2-Input / 1-Output Stereo Audio Selector

■ GENERAL DESCRIPTION

The **NJM2752** is 2-Input / 1-Output Stereo Audio Selector.

The **NJM2752** consists of switches and buffer operational amplifiers.

Based on the internal switch op-amp technology, the **NJM2752** features lower output noise, lower distortion and higher channel separation than the general Multiplexers or Analogue Switches.

The **NJM2752** contains compatibility with the NJM2753 (3in-1out SW), NJM2755 (4in-1out SW). It is suitable for LCD-TV/PDP-TV, Car Stereo, and Any Audio System.

■ PACKAGE OUTLINE

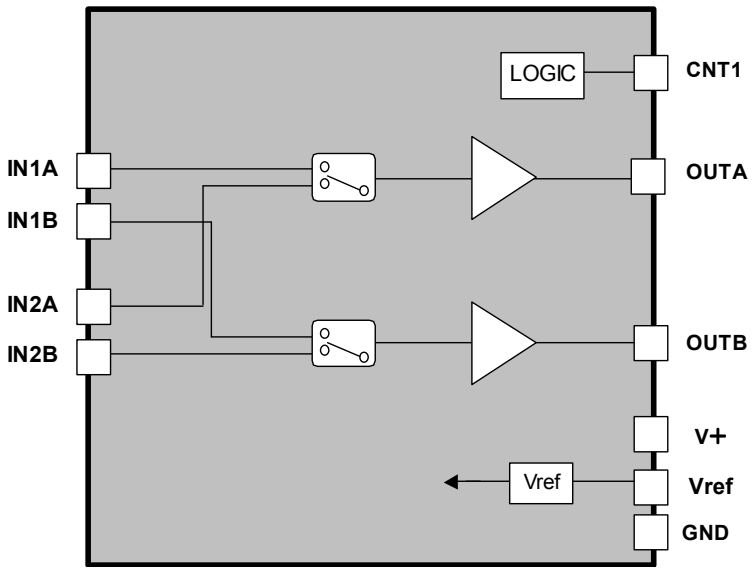
NJM2752RB2
(MSOP10 (TVSP10))

NJM2752V
(SSOP14)

■ FEATURES

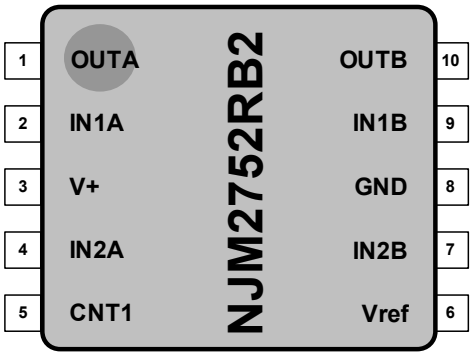
● Operating Voltage	4.7 to 10V
● 2-Input / 1-Output Stereo Audio Selectors	
● Low Output Noise	-114dBV typ.
● Low Distortion	0.0009% typ.
● Bipolar Technology	
● Package Outline	MSOP10 (TVSP10)*
	SSOP14
	*MEET JEDEC MO-187-DA / THIN TYPE

■ BLOCK DIAGRAM

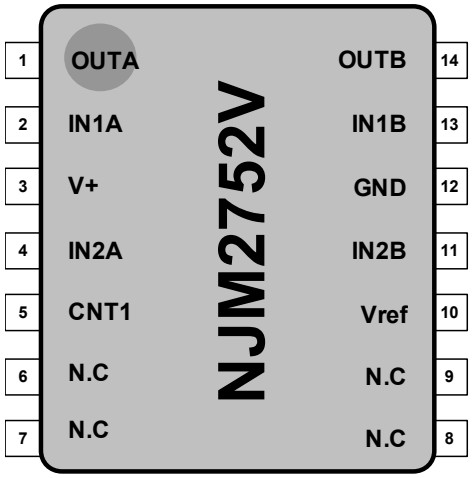


■ **PIN CONFIGURATIONS**
MSOP10 (TVSP10),SSOP14

MSOP10 (TVSP10)



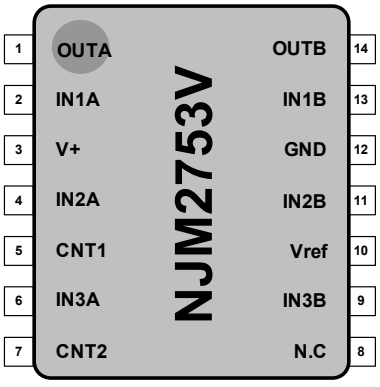
SSOP14



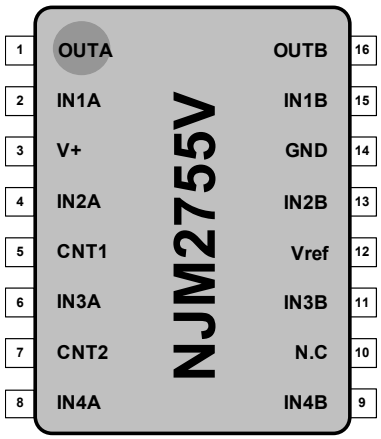
PIN.No. (MSOP10 (TVSP10))	PIN.No. (SSOP14)	SYMBOL	FUNCTION	PIN.No. (MSOP10 (TVSP10))	PIN.No. (SSOP14)	SYMBOL	FUNCTION
1	1	OUTA	Ach Output Terminal	6	10	Vref	Reference Terminal
2	2	IN1A	Ach Input Terminal1	7	11	IN2B	Bch Input Terminal2
3	3	V+	Power Supply Terminal	8	12	GND	GND Terminal
4	4	IN2A	Ach Input Terminal2	9	13	IN1B	Bch Input Terminal1
5	5	CNT1	Control Switch Terminal1	10	14	OUTB	Bch Output Terminal
	6,7 8,9	N.C	No Connection				

[Reference]
The NJM2752 contains compatibility with the NJM2753 (3in-1out SW), NJM2755 (4in-1out SW).

NJM2753



NJM2755



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V^+	12	V
Power Dissipation	P_D	MSOP10 (TVSP10): 470[1], 640[2] SSOP14: 450[1], 570[2] NOTE 1): EIA/JEDEC STANDARD Test board (76.2x114.3x1.6mm, 2layer, FR-4) mounting 2): EIA/JEDEC STANDARD Test board (76.2x114.3x1.6mm, 4layer, FR-4) mounting	mW
Operating Temperature Range	T_{OPR}	-40 to +85	°C
Storage Temperature Range	T_{STR}	-40 to +150	°C

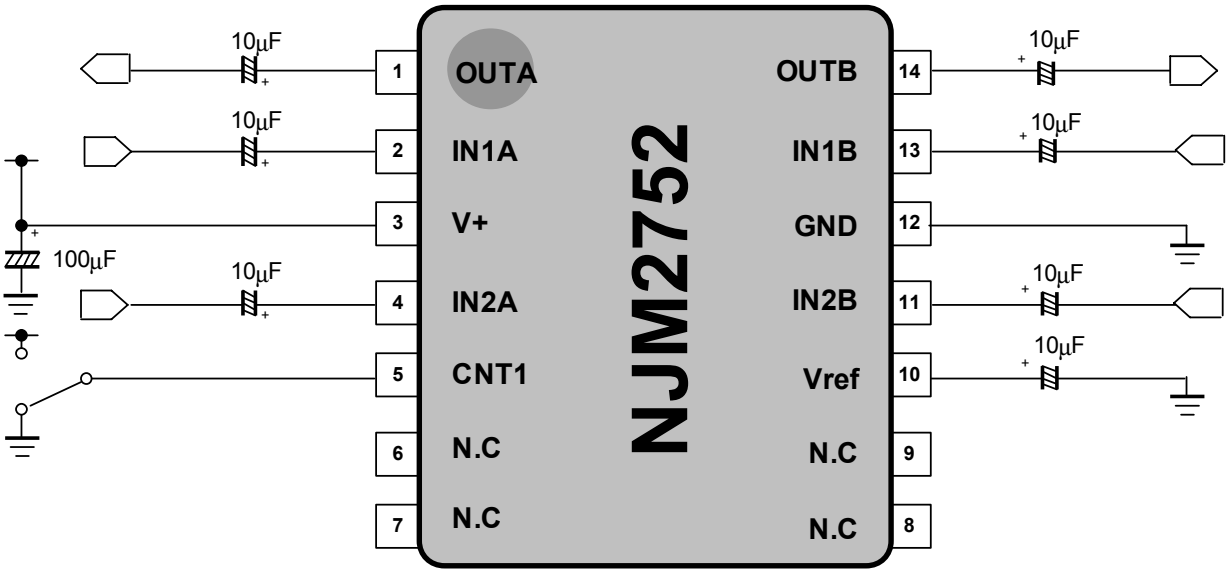
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V^+=9V)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V^+		4.7	9.0	10	V
Supply Current	I_{CC}	No Signal	-	10	15	mA
Reference Voltage	V_{REF}		-	4.5	-	V
Voltage Gain	G_V	Vin=1Vrms, f=1kHz	-1	0	1	dB
Total Harmonic Distortion	THD+N	Vin=1Vrms, f=1kHz	-	0.0009	0.03	%
Output Noise Voltage	V_{NO}	A-Weighted	- -	-114 (2)	-100 (10)	dBV (μVrms)
Maximum Output Voltage	V_{OM}	f=1kHz, THD=1%	6 (2.0)	8 (2.5)	-	dBV (Vrms)
Cross Talk	CT	Vin=1Vrms, f=1kHz, A-Weighted	70	100	-	dB
Channel Separation	CS	Vin=1Vrms, f=1kHz, A-Weighted	80	110	-	dB
Switch-ON Voltage Level	V_{CH}		2.4	-	-	V
Switch-OFF Voltage Level	V_{CL}		-	-	0.5	V
Input Impedance	R_{IN}		-	100	-	kΩ
Output Impedance	R_{OUT}		-	45	-	Ω

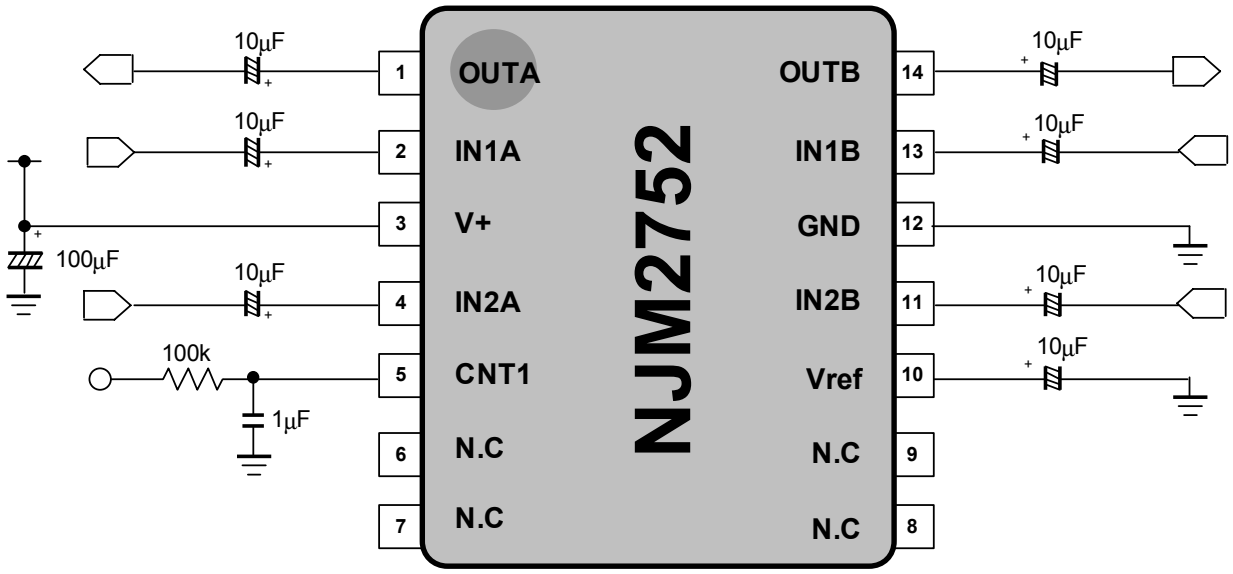
■ SWITCH CONTROL LOGIC

CNT1	INPUT SELECTOR Ach / Bch
L	1
H	2

■ **MEASUREMENT CIRCUIT (SSOP14)**

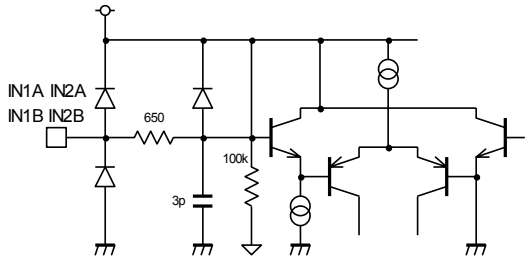
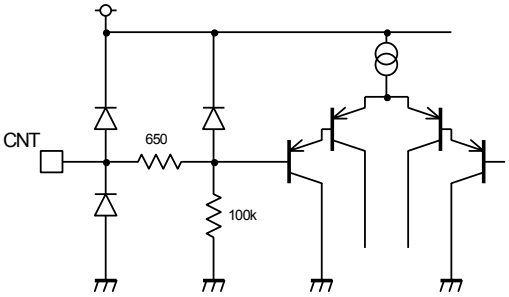
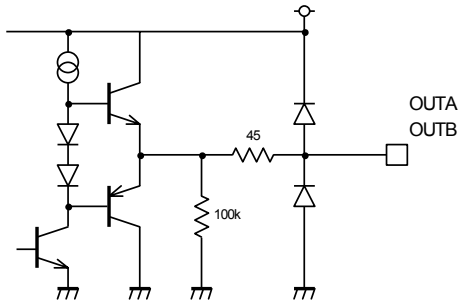
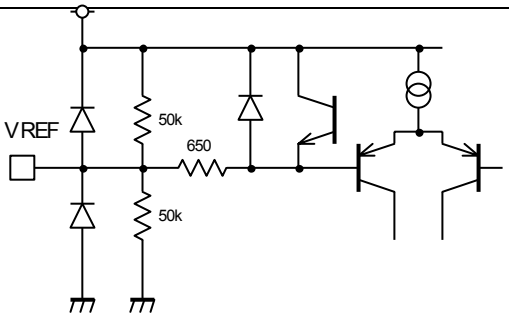
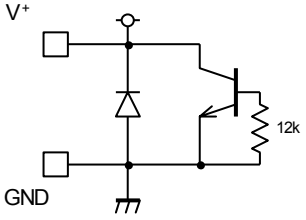


■ **APPLICATION CIRCUIT (SSOP14)**



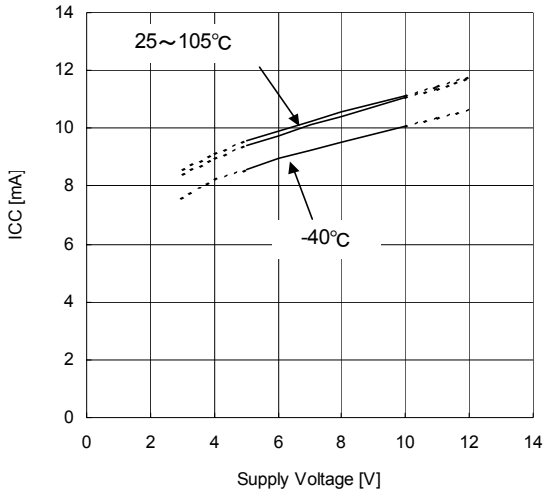
Application note:
Resistor(100k) and capacitor(1μF) connected to CNT1 are added to reduce pop-noise.
The value of input capacitor connected to IN1A and IN2A depends on cut-off frequency(calculated by fc=1/2πRC) you need. R(input impedance)=100kΩ.

■ **TERMINAL DESCRIPTION**

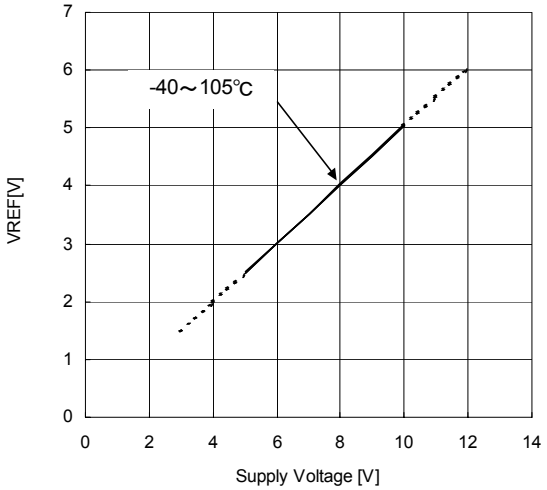
PIN No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	TERMINAL VOLTAGE
2 4 11 13	IN1A IN2A IN2B IN1B	Ach Input Terminal1 Ach Input Terminal2 Bch Input Terminal2 Bch Input Terminal1		V+/2
5	CNT1	Control Switch Terminal1		0V (GND)
1 14	OUTA OUTB	Ach Output Terminal Bch Output Terminal		V+/2
10	Vref	Reference Terminal		V+/2
3 12	V+ GND	Power Supply Terminal GND Terminal		V+ 0V

■ TYPICAL CHARACTERISTICS

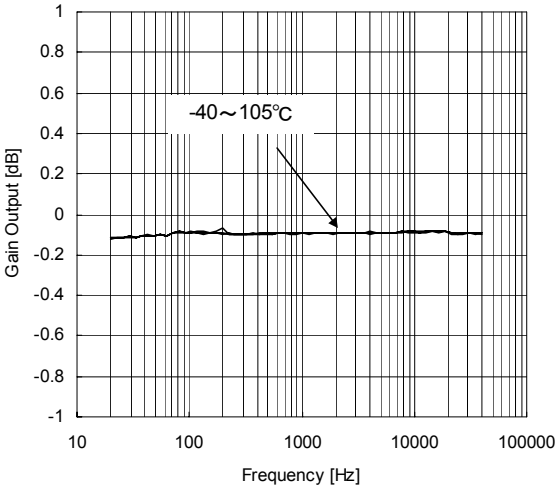
ICC vs Supply Voltage
No signal



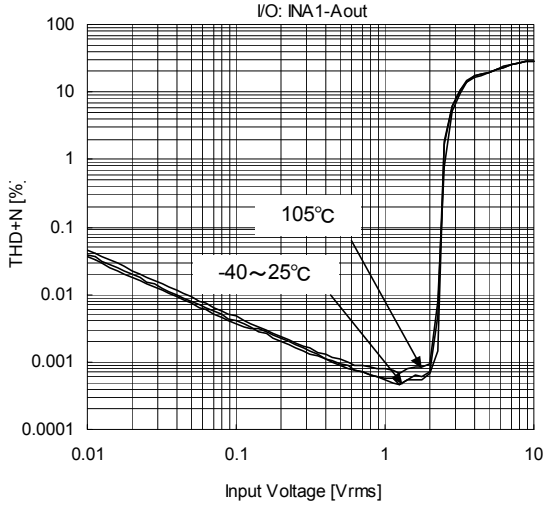
VREF vs Supply Voltage
No signal



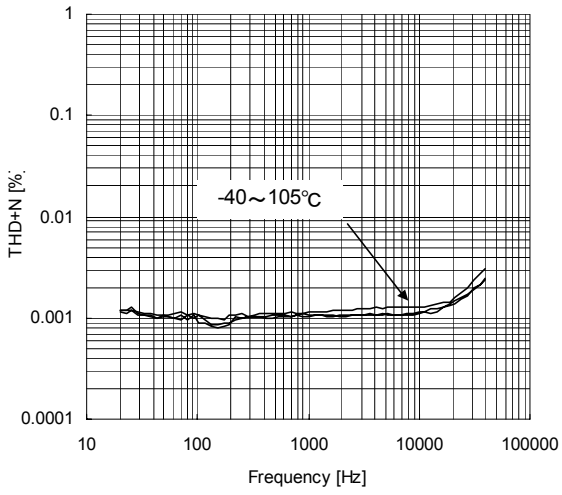
GAIN vs Frequency
V⁺=9V, I/O: INA1-Aout



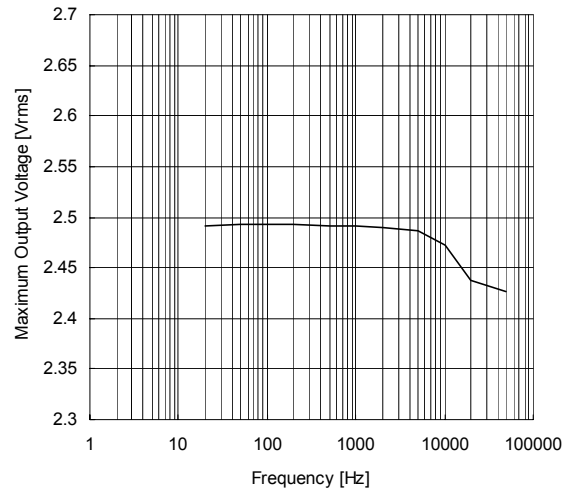
THD+N vs Input Voltage
BW:10-22kHz(f=100Hz), 400-30kHz(f=1kHz, 10kHz)
I/O: INA1-Aout



THD+N vs Frequency
I/O: INA1-Aout

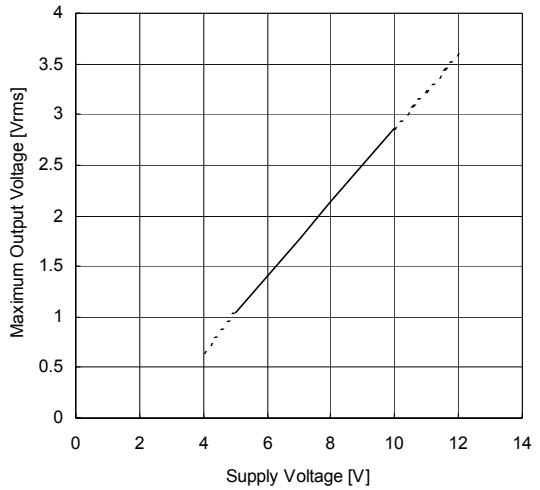


Maximum Output Voltage vs Frequency
V⁺=9V, THD=1%, I/O: INA1-Aout

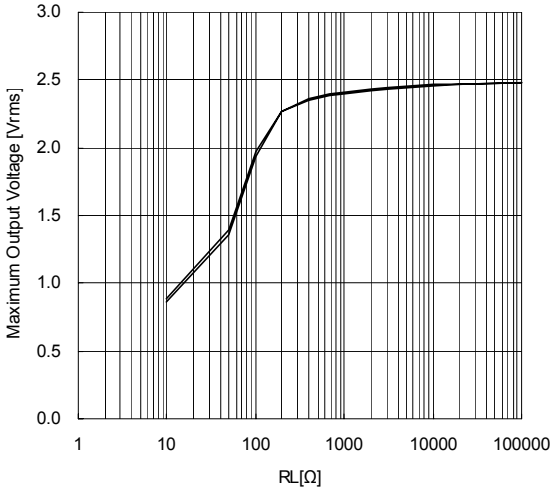


■ TYPICAL CHARACTERISTICS

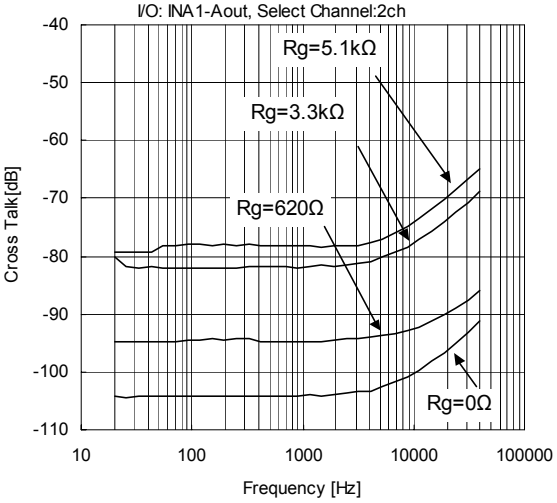
Maximum Output Voltage vs Supply Voltage
THD=1%, I/O: INA1-1Aout



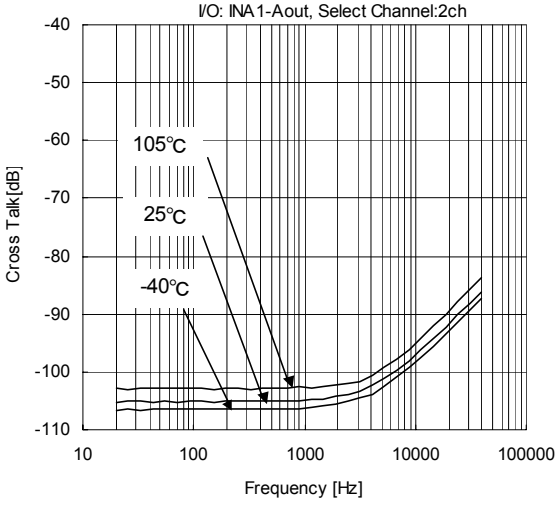
Maximum Output Voltage vs Load Resistance
V+=9V, THD=1%, f=1kHz, I/O: INA1-Aout / INB1-Bout



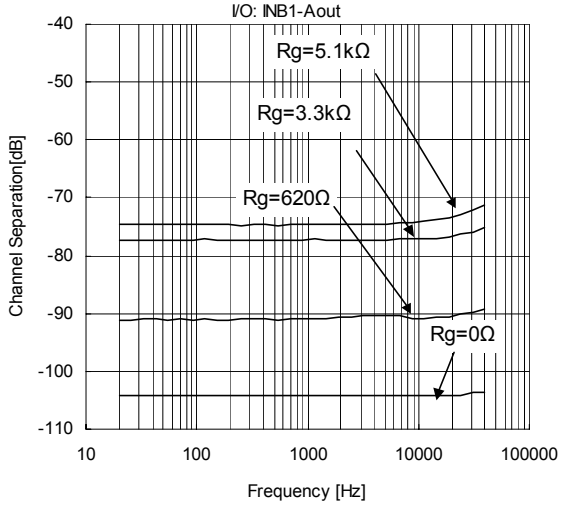
Cross Talk vs Frequency
V+=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INA1-Aout, Select Channel:2ch



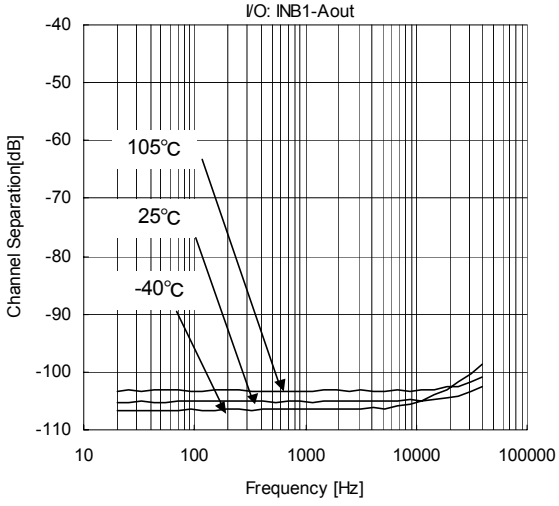
Cross Talk vs Frequency
V+=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INA1-Aout, Select Channel:2ch



Channel Separation vs Frequency
V+=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INB1-Aout



Channel Separation vs Frequency
V+=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INB1-Aout



■ TYPICAL CHARACTERISTICS