

PRE & POWER AMPLIFIER WITH ALC

■ GENERAL DESCRIPTION

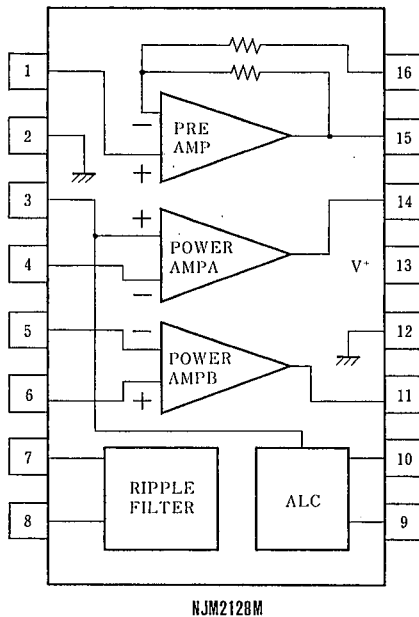
NJM2128 is a pre & power amplifier with ALC for micro and compact cassette recorders. It contains pre-amplifier, ALC circuit, power amplifiers, and ripple filter.

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.

■ FEATURES

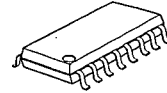
- Operating Voltage 1.8V ~ 6.0V
- Automatic Level Control (ALC) Limit Level=100mVrms typ.(f=1kHz)
- Ripple Filter R.R. (Ripple Rejection)=47dB typ.(f=200Hz, C=47 μF)
- Bipolar Technology
- Package Outline DMP16

■ PIN CONFIGURATION



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



NJM2128M

## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	+7.0	V
PA Output Peak Current	I <sub>op</sub>	1	A
PA Input Voltage Range	V <sub>IN</sub>	±0.4	V
Power Dissipation	P <sub>D</sub>	(DMP16) 300	mW
Operating Temperature Range	T <sub>opr</sub>	-20 ~ +75	°C
Storage Temperature Range	T <sub>stg</sub>	-40 ~ +125	°C

## ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=3V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V <sup>+</sup>		1.8	3.0	6.0	V
Operating Current	I <sub>CC</sub>	R <sub>L</sub> =∞	—	9	14	mA

### Power Amp

Input Bias Current	I <sub>B</sub>		—	140	—	nA
Output Offset	ΔV <sub>O</sub>	R <sub>L</sub> =8Ω	—	0	50	mV
Output Power (Note 1)	P <sub>O</sub>	THD=10%, f=1kHz, V <sup>+</sup> =4V, R <sub>L</sub> =8Ω	300	400	—	mW
	P <sub>O</sub>	THD=10%, f=1kHz, V <sup>+</sup> =3V, R <sub>L</sub> =4Ω	150	220	—	mW
T.H.D.	THD	V <sup>+</sup> =4V, R <sub>L</sub> =8Ω, P <sub>O</sub> =200mV, f=1kHz	—	0.2	—	%
Close Loop V-Gain	A <sub>V1</sub>	f=1kHz	41	44	47	dB
Equivalent Input Noise Voltage	V <sub>N1</sub>	R <sub>S</sub> =10kΩ, R <sub>L</sub> =4Ω, A curve.	—	2	—	μVrms
	V <sub>N2</sub>	R <sub>S</sub> =10kΩ, R <sub>L</sub> =4Ω, BW=22Hz~22kHz	—	2.5	—	μVrms
Ripple Rejection	RR	f=100Hz	—	47	—	dB
Cut off Frequency	f <sub>H</sub>	A <sub>V</sub> =-3dB from f=1kHz, R <sub>L</sub> =4Ω, P <sub>O</sub> =0.1W	—	80	—	kHz

### Pre Amp

Output Voltage	V <sub>O</sub>	f=1kHz, THD=1%	0.1	0.2	—	Vrms
Voltage Gain	A <sub>V</sub>	f=1kHz	35	38	41	dB
Output Noise Voltage	V <sub>NO</sub>	R <sub>S</sub> =3.3kΩ	—	0.1	0.4	mVrms

### ALC

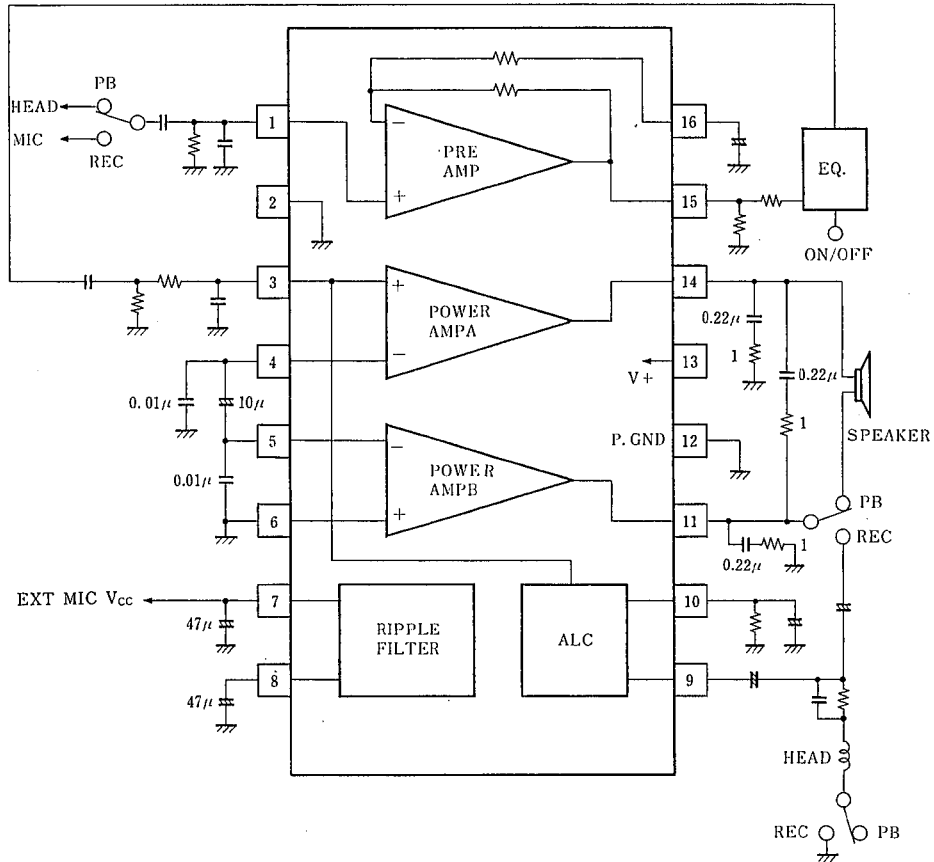
Limit Level	ALC	f=1kHz	100	200	300	mVrms
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### Ripple Filter

Output Voltage	V <sub>O</sub>	R <sub>L</sub> =2kΩ	V <sup>+</sup> -0.24	V <sup>+</sup> -0.2	V <sup>+</sup> -0.16	V
Ripple Rejection	RR	f=200Hz, C=47μF	40	47	54	dB

(Note 1) at on PC Board

■ TYPICAL APPLICATIONS



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## MEMO

[CAUTION]

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