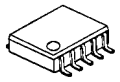
Sound Enhancement Audio Processor for Compression Audio

■ GENERAL DESCRIPTION

The NJM2707 is a sound enhancement audio processor designed for compression audio. It includes mode control switch (Sound enhancement mode / Bypass mode).

The NJM2707 performs low noise and low distortion characteristics, and is suitable for car audio & home audio applications.

■ PACKAGE OUTLINE

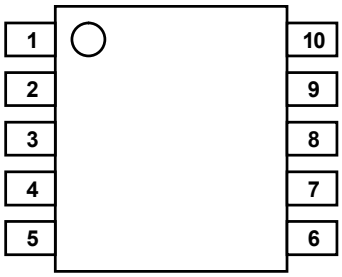


NJM2707RB2

■ FEATURES

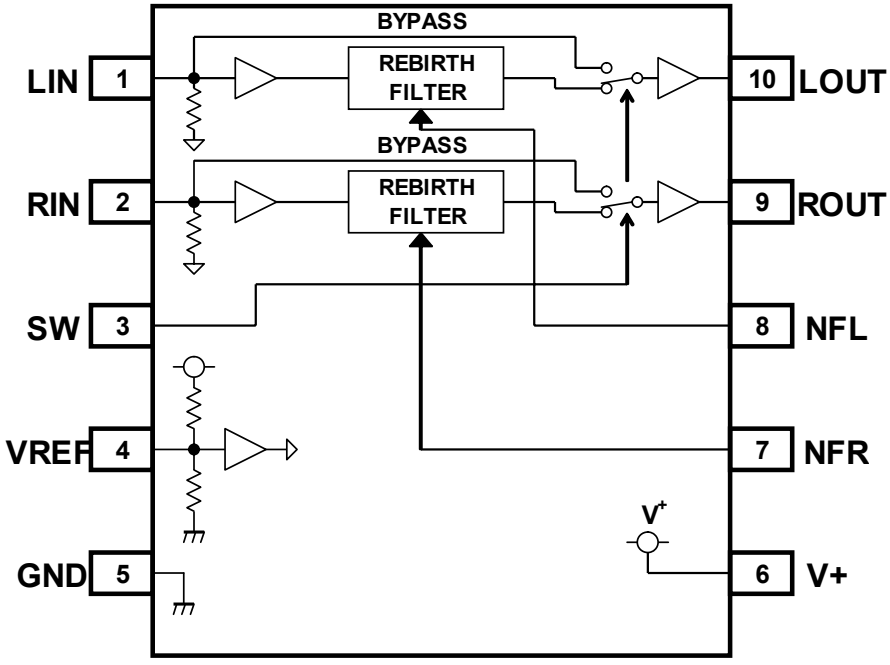
- Operating Voltage +1.8 to +13 V
- Low Operating Circuit 0.75 mA typ.(at Sound enhancement mode VR: Max.)
- Low output noise -100dBV typ.(at Sound enhancement mode VR: Max.)
- Low THD 0.01% typ.
- Variable Surround Effect by external resistor
- Internal Mode Control Switch
- Bipolar Technology
- Package Outline TVSP10

■ PIN CONFIGURATION



1. LIN
2. RIN
3. SW
4. VREF
5. GND
6. V+
7. NFR
8. NFL
9. ROUT
10. LOUT

■ BLOCK DIAGRAM (TVSP10)



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

PARAMETER	SYMBOL	RATING	UNIT
Power Supply Voltage	V_+	14	V
Power Dissipation	P_D	410 NOTE: EIA/JEDEC STANDARD Test board (76.2x114.3x1.6mm, 2layer, FR-4) mounting	mW
Operating Temperature Range	Topr	-40 ~ +85	°C
Storage Temperature Range	Tstg	-40 ~ +125	°C

■ **OPERATING VOLTAGE**

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V_+		1.8	9.0	13	V

■ **ELECTRICAL CHARACTERISTICS**(Ta=25°C, V^+=9V, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	INPUT L	INPUT R	OUTPUT	Mode	VR	MIN	TYP	MAX	UNIT
Supply Current	I_{CC}	No Signal	0	0	-	Bypass	-	-	0.75	1.3	mA
			0	0	-	eala Rebirth	MAX	-	0.75	1.3	
Reference Voltage	V_{REF}	No Signal	0	0	-	-	-	3.65	4.15	4.65	V

■ **AC CHARACTERISTICS**(Ta=25°C, V^+=9V, Vin= 1.5Vrms,f=1kHz,R_L=10kΩ,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	INPUT L	INPUT R	OUTPUT	Mode	VR	MIN	TYP	MAX	UNIT
Maximum Input Voltage	V_{IM}	f=1kHz THD=1%	V_{IN}	-	L	Bypass	-	2.2	3.0	-	Vrms
			-	V_{IN}	R						
		f=1kHz THD=1%	V_{IN}	-	L	eala Rebirth	MAX	1.5	2.7	-	
			-	V_{IN}	R						
		f=10kHz THD=1%	V_{IN}	-	L	Bypass	-	2.2	3.0	-	
			-	V_{IN}	R						
		f=10kHz THD=1%	V_{IN}	-	L	eala Rebirth	MAX	1.0	1.6	-	
			-	V_{IN}	R						
Output Noise	V_{NO}	Rg=0Ω A-Weighted	0	0	L	Bypass	-	-	-112 (2.5)	-106 (5.0)	dBV (μVrms)
					R						
		Rg=0Ω A-Weighted	0	0	L	eala Rebirth	MAX	-	-100 (10)	-94 (20)	
					R						
Total Harmonic Distortion	THD+N	V_{IN}=1.5Vrms f=1kHz	V_{IN}	-	L	Bypass	-	-	0.002	0.01	%
			-	V_{IN}	R						
		V_{IN}=0.75Vrms f=10kHz	V_{IN}	-	L	eala Rebirth	MAX	-	0.1	-	
			-	V_{IN}	R						
Bypass Gain	G_{VBYP}	V_{IN}=1.5Vrms f=1kHz	V_{IN}	-	L	Bypass	-	-1.0	0.0	1.0	dB
			-	V_{IN}	R						

PARAMETER	SYMBOL	TEST CONDITION						MIN	TYP	MAX	UNIT
			INPUT		OUTPUT	Mode	VR				
			L	R							
eala Rebirth Gain	G_{eala}	V_{IN}=0.75Vrms f=10kHz	V_{IN}	-	L	eala Rebirth	MAX	3.0	5.0	7.0	dB
			-	V_{IN}	R						

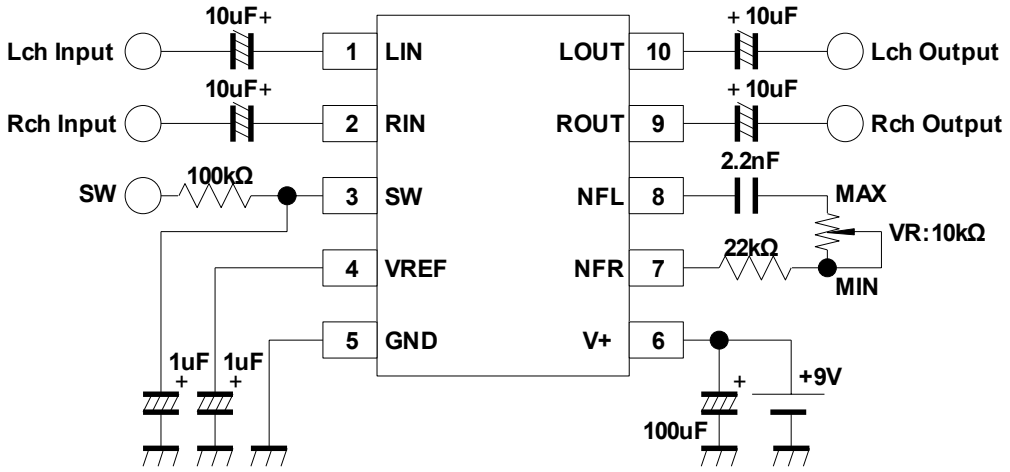
■ **CONTROL CHARACTERISTICS**(Ta=25°C, V^+=9V, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Mode Select Control Voltage	V_{MODE}	V_{IN}=High Level	1.2	-	V^+	V
		V_{IN}=Low Level	0.0	-	0.3	V

■ **SWITCH FUNCTION**

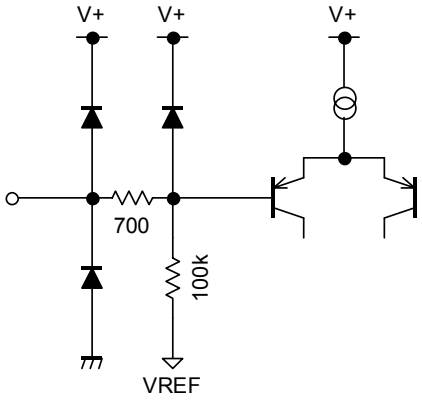
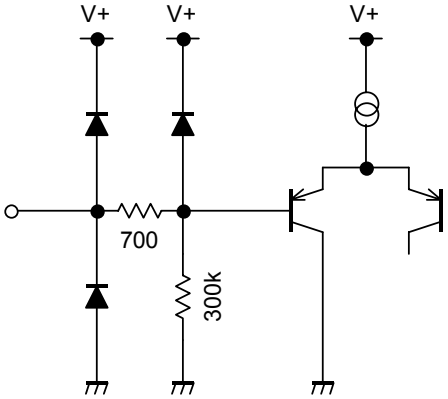
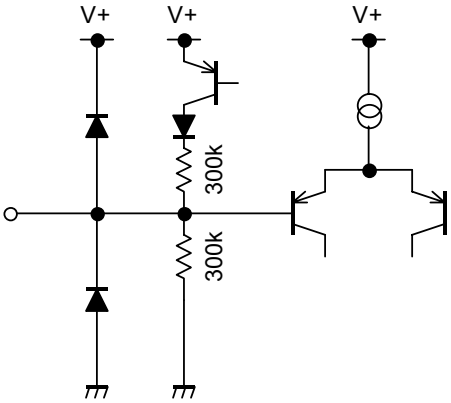
MODE	SW	NOTES
Bypass	L,Open	Input Through
eala Rebirth	H	eala Rebirth(Stereo Input)

■ APPLICATION CIRCUIT



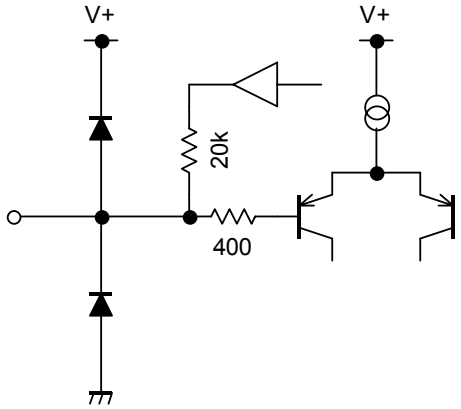
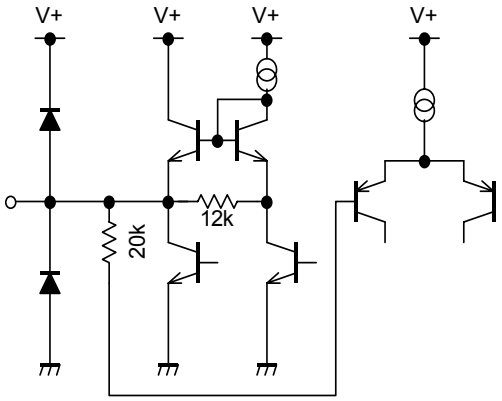
■ **TERMINAL DESCRIPTION**

(Ta=25°C, V^+=9V)

PIN No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	Voltage
1 2	LIN RIN	Lch Input Rch Input		4.15V
3	MODE SW	Mode Control Switch		0V
4	VREF	Reference Voltage		4.15V

■ TERMINAL DESCRIPTION

(Ta=25°C, V^+=9V)

PIN No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	Voltage
6	V+	Power Supply	———	V+
7 8	NFR NFL	Rch Filter Terminal Lch Filter Terminal		4.15V
9 10	ROUT LOUT	Rch Output Lch Output		4.15V