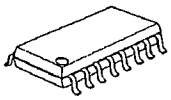
DOLBY B-TYPE NOISE REDUCTION PROCESSOR

■ GENERAL DESCRIPTION

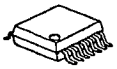
The NJM2185A is a stereo Dolby B-type Noise Reduction processor for decoding operation.

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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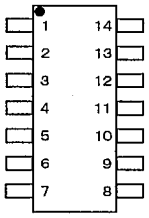
■ FEATURES

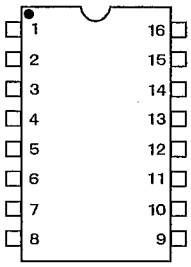
- Low Operating Voltage : +1.8V to +3.5V
- Low Operating Current : 1.2mA typ.
- Dolby Level : 31.6mVrms (-30dBv)
- 2 channels
- Few external parts
- Internal NR ON/OFF switch
- Bipolar Technology
- Package Outline : DMP16, SSOP14

■ PIN CONFIGULATION



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^+



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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^+

■ 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_{stg}	−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_{cc1}	ON	−	No signal	−	1.2	1.5	mA
	I_{cc2}	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	Gv	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	−	Rg=5.6kΩ	63.0	71.5	−	dB
	S/N2	OFF	−	CCIR/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	%

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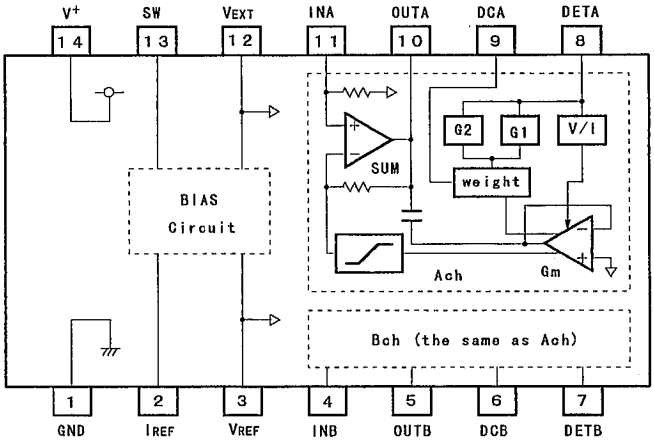
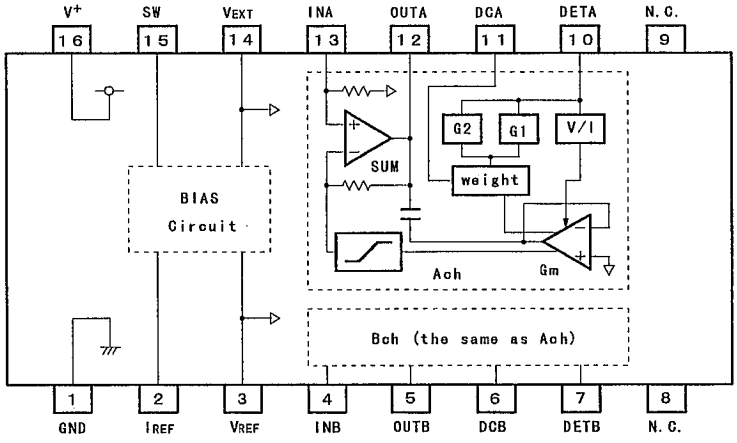
■ BLOCK DIAGRAM and PIN CONFIGURATION (NJM2185AV)



■ BLOCK DIAGRAM and PIN CONFIGURATION (NJM2185AM)
NOTE:The pin 8 and 9 are N.C.



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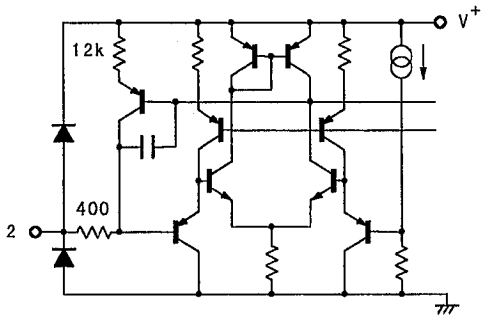
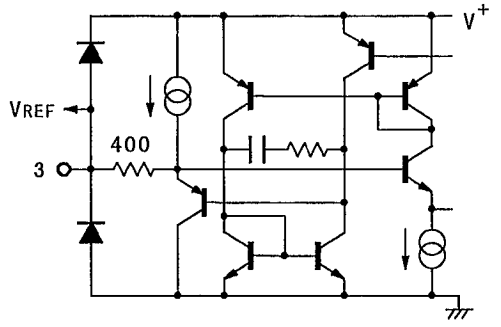
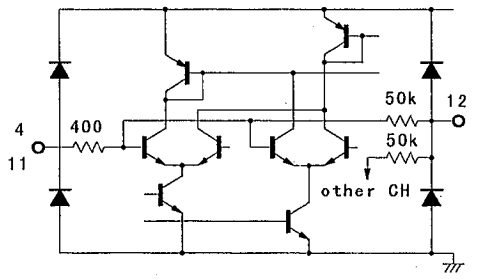
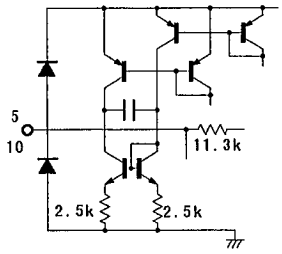
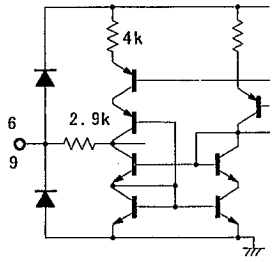
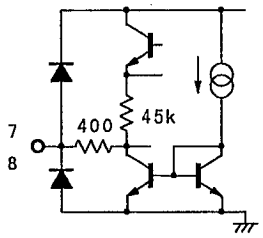
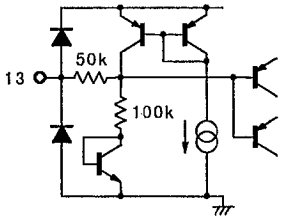
■ PIN FUNCTION (The Pin number of SSOP14 is indicated.)

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

■ 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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