
Limit Level	ALC	f=1kHz	100	200	300	mVrms
Ripple Filter						
Output Voltage	V_0	R_L=2kΩ	V^+−0.24	V^+−0.2	V^+−0.16	V
Ripple Rejection	RR	f=200Hz, C=47μF	40	47	54	dB

(Note 1) at on PC Board

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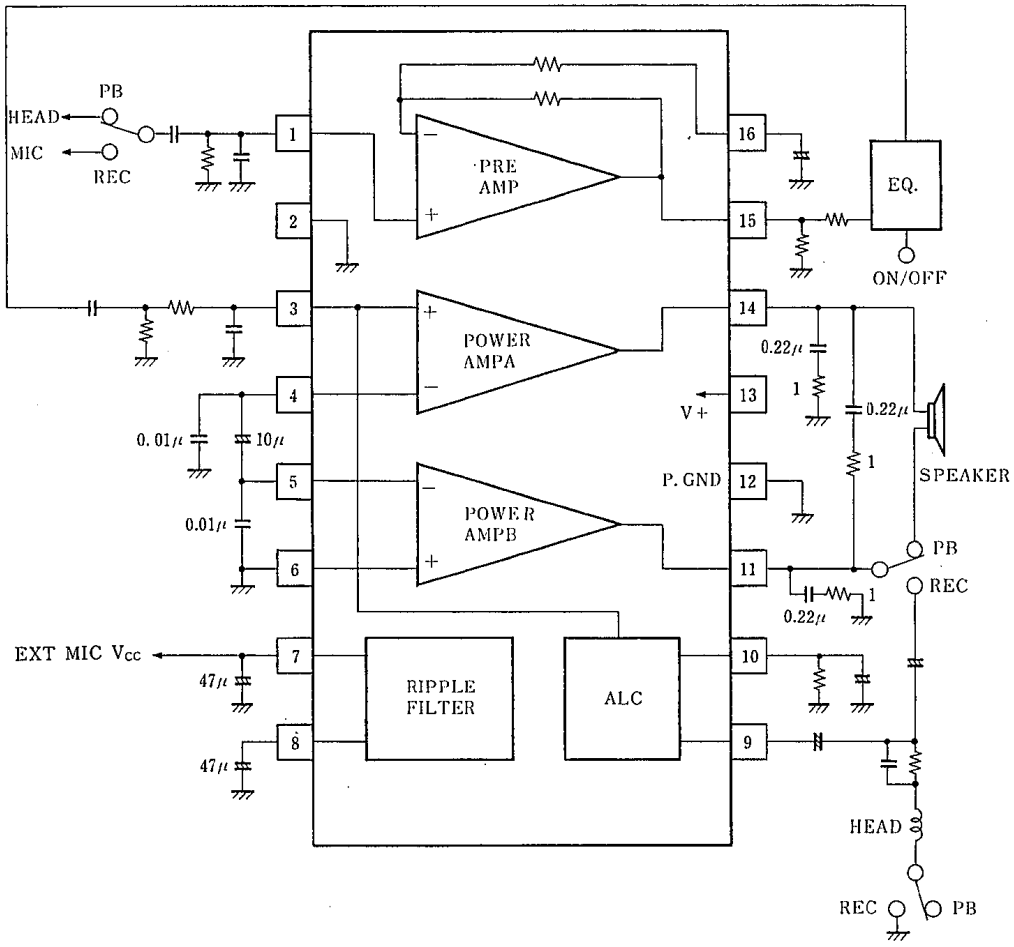
■ TYPICAL APPLICATIONS



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MEMO

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