4-Input / 1-Output Stereo Audio Selector

■ GENERAL DESCRIPTION

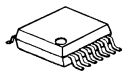
The **NJM2755** is 4 Input / 1 Output Stereo Audio Selector.

The **NJM2755** consists of switches and buffer operational amplifiers.

Based on the internal switch op-amp technology, the **NJM2755** features lower output noise, lower distortion and higher channel separation than the general Multiplexers or Analogue Switches.

The **NJM2755** contains compatibility with NJM2752(2in-1out SW),NJM2753(3in-1out SW).

■ PACKAGE OUTLINE



NJM2755V

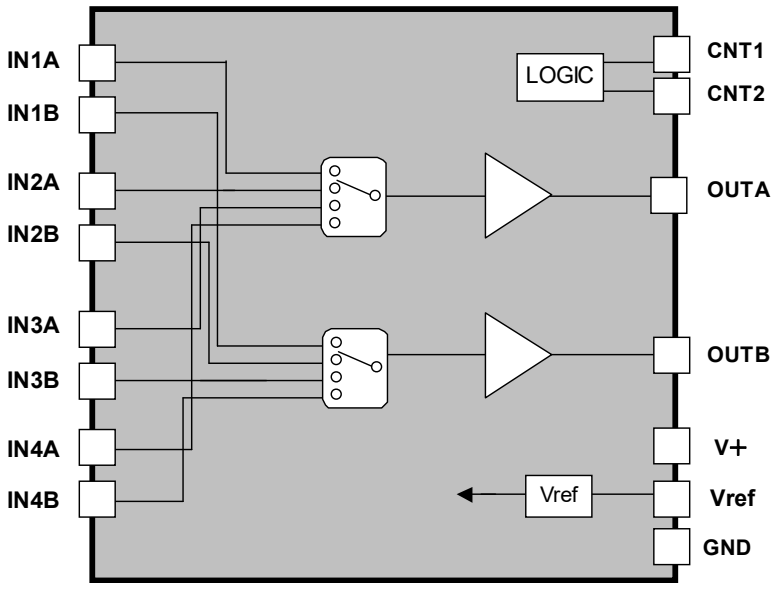
■ APPLICATIONS

- ●LCD-TV/PDP-TV
- ●Car Stereo
- ●Any Audio System

■ FEATURES

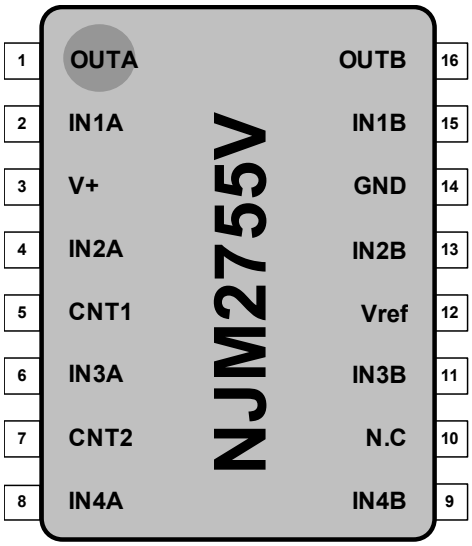
● Operating Voltage	4.7 to 10V
● 4 Input / 1 Output Stereo Audio Selectors	
● Low Output Noise	-114dBV typ.
● Low Distortion	0.0009% typ.
● Bipolar Technology	
● Package Outline	SSOP16

■ BLOCK DIAGRAM



■ **PIN CONFIGURATIONS**
NJM2755 SSOP16

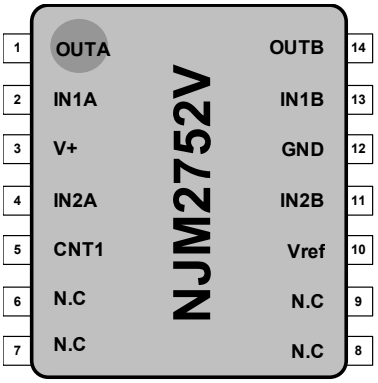
SSOP16



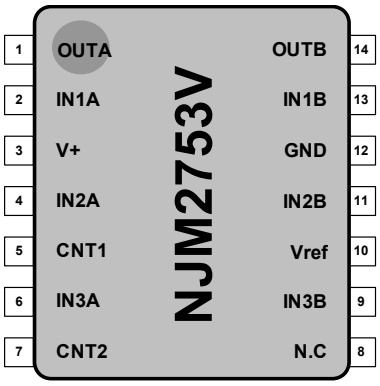
PIN.No.	SYMBOL	FUNCTION	PIN.No.	SYMBOL	FUNCTION
1	OUTA	Ach Output Terminal	9	IN4B	Bch Input Terminal4
2	IN1A	Ach Input Terminal1	10	N.C	No Connection
3	V+	Power Supply Terminal	11	IN3B	Bch Input Terminal3
4	IN2A	Ach Input Terminal2	12	Vref	Reference Terminal
5	CNT1	Control Switch Terminal1	13	IN2B	Bch Input Terminal2
6	IN3A	Ach Input Terminal3	14	GND	GND Terminal
7	CNT2	Control Switch Terminal2	15	IN1B	Bch Input Terminal1
8	IN4A	Ach Input Terminal4	16	OUTB	Bch Output Terminal

[Reference]
The NJM2755 contains compatibility with NJM2752 (2in-1out SW),NJM2753 (3in-1out SW).

NJM2752



NJM2753



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V^+	12	V
Power Dissipation	P_D	SSOP16 490[1)] 630[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

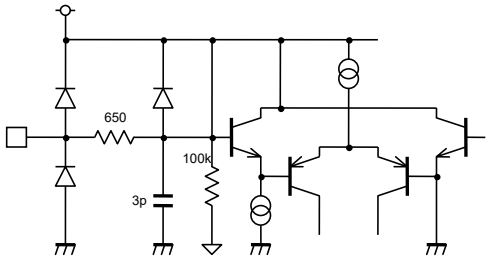
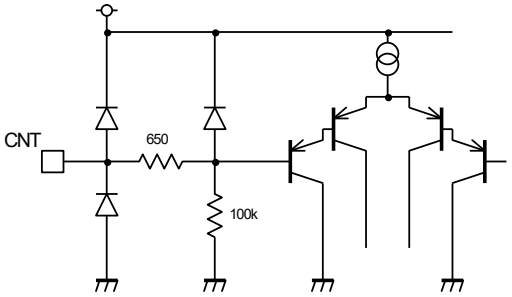
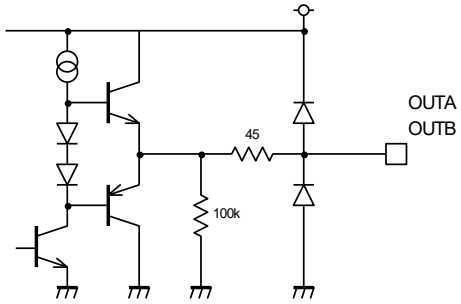
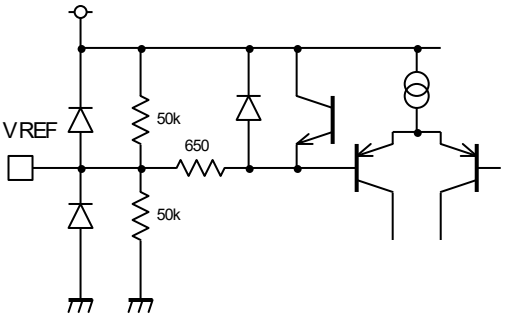
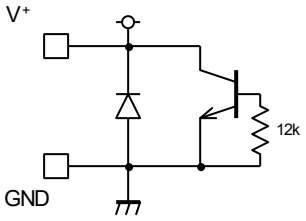
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V^+=9V)

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	85	100	-	dB
Channel Separation	CS	Vin=1Vrms, f=1kHz, A-Weighted	90	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

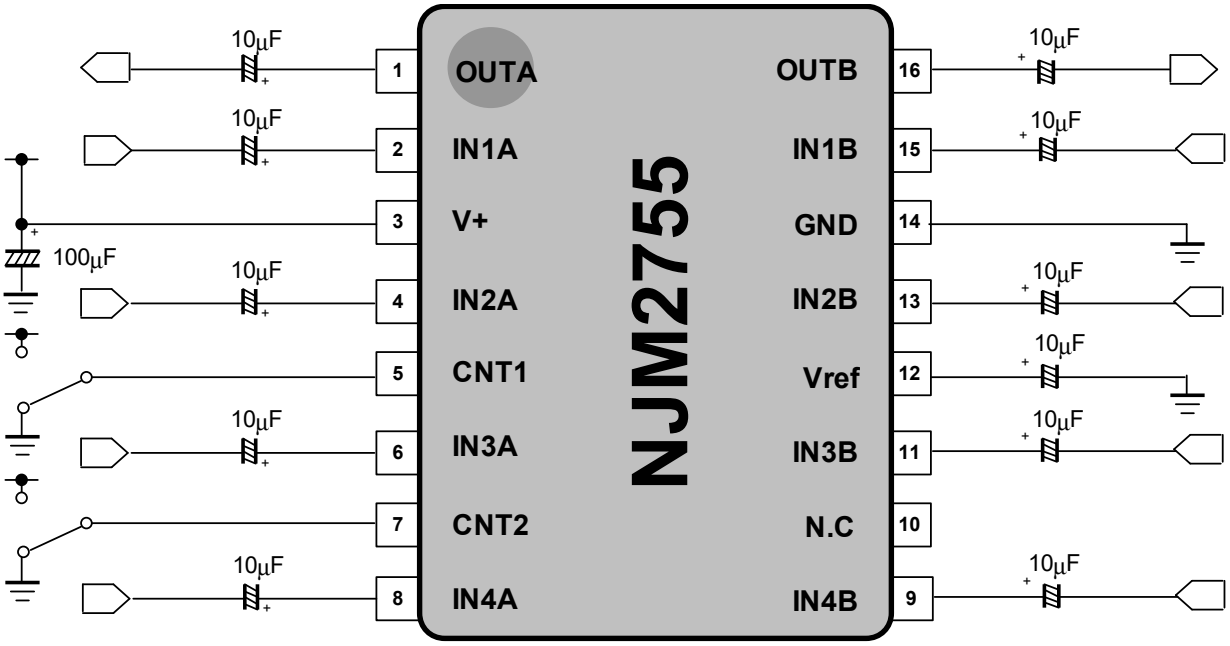
■ SWITCH CONTROL LOGIC

CNT2	CNT1	INPUT SELECTOR Ach / Bch
L	L	1
L	H	2
H	L	3
H	H	4

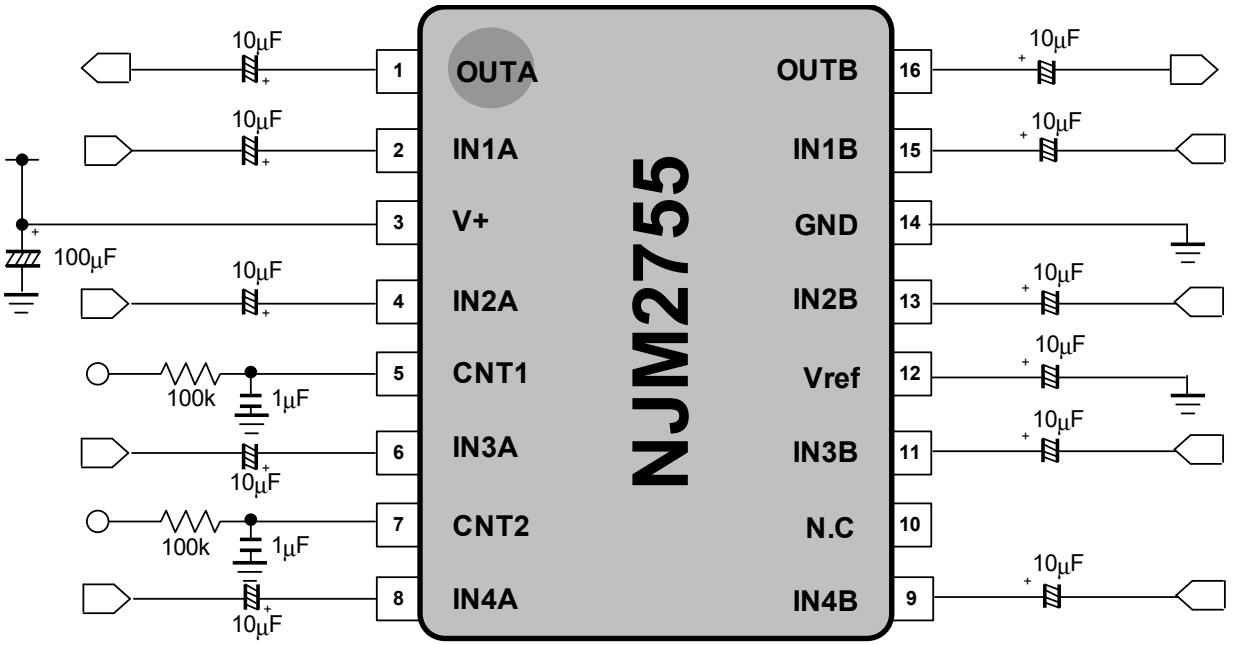
■ TERMINAL DESCRIPTION

PIN No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	TERMINAL VOLTAGE
2 4 6 8 9 11 13 15	IN1A IN2A IN3A IN4A IN4B IN3B IN2B IN1B	Ach Input Terminal1 Ach Input Terminal2 Ach Input Terminal3 Ach Input Terminal4 Bch Input Terminal4 Bch Input Terminal3 Bch Input Terminal2 Bch Input Terminal1		V+/2
5 7	CNT1 CNT2	Control Switch Terminal1 Control Switch Terminal2		0V (GND)
1 16	OUTA OUTB	Ach Output Terminal Bch Output Terminal		V+/2
12	Vref	Reference Terminal		V+/2
3 14	V+ GND	Power Supply Terminal GND Terminal		V+ 0V

■ MEASUREMENT CIRCUIT



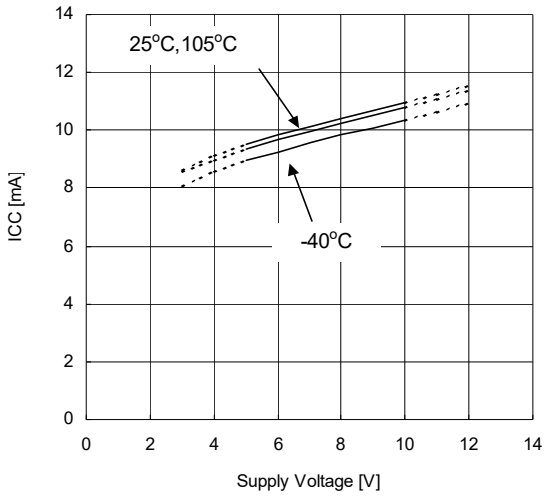
■ APPLICATION CIRCUIT



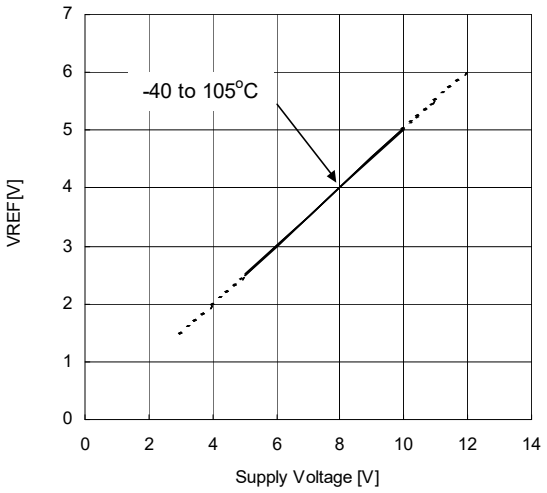
Application note:
Resistor(100k) and capacitor(1μF) connected to CNT1 are added to reduce pop-noise.
The value of input capacitor connected to IN1A and IN2A depends on cut-off frequency(calculated by fc=1/2πRC) you need. R(input impedance)=100kΩ.

■ TYPICAL CHARACTERISTICS

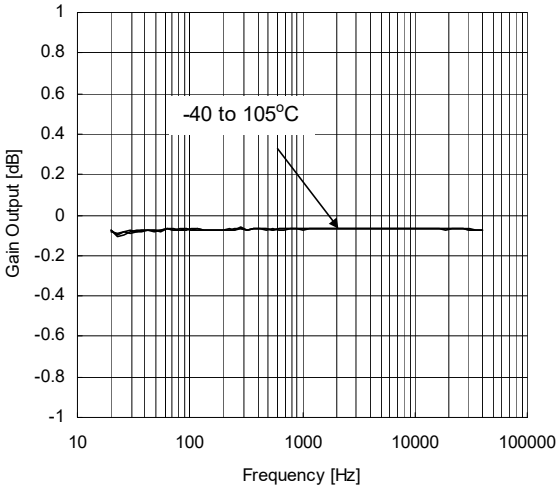
ICC vs Supply Voltage
No signal



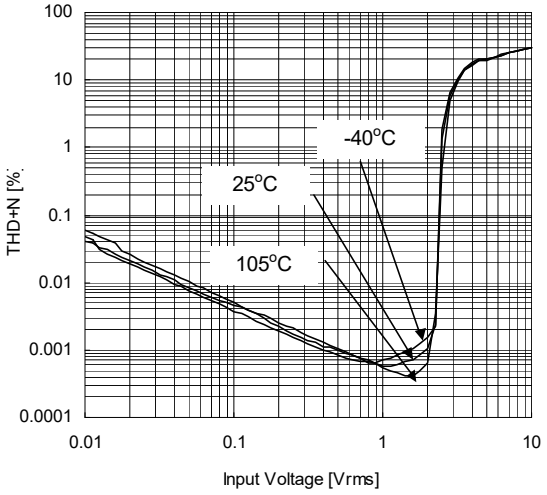
VREF vs Supply Voltage
No signal



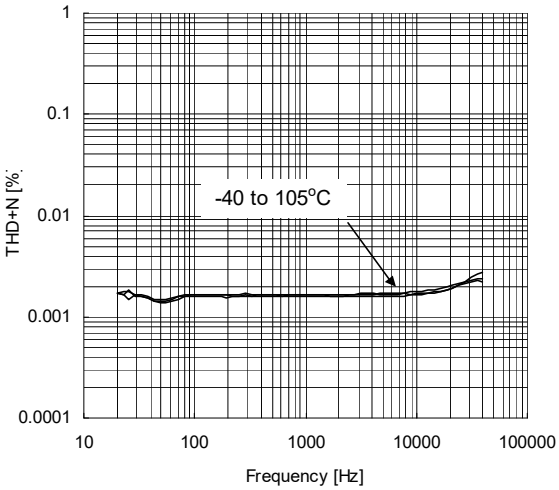
GAIN vs FrequencyV=9V,
I/O: INA1-Aout



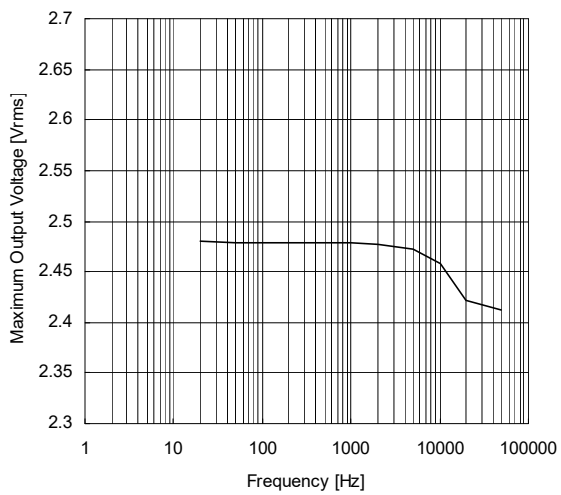
THD+N vs Input Voltage
BW: 400-30kHz, f=1kHz, I/O: INA1-Aout



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

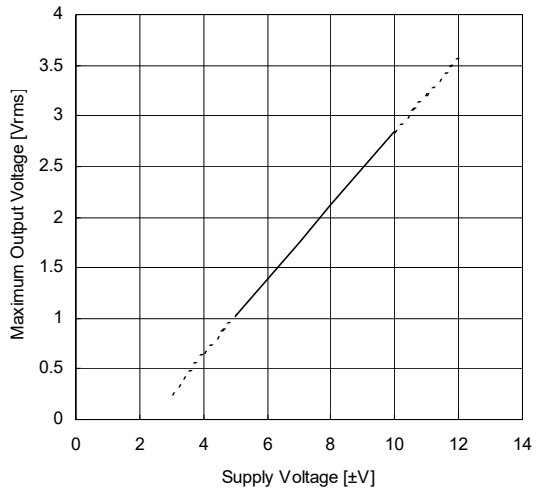


Maximum Output Voltage vs Frequency
V=9V, THD=1%, I/O: INA1-Aout

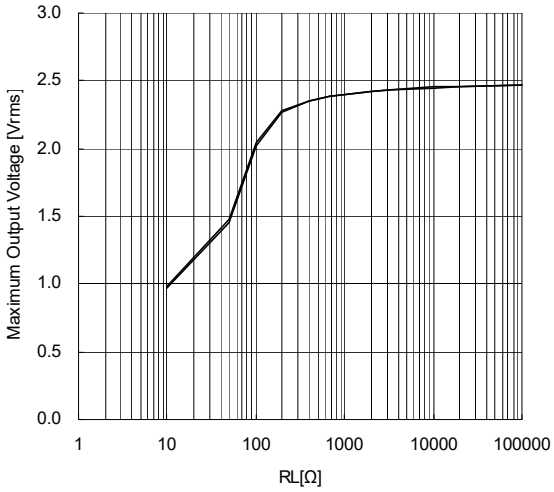


■ TYPICAL CHARACTERISTICS

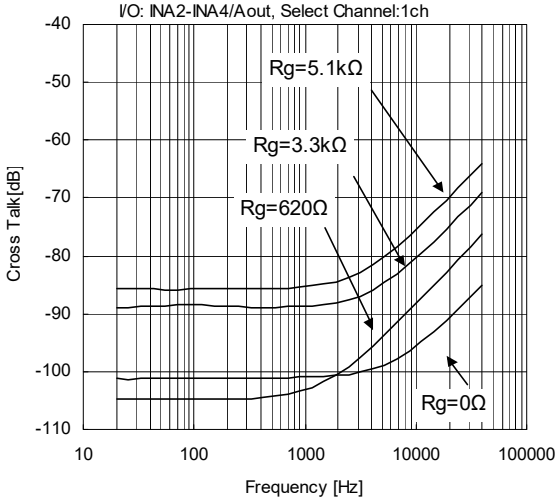
Maximum Output Voltage vs Supply Voltage
THD=1%, I/O: INA1-1Aout



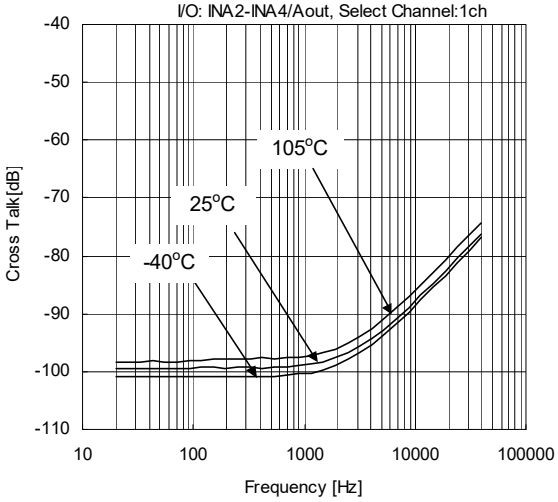
Maximum Output Voltage vs Load Resistance
V=9V, THD=1%, f=1kHz, I/O: INA1-Aout / INB1-Bout



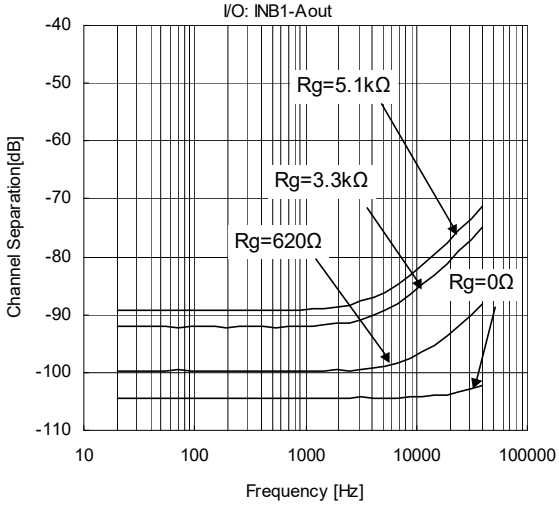
Cross Talk vs Frequency
V=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INA2-INA4/Aout, Select Channel:1ch



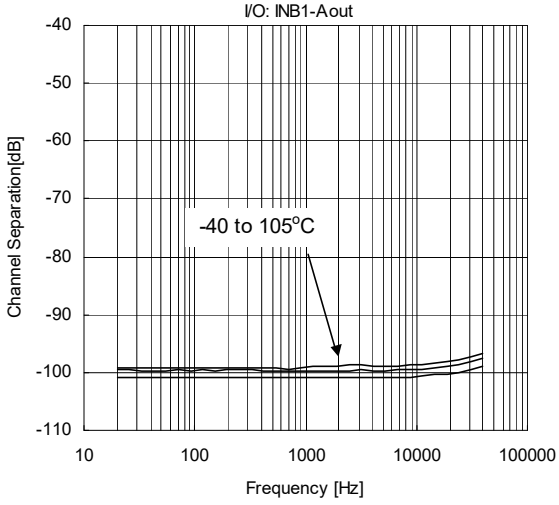
Cross Talk vs Frequency
V=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INA2-INA4/Aout, Select Channel:1ch



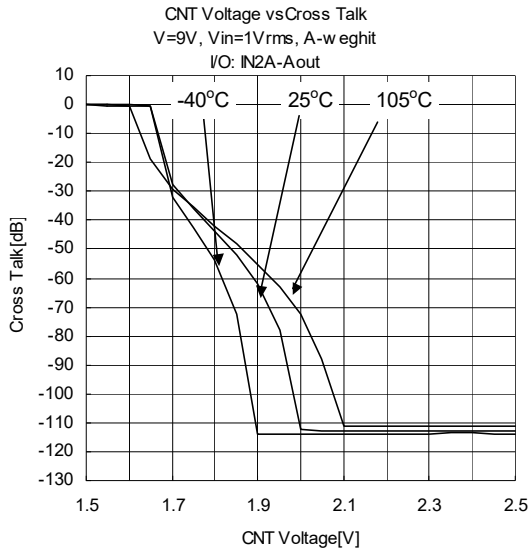
Channel Separation vs Frequency
V=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INB1-Aout

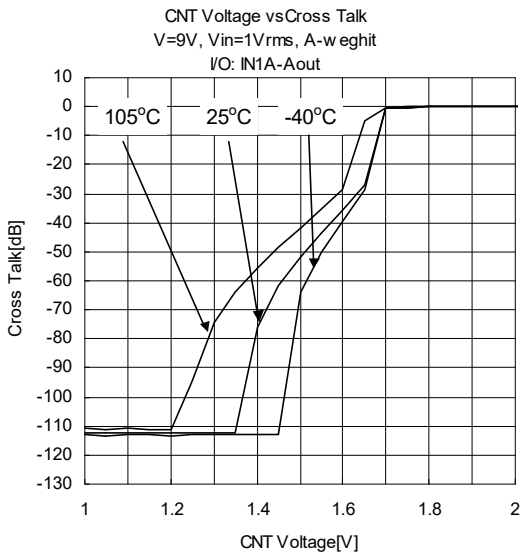


Channel Separation vs Frequency
V=9V, Vin=1Vrms, BW:10-80kHz,
I/O: INB1-Aout



■ TYPICAL CHARACTERISTICS





[CAUTION]
The specifications on this datasheet are only given for information , without any guarantee as regards either mistakes or omissions. The application circuits in this datasheet are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.