



# NJU7392

## ■ ABSOLUTE MAXIMUM RATING (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Power Supply Voltage	V <sup>+</sup>	+7	V
Power Dissipation	P <sub>D</sub>	950 <sup>*1)</sup>	mW
Maximum Input Voltage	V <sub>IMAX</sub>	0 ~ V <sup>+</sup> <sup>*2)</sup>	V
Operating Temperature Range	Topr	-40 ~ +85	°C
Storage Temperature Range	Tstg	-40 ~ +125	°C

\*1) EIA/JEDEC STANDARD Test board (76.2x114.3x1.6mm, 2layer, FR-4) mounting

\*2) Don't apply the input voltage that exceeds supply voltage.

## ■ ELECTRICAL RECOMMENDED OPERATING CONDITION (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V <sup>+</sup>	-	2.7	3.3	5.5	V

## ■ ELECTRICAL CHARACTERISTICS

### ● DC CHARACTERISTICS (Ta=25°C, V<sup>+</sup>=3.3V, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I <sub>DD1</sub>	No Signal, Active	-	5.0	8.0	mA
	I <sub>DD2</sub>	No Signal, Standby	-	0.1	1.0	μA
Reference Voltage	V <sub>REF</sub>	No signal	1.5	1.65	1.8	V

### ● AC CHARACTERISTICS

(Ta=25°C, V<sup>+</sup>=3.3V, V<sub>IN</sub>=500mVrms, f=1kHz, Expander: OFF, Treble:0dB, Bass Boost: OFF, VOL:0dB, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	IN			OUT	MIN.	TYP.	MAX.	UNIT
			L	R						
Maximum Input Voltage 1	V <sub>IM1</sub>	THD=1% BW=400Hz-30kHz	V <sub>IN</sub> -	- V <sub>IN</sub>	L R	550	580	-	mVrms	
Maximum Input Voltage 2	V <sub>IM2</sub>	Expander: Palmtop THD=1%, BW=400Hz-30kHz	V <sub>IN</sub> 0	0 V <sub>IN</sub>	L R	550	580	-	mVrms	
Maximum Input Voltage 3	V <sub>IM3</sub>	Expander: Palmtop Bass: ON, f=1kHz THD=1%, BW=400Hz-30kHz	V <sub>IN</sub> V <sub>IN</sub>	V <sub>IN</sub> V <sub>IN</sub>	L R	550	580	-	mVrms	
Output Noise Voltage 1	V <sub>NO1</sub>	Rg=0Ω, A-weighted	0	0	L	-	-100 (10)	-94 (20)	dBV (μVrms)	
			0	0	R					
Output Noise Voltage 2	V <sub>NO2</sub>	Rg=0Ω, A-weighted VOL=-68dB	0	0	L	-	-100 (10)	-94 (20)	dBV (μVrms)	
			0	0	R					
Output Noise Voltage 3	V <sub>NO3</sub>	Expander: Palmtop Rg=0Ω, A-weighted	0	0	L	-	-90 (32)	-80 (100)	dBV (μVrms)	
			0	0	R					
Output Noise Voltage 4	V <sub>NO4</sub>	Expander: Palmtop Bass: ON, Rg=0Ω, A-weighted	0	0	L	-	-90 (32)	-80 (100)	dBV (μVrms)	
			0	0	R					
Total Harmonic Distortion 1	THD+N <sub>1</sub>	BW=400Hz-30kHz	V <sub>IN</sub> -	- V <sub>IN</sub>	L R	-	0.05	0.1	%	
Total Harmonic Distortion 2	THD+N <sub>3</sub>	Expander: Palmtop BW=400Hz-30kHz	V <sub>IN</sub> 0	0 V <sub>IN</sub>	L R	-	0.1	0.5	%	
Total Harmonic Distortion 3	THD+N <sub>3</sub>	Expander: Palmtop Bass: ON BW=400Hz-30kHz	V <sub>IN</sub> 0	0 V <sub>IN</sub>	L R	-	0.1	0.5	%	

PARAMETER	SYMBOL	TEST CONDITION	TEST CONDITION			MIN.	TYP.	MAX.	UNIT
			IN		OUT				
			L	R					
Bypass Gain	$G_{VBYP}$	Treble=0dB	$V_{IN}$ -	- $V_{IN}$	L R	-1.0	0.0	1.0	dB
Treble Gain	$G_{VTRE}$	f=10kHz	$V_{IN}$ -	- $V_{IN}$	L R	2.0	3.0	4.0	dB
Expander Gain 1	$G_{VEXP1}$	Expander: Laptop f=10kHz	$V_{IN}$ $V_{IN}$	$V_{IN}$ $V_{IN}$	L R	1.7	3.7	5.7	dB
Expander Gain 2	$G_{VEXP2}$	Expander: Palmtop f=10kHz	$V_{IN}$ $V_{IN}$	$V_{IN}$ $V_{IN}$	L R	3.0	5.0	7.0	dB
Expander Gain 3	$G_{VEXP3}$	Expander: Laptop	$V_{IN}$ 0	0 $V_{IN}$	L R	2.1	4.1	6.1	dB
Expander Gain 4	$G_{VEXP4}$	Expander: Palmtop	$V_{IN}$ 0	0 $V_{IN}$	L R	3.3	5.3	7.3	dB
Bass Gain	$G_{VBASS}$	Bass: ON $V_{IN}=100mV_{rms}$ f=100Hz	$V_{IN}$ $V_{IN}$	$V_{IN}$ $V_{IN}$	L R	4.0	6.0	8.0	dB
Maximum Attenuate level	$GV_{VOL-68}$	VOL=-68dB BW=400Hz-30kHz	$V_{IN}$ -	- $V_{IN}$	L R	-70	-68	-66	dB
Mute Level	Mute	VOL=Mute BW=400Hz-30kHz	$V_{IN}$ -	- $V_{IN}$	L R	-	-90	-86	dB
Channel Balance	$G_{CB}$		$V_{IN}$ -	- $V_{IN}$	L R	-1.0	0.0	1.0	dB
Bass Limit Level	$V_{LIM}$	Bass: ON $V_{IN}=0.7V_{rms}$ f=100Hz	$V_{IN}$ $V_{IN}$	$V_{IN}$ $V_{IN}$	L R	0.75	1.0	1.25	Vrms
Cross Talk	CT	Selected Input: No Signal, $R_g=0\Omega$ BW=400Hz-30kHz	$V_{IN}$ -	- $V_{IN}$	L R	70	80	-	dB
Channel Separation	CS	$R_g=0\Omega$ BW=400Hz-30kHz	0 $V_{IN}$	$V_{IN}$ 0	L R	70	80	-	dB

● **Indicator Output Block** ( $T_a=25^\circ C$ ,  $V^+=3.3V$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
High Input Voltage	$V_{OH}$	$I_{SOURCE}=1mA$ (pin 17, pin 18, pin 19)	$V^+*0.8$	-	$V^+$	V
Low Input Voltage	$V_{OL}$	$I_{SINK}=1mA$ (pin 17, pin 18, pin 19)	0	-	$V^+*0.2$	V

[CAUTION]

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