植多邦,专业PCB打样工厂,24小时加 急出货

PACKAGE OUTLINE

SINGLE LOW VOLTAGE C-MOS POWER AMPLIFIER

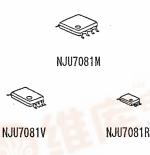
GENERAL DESCRIPTION

JRC

The NJU7081 is a single C-MOS Power Amplifier which is available to operate with single power supply and low voltage.

查询NJU7081供应商

The NJU7081 realizes neary full-swing output with low voltage operation (2.4V). An output voltage is kept more than V_{DD} -0.3V or less than V_{SS} +0.3V when output current is 40mA, therefore it is suitable for an ear-set and a small size speaker driver of the battery operated audio items, especially cellular phone.

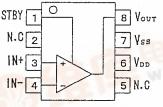


FEATURES

- Single Power Supply
- Wide Operation Voltage Range (Vop 2.4V ~ 5.5V)
- Neary Full-Swing Output (Vss+0.3V~Vpp-0.3V at lout=±40mA)
 Low Distortion
- (0.05% at RL=38ohm, 1.0Vp-p)
- Low Operating Current (1.5mA at Vop=3V)
- Stand-by Function (1.0µA at Vpp=3V)
- Package Outline
- C-MOS Technology

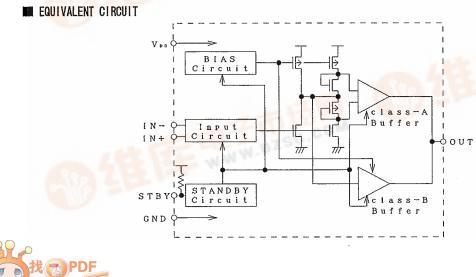
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Note1)	STBY terminal			
	"H" or "OPEN"	:	Stand-by	oper

"H" or "OPEN" : Stand-by operation "L" : Normal operation



DMP8 / SSOP8 / VSP8

ABSOLUTE MAXIMUM RATINGS

ABSULUTE MAXIMUM RATINGS			(Ta=25°C)
PARAMETER SYMBOL		RATINGS	UNIT
Supply Voltage	Vdd	7	V
Input Voltage	VID	V_{ss} - 0.3 ~ V_{DD} + 0.3	V
Power Dissipation	P₀	250 (VSP8, SS0P8) 300 (DMP8)	mW
Operating Temperature Topr		- 25 ~ + 75	°C
Storage Temperature T		- 40 ~ +125	⊃°

ELECTRICAL CHARACTERISTICS 1

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage Range	VDD		2.4		5.5	۷

■ ELECTRICAL CHARACTERISTICS 2 (VDD=3V)

0////201			<i>.</i>		, f=1kHz) UNIT
SYMBOL		MIN			
loo	No Load Condition : Voltage Follower Vo=1.5V		1.5	_	mA
ISTB				1.0	μA
Ipin	VDD=3V, Vstb=0V		10		μA
Vsтн		0. 8V _{dd}			v
Vsil				0. 2Vdd	
Vio		-10		10	mV
l 10			10		pА
Іів			10		pA _
Rin			1011		Ω
Vicm		0. 2~2			V
Vом	lout= 40mA	2.6	2.7		v
	lout=-40mA		0.3	0.4	
Іом	(D+N)/S<0.1% Source		30		mA
	(D+N)/S<0.1% Sink		-30		
A∨		55			dB
CMRR	V _{1 CM} =0. 2~2. 0V	53			dB
PSRR	V _{DD} =2. 7~3. 3V	55			dB
(D+N)/S	V₀=1.0Vp−p 0~10dB, 38Ω		0. 05		%
Ent	IEC-A		3		μVrms
S/N			110		dB
Ft	CL==10pF, OPEN LOOP		1.5		MHz
SR	Unity Gain Turn Over, CL=32pF		1	1	V/µs
	Istв Ipin Vsil Vsil Vio Io Iib Rin Vicm Vom Iom Av CMRR PSRR (D+N)/S Ent S/N Ft	$ \begin{array}{ c c c c c c } I_{DD} & No \ Load \ Condition \\ : \ Voltage \ Follower \ V_{o}=1. \ 5V \\ \hline I_{STB} & & \\ \hline I_{PIN} & V_{DD}=3V, \ Vstb=0V \\ \hline V_{SIH} & & \\ \hline V_{SIH} & & \\ \hline V_{SIH} & & \\ \hline V_{IO} & & \\ \hline I_{IO} & & \\ \hline I_{IO} & & \\ \hline I_{ID} & & \\ \hline V_{ICM} & & \\ \hline I_{OUt}=40mA & & \\ \hline I_{OUt}=-40mA & & \\ \hline I_{OM} & & \\ \hline (D+N) /S <0. \ 1\% \ Source & \\ \hline (D+N) /S <0. \ 1\% \ Source & \\ \hline (D+N) /S <0. \ 1\% \ Source & \\ \hline (D+N) /S & \\ \hline CMRR & V_{ICM}=0. \ 2\sim2. \ OV & \\ \hline PSRR & V_{DD}=2. \ 7\sim3. \ 3V & \\ \hline (D+N) /S & V_{O}=1. \ OVp=p & \\ \hline 0\sim-10dB, \ 38 \ \Omega & \\ \hline Ent & IEC-A & \\ \hline S/N & \\ \hline Ft & CL=10pF, \ OPEN \ LOOP & \\ \hline \end{array} $	$ \begin{array}{ c c c c c c c } \hline I_{DD} & No \ Load \ Condition & V_{0}=1.5V & \\ \hline I_{STB} & & & & \\ \hline I_{PIN} & V_{DD}=3V, Vstb=0V & & & \\ \hline V_{SIH} & & & 0.8V_{DD} \\ \hline V_{SIH} & & & 0.8V_{DD} \\ \hline V_{SIL} & & & & \\ \hline V_{10} & & & -10 \\ \hline I_{10} & & & & \\ \hline V_{10} & & \\ \hline$	$ \begin{array}{ c c c c c c c } \hline I_{DD} & No \ Load \ Condition & V_{o}=1.5V & 1.5 \\ \hline I_{STB} & & & & & & & & & & \\ \hline I_{PIN} & V_{DD}=3V, \ Vstb=0V & & & & & & & & & & \\ \hline V_{STH} & & & & & & & & & & & & \\ \hline V_{STH} & & & & & & & & & & & & & \\ \hline V_{STL} & & & & & & & & & & & & & \\ \hline V_{IO} & & & & & & & & & & & & & & & \\ \hline V_{IO} & & & & & & & & & & & & & & & & \\ \hline V_{IO} & & & & & & & & & & & & & & & & \\ \hline V_{IO} & & & & & & & & & & & & & & & & & \\ \hline I_{1D} & & & & & & & & & & & & & & & \\ \hline N_{IO} & & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & & \\ \hline Iout= 40mA & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & \\ \hline Iout= 40mA & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & & \\ \hline Iout= -40mA & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & \\ \hline V_{OM} & & & & & & & & & & & & & & & & & & &$	$\begin{tabular}{ c c c c c c } \hline I_{DD} & No Load Condition & V_0=1.5V & 1.5 & 2 \\ \hline I_{STB} & & & 1.0 \\ \hline I_{PTN} & V_{DD}=3V, Vstb=0V & 10 & 10 \\ \hline V_{STH} & & 0.8V_{DD} & & 0.2V_{DD} \\ \hline V_{STH} & & 0.8V_{DD} & & 0.2V_{DD} \\ \hline V_{STL} & & & 0.2V_{DD} \\ \hline V_{STL} & & & 0.2V_{DD} \\ \hline V_{10} & & -10 & 10 & 10 \\ \hline I_{10} & & & 10 & 10 \\ \hline I_{10} & & & 10 & 10 \\ \hline I_{10} & & & 100 & 10 \\ \hline I_{10} & & & 100 & 10 \\ \hline I_{10} & & & 100 & 10 \\ \hline I_{10} & & & 100 & 10 \\ \hline V_{1CM} & & & 0.2\sim2 & & 100 \\ \hline V_{0M} & Iout= 40mA & 2.6 & 2.7 & 100 \\ \hline V_{0M} & Iout= 40mA & 2.6 & 2.7 & 100 \\ \hline I_{0HV}/SCO.1\% Source & 30 & 100 \\ \hline V_{0M} & (D+N)/SCO.1\% Sink & -30 & 100 \\ \hline Av & & 55 & 100 \\ \hline CMIRR & V_{1CM}=0.2\sim2.0V & 53 & 100 \\ \hline PSRR & V_{0D}=2.7\sim3.3V & 55 & 100 \\ \hline (D+N)/S & V_{0}=1.0V_{D}-p & 0.05 \\ \hline Ent & IEC-A & 3 & 3 \\ \hline S/N & & 110 & 100 \\ \hline Ft & CL=10pF, OPEN LOOP & 1.5 & 100 \\ \hline \end{tabular}$

NOTE2) The NJU7081 should be operated gaining of triple or more for stable operation. NOTE3) When the NJU7081 using no-current-load and low gain application (voltage follower, etc.), oscillation will be worst. In this case, the stray capacitance of the output terminal should be less than 100pF.

NJU7081

■ ELECTRICAL CHARACTERISTICS 3 (Vpp=5V)

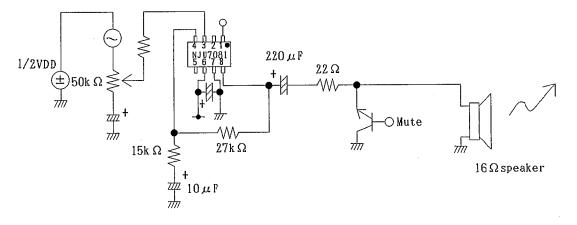
 $(Ta=25^{\circ}C, V_{DD}=5V, V_{SS}=0V, f=1kHz)$

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Current	loo	No Load Condition : Voltage Follower Vo=2.5V		3	4	mA
Standby Current	Іѕтв				1	μA
Standby terminal Current	PIN	V _{DD} =3V, Vstb=0V		30		μA
Standby terminal Input Voltage	Vsiн		0.8V _{dd}			v
	Vsil				0.2V _{DD}	
Input Offset Voltage	Vio		-10		10	mV
Input Offset Current	110			10		pА
Input Bias Current	lıв			10		pА
Input Resistor	RIN			1011		Ω
Input Common Mode Voltage Range	V _{I CM}		0.4~4			v
Maximum Output Voltage Range	Vom	lout= 40mA	4.6	4. 7		V
		lout=-40mA		0.3	0.4	
Maximum Output Current	Гом	(D+N)/S<0.1% Source		30		mA
		(D+N)/S<0.1% Sink		-30		
Large-Signal Voltage gain	Av		55			dB
Common Mode Rejection ration	CMRR	V _{1 CM} =0. 4~4. 0V	53			dB
Supply Voltage Rejection ration	PSRR	V _{DD} =4. 5~5. 5V	55			dB
Total Harmonic Distortion	(D+N)/S	V _o =1. 0Vp-p 0~10dB, 38 Ω		0. 05		%
Equivalent Input Noise Voltage	Ent	IEC-A		3		μVrms
Signal to Noise Ratio	S/N			110		dB
Unity Gain Bandwidth	Ft	CL=10pF, OPEN LOOP		1.5		MHz
Slew Rate	SR	Unity Gain Turn Over,CL=32pF RL=2kΩ		1		V/µs

NOTE4) The NJU7081 should be operated gaining of triple or more for stable operation. NOTE5) When the NJU7081 using no-current-load and low gain application (voltage follower, etc.), oscillation will be worst. In this case, the stray capacitance of the output terminal should be less than 100pF.

NJU7081

APPLICATION CIRCUIT



MEMO

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