DOLBY B·C TYPE NOISE REDUCTION PROCESSOR

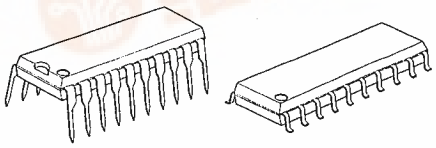
■ GENERAL DESCRIPTION

The NJM2065A is a low-voltage operating DOLBY B·C-type noise reduction processor IC. The NJM2065A is a suitable to the headphone stereo and small cassette tape recorder.

■ FEATURES

- Low Operating Voltage (1.8V～6.0V)
- Minimum External Components
- Good temperature characteristics (4mA)
- Internal Switch of NR ON/OFF ENCODE/DECODE
- Dolby Level Encode Output Level 100mVrms
  Decode Output Level 100mVrms
- Package Outline DIP20, DMP20
- Bipolar Technology

■ PACKAGE OUTLINE



NJM2065AD NJM2065AM

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5

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	6.5	V
Power Dissipation	P_D	(DIP16) 700	mW
		(DMP16) 350	mW
Operating Temperature Range	T_{opr}	−20～+75	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

■ ELECTRICAL CHARACTERISTICS

(V^+=3.0V, (note 1), Ta=25℃)

PARAMETER	SYMBOL	TEST CONDITION				MIN.	TYP.	MAX.	UNIT
		R/P	NR	f(Hz)	OTTHER CONDITIONS				
Operating Voltage	V_{opr}					1.8		6	V
Operating Current	I_{cc}	R	OFF		No signal	1.5	3	5	mA
Voltage Gain (REC)	G_{VR}	R	OFF	1k		9	10	11	dB
(MON)	G_{VM}	R	OFF	1k		9	10	11	dB
Encode Characteristics									
B Type (1)	B-1	R	B	5k	0dB	−1.2	0.3	1.8	dB
B Type (2)	B-2	R	B	1.4k	−15dB	0.8	2.3	3.8	dB
B Type (3)	B-3	R	B	1k	−25dB	4.2	5.7	7.2	dB
B Type (4)	B-4	R	B	5k	−30dB	6.7	8.2	9.7	dB
B Type (5)	B-5	R	B	5k	−40dB	9.8	10.3	11.8	dB
C Type (1)	C-1	R	C	5k	0dB	−4.3	−2.3	−0.3	dB
C Type (2)	C-2	R	C	1k	−20dB	3.9	5.9	7.9	dB
C Type (3)	C-3	R	C	500	−30dB	9.8	11.8	13.8	dB
C Type (4)	C-4	R	C	700	−40dB	14.5	16.5	18.5	dB
C Type (5)	C-5	R	C	5k	−60dB	19.4	20.4	22.4	dB
Decode Characteristics									
B Type	B_d	P	B	5k	−30dB		−8.2		dB
C Type	C_d	P	C	1k	−40dB		−16.5		dB
Signal Handling	SH	P	C	1k	THD=1%, V^+=1.8V	12	13		dB
S/N Ratio(PIN9)									
C Type	SN_c	R	C		Rg=5.6kΩ CCIR/ARM	60	62		dB
B Type	SN_B	R	B				71		dB
NR OFF	SN_o	R	OFF				78		dB
Total Harmonic Distortion									
NR OFF (REC)	THD1	R	OFF	1k	0dB		0.03	0.2	%
NR OFF (MON)	THD2	P	OFF	1k	0dB		0.03		%
B Type (REC)	THD3	R	B	1k	0dB		0.05		%
B Type (MON)	THD4	P	B	1k	0dB		0.05		%
C Type (REC)	THD5	R	C	1k	0dB		0.09	0.4	%
C Type (MON)	THD6	P	C	1k	0dB		0.08		%
Control Voltage									
REC	V_{ctR}	Voltage between both terminals of 10kΩ register connected to pin 20				0		0.2	V
PLAY	V_{ctP}					1.6		V^+	V
NR OFF	V_{ctO}	Voltage between both terminals of 8.2kΩ register connected to pin 1					open		V
B Type	V_{ctB}					1.6		V^+	V
C Type	V_{ctC}					0		0.2	V

(note 1): Definition of 0dB DOLBY LEVEL.

Encode Mode: On NR-OFF condition. put 400 Hz input signal to PIN19, and adjust the voltage of PIN15 to 31.6mV, At this condition the voltage of PIN9 is about 100mV which is 0dB.

Decode Mode: On NR-OFF condition, put 400Hz input signal, to PIN19, and adjust the voltage of PIN15 to 31.6mV. At this condition the voltage of PIN10 is about 100mV which is 0dB.

5

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