

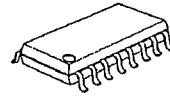
DOLBY B-TYPE NOISE REDUCTION PROCESSOR

■ GENERAL DESCRIPTION

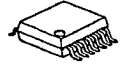
The NJM2185A is a stereo Dolby B-type Noise Reduction processor for decoding operation.

The features of low operating voltage and low operating current are suitable for portable audio equipment, such as headphone stereo and others.

■ PACKAGE OUTLINE



NJM2185AM



NJM2185AV

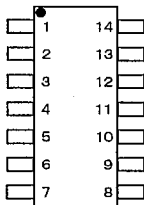
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This device is available only to licensees of Dolby Lab. Licensing and application information may be obtained from Dolby Lab.

■ FEATURES

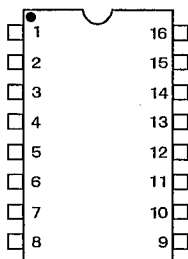
- Low Operating Voltage : +1.8V to +3.5V
- Low Operating Current : 1.2mA typ.
- Dolby Level : 31.6mVrms (-30dBv)
- 2 channels
- Few external parts
- Internal NR ON/OFF switch
- Bipolar Technology
- Package Outline : DMP16, SSOP14

■ PIN CONFIGURATION



NJM2185AV

- | | |
|---------------------|----------------------|
| 1. GND | 8. DETA |
| 2. I _{REF} | 9. DCA |
| 3. V _{REF} | 10. OUTA |
| 4. INB | 11. INA |
| 5. OUTB | 12. V _{EXT} |
| 6. DCB | 13. SW |
| 7. DETB | 14. V ⁺ |



NJM2185AM

- | | |
|---------------------|----------------------|
| 1. GND | 9. N. C. |
| 2. I _{REF} | 10. DETA |
| 3. V _{REF} | 11. DCA |
| 4. INB | 12. OUTA |
| 5. OUTB | 13. INA |
| 6. DCB | 14. V _{EXT} |
| 7. DETB | 15. SW |
| 8. N. C. | 16. V ⁺ |

NJM2185A

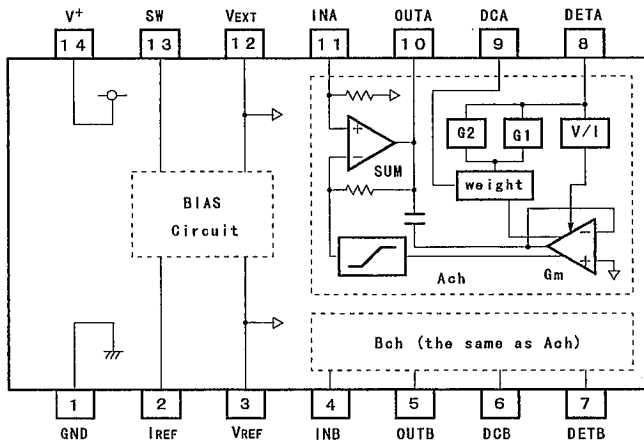
■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	5.0	V
Power Dissipation	P _D	300	mW
Operating Temperature Range	T _{OPR}	-20~+75	°C
Storage Temperature Range	T _{STR}	-40~+125	°C

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V⁺=3V, 0dB Reference is 31.6mVrms/1kHz, unless otherwise specified)

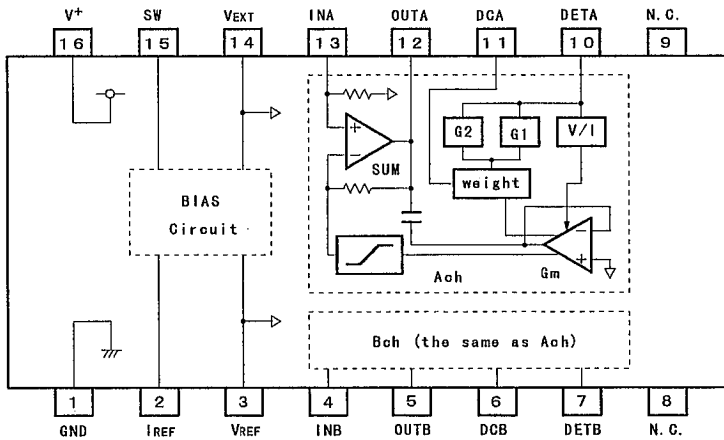
PARAMETER	SYMBOL	NR	f (Hz)	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage Range	V _{OPR1}	ON	-		1.8	-	3.5	V
	V _{OPR2}	OFF	-		1.6	-	3.5	V
Supply Current	I _{OO1}	ON	-	No signal	-	1.2	1.5	mA
	I _{OO2}	OFF	-	No signal	-	1.2	1.5	mA
Reference Voltage	V _{REF}	-	-		-	0.90	-	V
Control Voltage	V _{CON}	ON	-	13pin voltage	0.00	-	0.30	V
	V _{COFF}	OFF	-	13pin voltage	0.90	-	V ⁺	V
Voltage Gain	G _V	OFF	1k		-1.0	0.0	+1.0	dB
Decode Response	DEC1	ON	1k	V _{OUT} =-20dBd	2.7	4.2	5.7	dB
	DEC2	ON	3k	V _{OUT} =-30dBd	7.3	8.8	10.3	dB
	DEC3	ON	5k	V _{OUT} =-40dBd	8.8	10.3	11.8	dB
Signal Handling	SH	ON	1k	V ⁺ =1.8V, THD=1%	12.0	14.0	-	dB
Signal to Noise Ratio	S/N1	ON	-	R _g =5.6kΩ	63.0	71.5	-	dB
	S/N2	OFF	-	CGIR/ARM	70.0	82.0	-	dB
Total Harmonic Distortion	THD1	ON	1k	V _{OUT} =0dBd	-	0.08	-	%
	THD2	OFF	1k	V _{OUT} =0dBd	-	0.05	0.20	%

■ BLOCK DIAGRAM and PIN CONFIGURATION (NJM2185AV)



■ BLOCK DIAGRAM and PIN CONFIGURATION (NJM2185AM)

NOTE: The pin 8 and 9 are N. C.



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NJM2185A

■ PIN FUNCTION (The Pin number of SSOP14 is indicated.)

PIN	SYMBOL	TERMINAL EXPLANATION	EQUIVALENT CIRCUIT
1	GND	Ground	
14	V ⁺	Power Supply	
2	I _{REF}	Current Reference (0.04V)	
3	V _{REF}	Voltage Reference (0.90V)	
4 11	INB INA	Play Back Input (0.90V = V _{EXT})	
12	V _{EXT}	External Voltage Reference Input (0.09V, join to V _{REF})	

NOTE: () → DC Voltage

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■ PIN FUNCTION

PIN	SYMBOL	TERMINAL EXPLANATION	EQUIVALENT CIRCUIT
5 10	OUTB OUTA	Play Back Output ($0.90V = V_{EXT}$)	
6 9	DCB DCA	Weighting Filter ($0.90V = V_{REF}$)	
7 8	DETB DETA	Detector Output ($0.60V$)	
13	SW	Mode Control Input ($1.00V$)	

NOTE: () → DC Voltage

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MEMO

[CAUTION]

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