

2-Input 1-Output Video Driver

■ GENERAL DESCRIPTION

The **NJM41010** is a 2-Input 1-Output general-purpose video switch. It includes 6dB amplifier and 75ohm driver circuit.

The NJM41010 is suitable for a variety of AV equipment because of a small package and wide operating temperature range.

■ PACKAGE OUTLINE

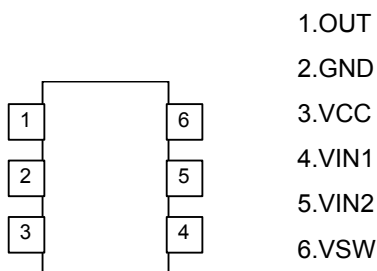


NJM41010F1

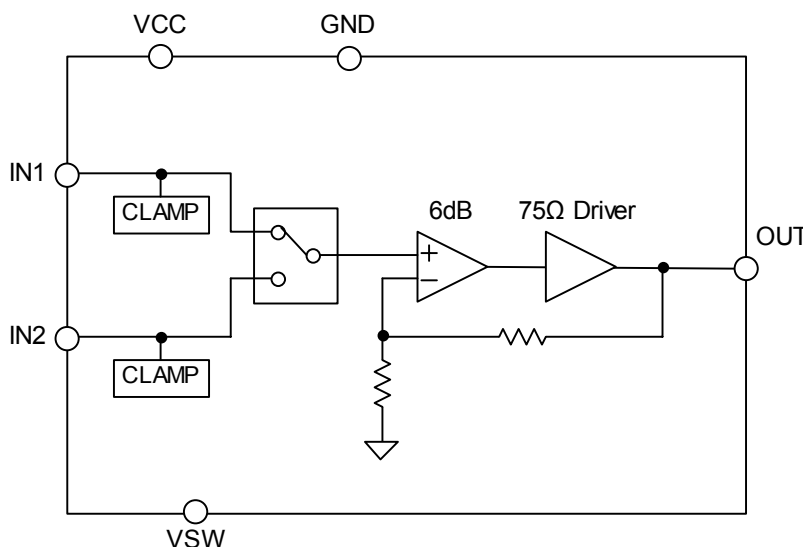
■ FEATURES

- Operating Voltage 4.5 to 9.5V
 - Operating temperature range -40 to +85 °C*
 - 2-Input 1-Output Video Switch
 - 6dB Amplifier, 75Ω Driver Circuit
 - Frequency Characteristics 0dB at 10MHz
 - Sync-tip Clamp
 - Bipolar Technology
 - Small Package SOT-23-6-1 (MTP6-1)
- * NJM41010F1T : Wide operating temperature range type (-40 to +105°C)

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



NJM41010

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC}	11.0	V
Power Dissipation	P _D	510 (Note1)	mW
Operating Temperature Range	T _{opr}	-40 to +85(Note2)	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

(Note 1) At on a board of EIA/JEDEC specification. (114.3 x 76.2 x 1.6mm 2 layers, FR-4)

(Note 2) It has high operating temperature range product.(-40 to +105°C)

■ RECOMMENDED OPERATING CONDITION (Ta= 25 °C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V _{opr}		+4.5	+5.0	+9.5	V

■ ELECTRICAL CHARACTERISTICS (V_{CC}= 5.0V, R_L= 150Ω, Ta= 25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{CC}	No signal	-	8.0	15	mA
Voltage Gain	G _v	V _{in} =1MHz, 1.0Vp-p Sine-wave	5.5	6.0	6.5	dB
Maximum Output Voltage Swing	V _{om}	V _{in} =100kHz, Sine-wave, THD=1%	2.2	-	-	Vp-p
Frequency Characteristics	G _f	V _{in} =10MHz/1MHz, 1.0Vpp Sine-wave	-1.0	0	1.0	dB
Channel Cross talk	CT	V _{in} =4.43MHz, 1.0Vp-p, Sine-wave	-	-60	-50	dB
Differential Gain	DG	V _{in} =1.0Vpp 10step Video signal	-	0.5	-	%
Differential Phase	DP	V _{in} =1.0Vpp 10step Video signal	-	0.2	-	deg
Switch inflow current High Level	I _{SWH}	V=5V	-	-	300	μA
Switch inflow current Low Level	I _{SWL}	V=0.3V	-	-	30	μA
Switch Change Voltage High Level	V _{thH}	VSW	2.0	-	V ⁺	V
Switch Change Voltage Low Level	V _{thL}	VSW	0	-	1.0	V

■ SWITCH FUNCTION

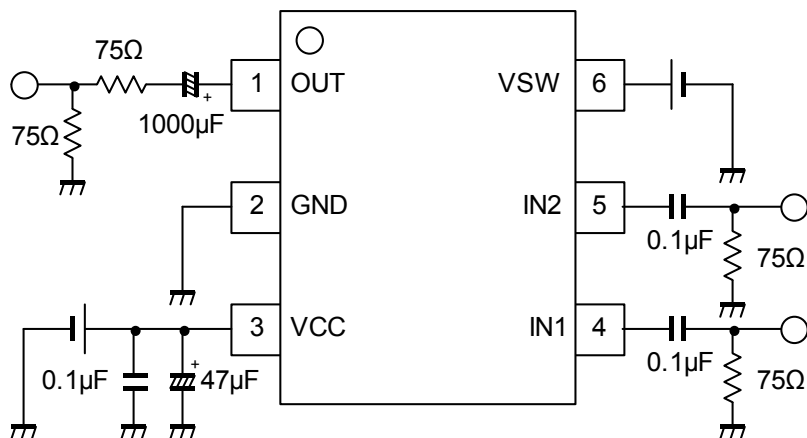
PIN	MODE	NOTES
VSW (Output signal select)	H	IN2 output
	L	IN1 output
	OPEN	IN1 output

■ TERMINAL FUNCTION

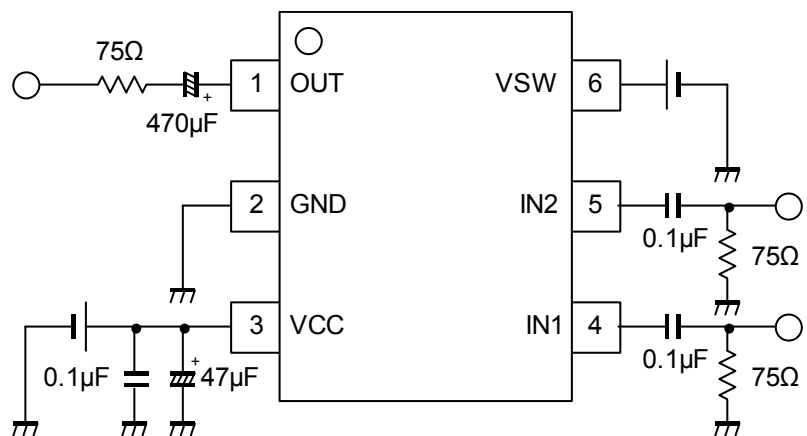
PIN No.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT	DC VOLTAGE
1	OUT	OUTPUT		1.3V
2	GND	GND	-	-
3	VCC	VCC	-	-
4	IN1	INPUT 1		1.56V
5	IN2	INPUT 2		1.56V
6	VSW	SWITCH VOLTAGE INPUT		-

NJM41010

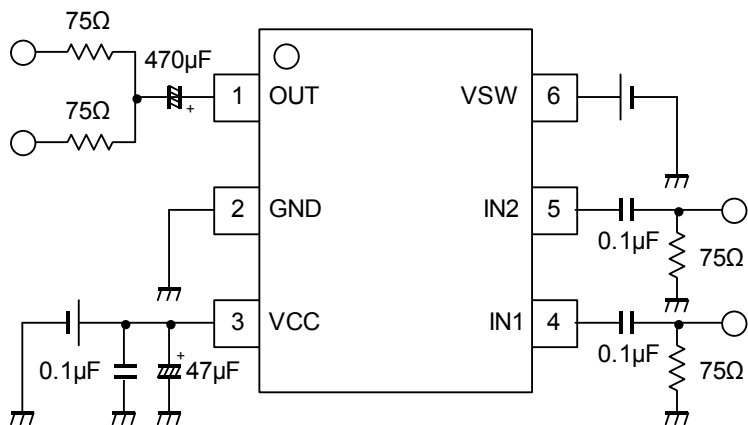
■ TEST CIRCUIT



■ APPLICATION CIRCUIT1



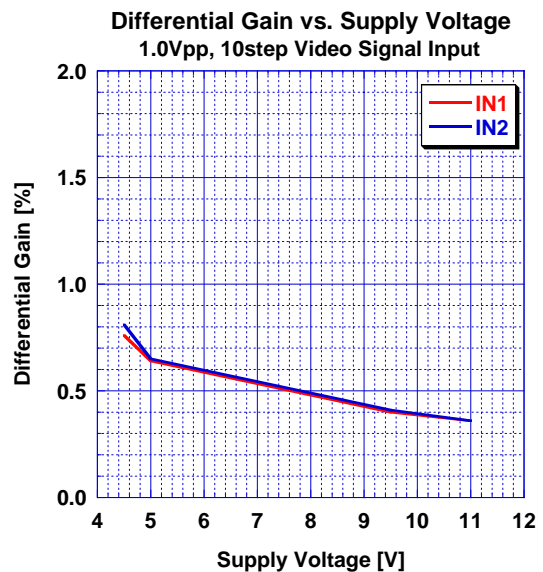
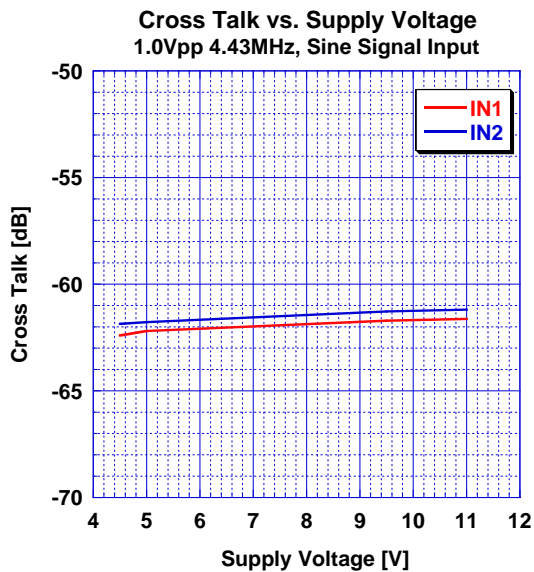
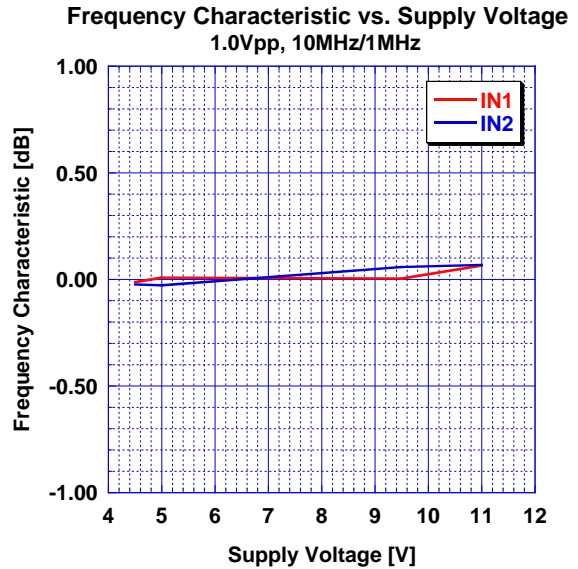
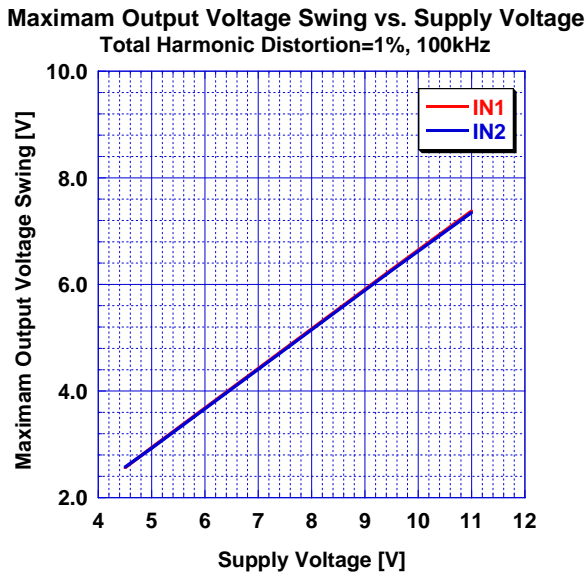
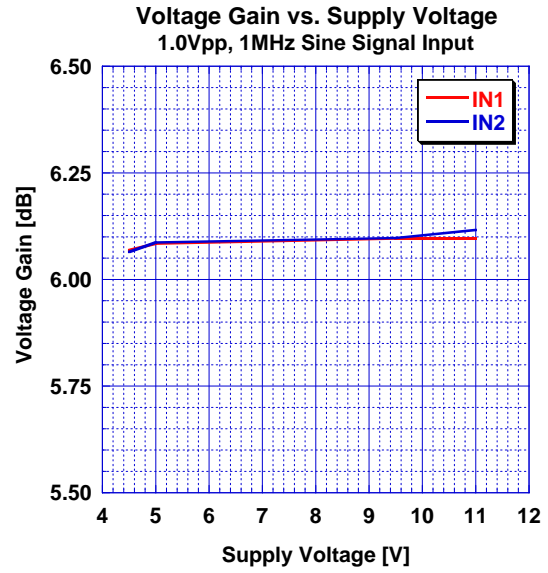
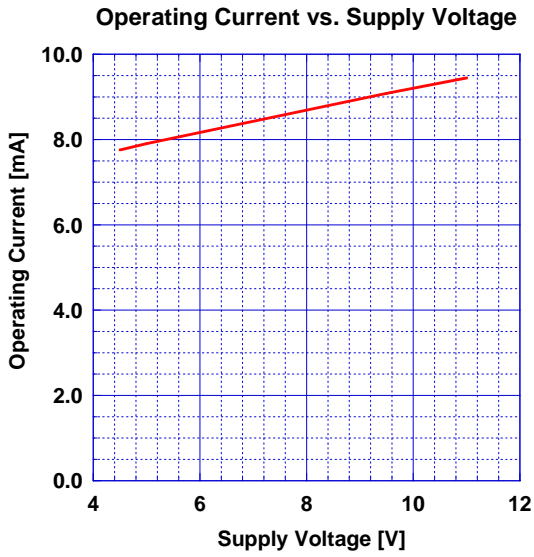
■ APPLICATION CIRCUIT2 (Two-line driving circuit)

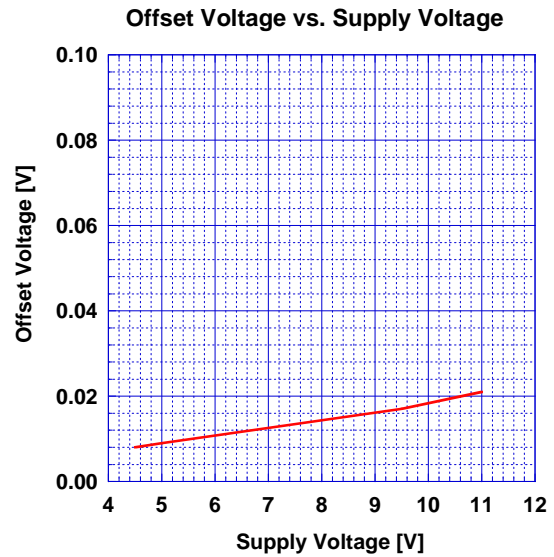
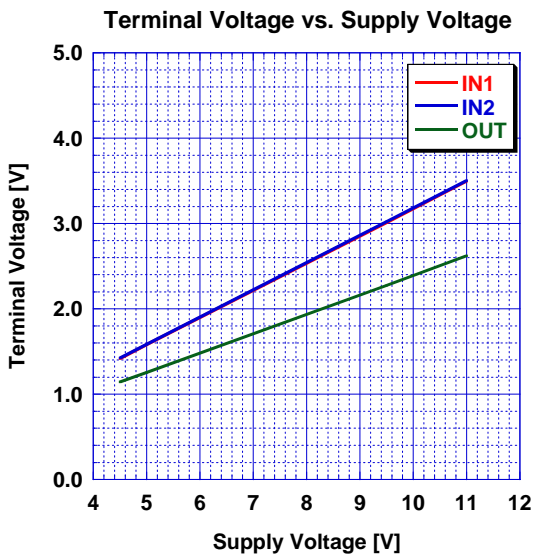
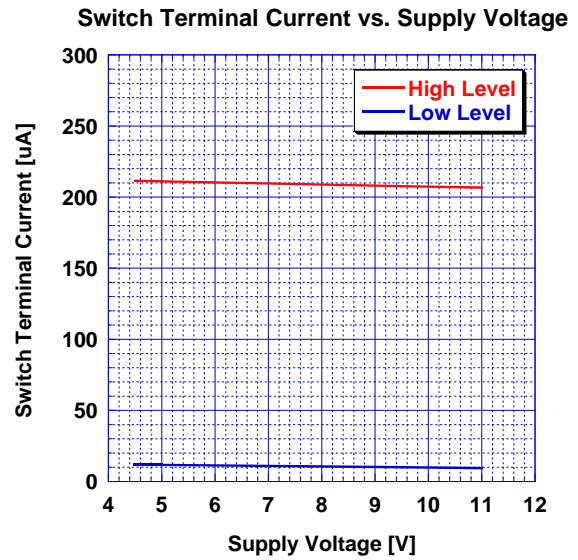
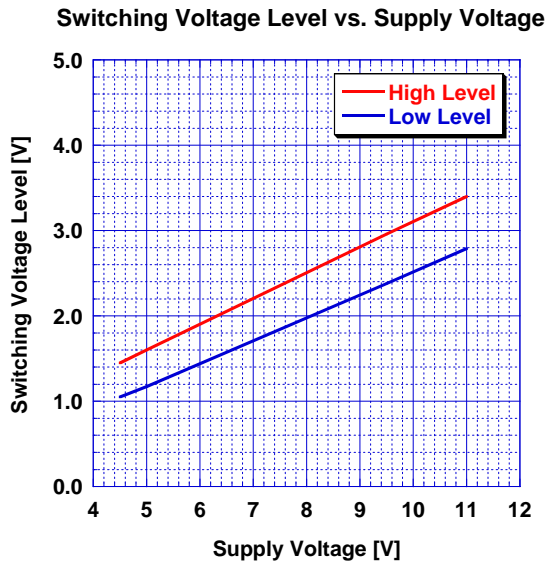
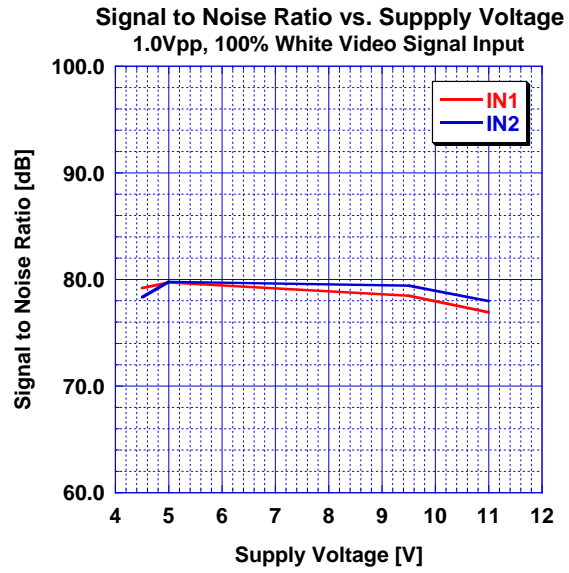
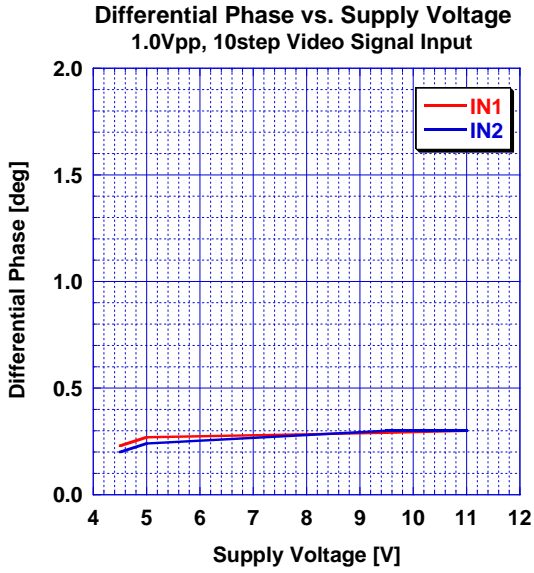


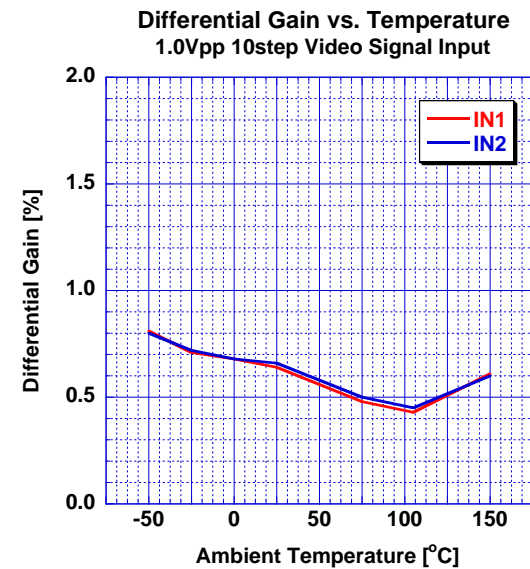
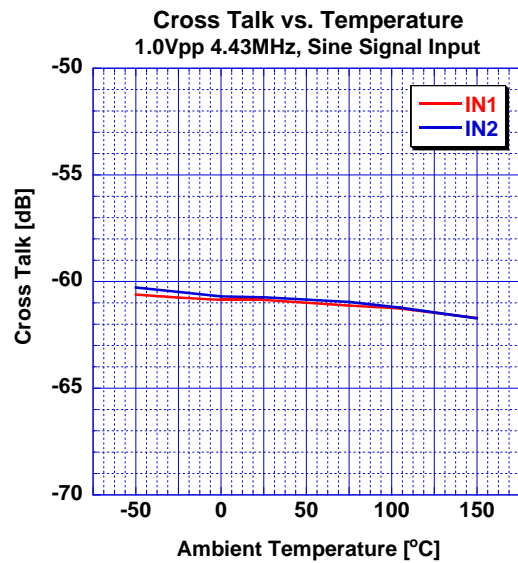
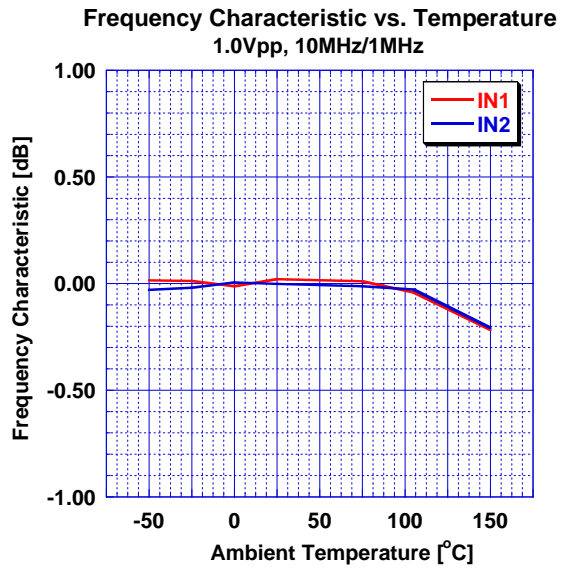
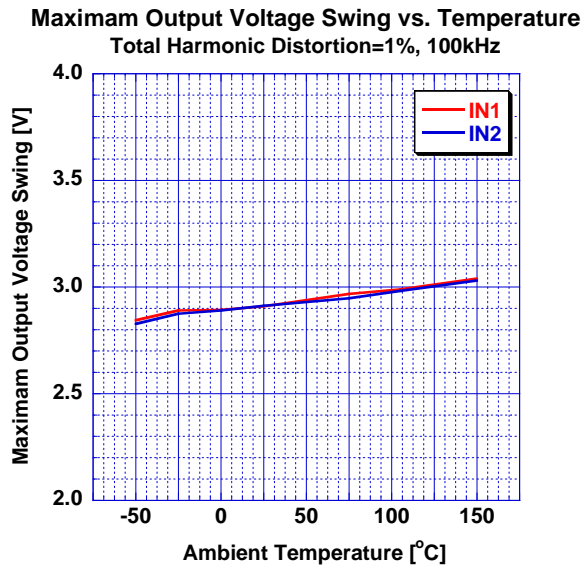
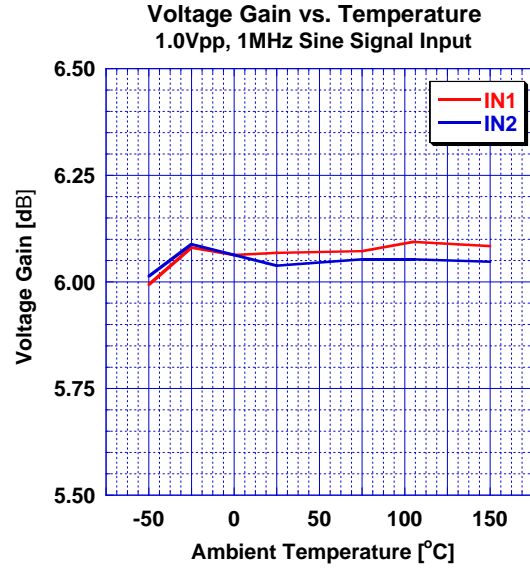
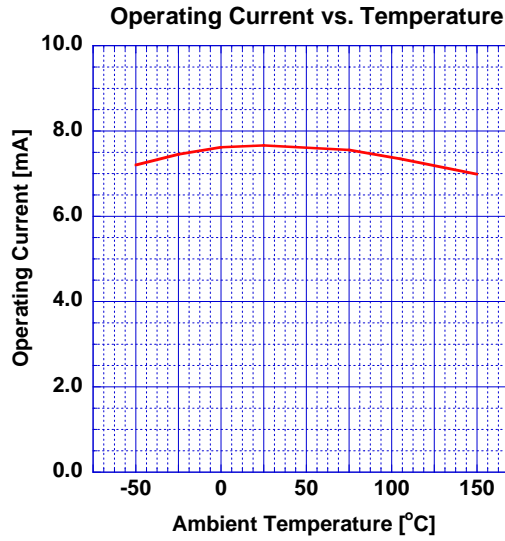
Note

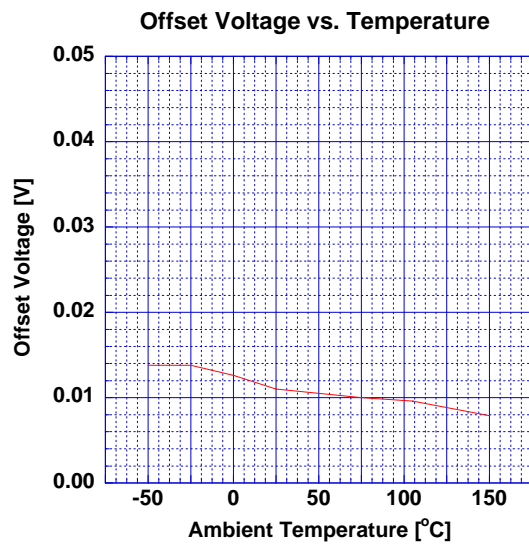
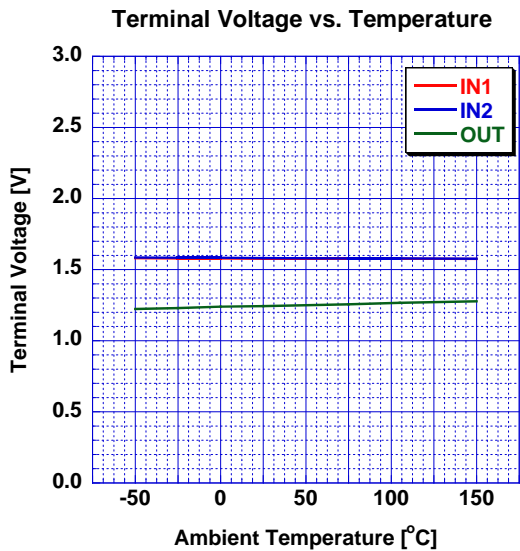
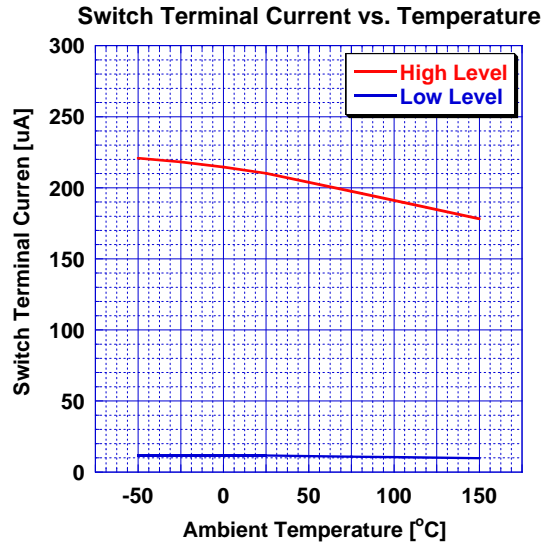
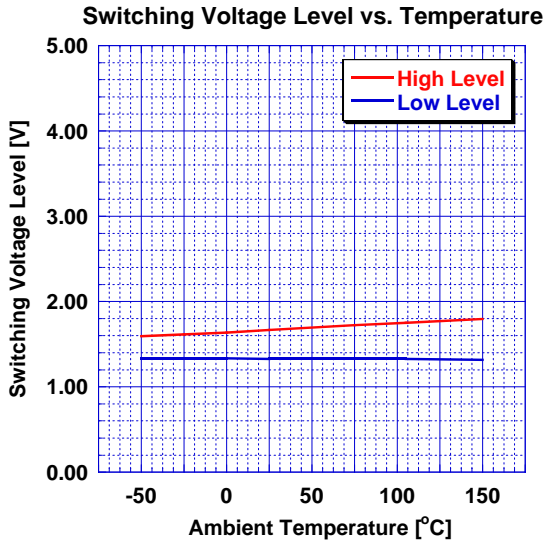
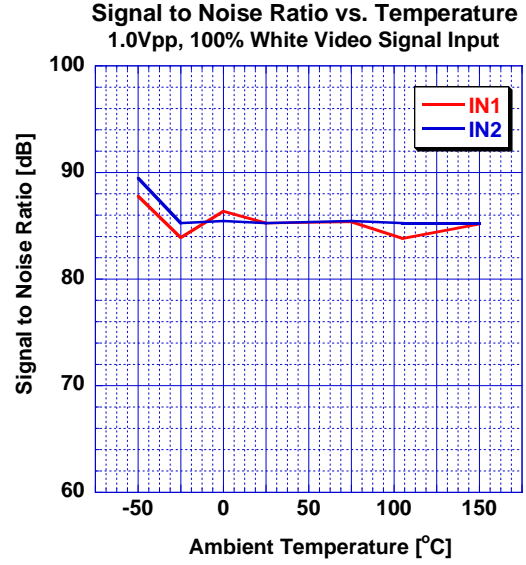
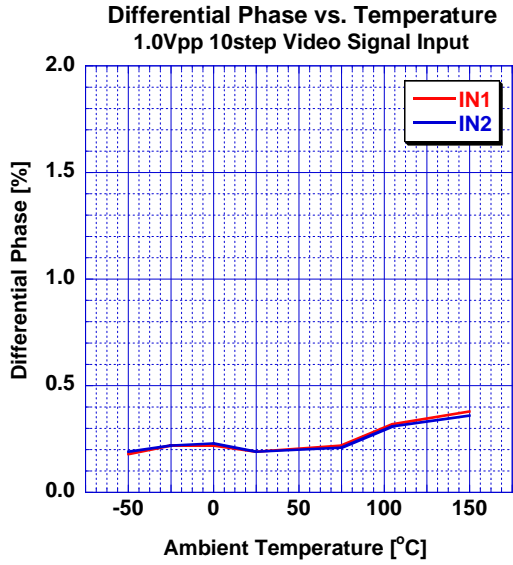
This circuit drives two-line of 150Ω. However, it may cause to lose synchronization by an input signal of large APL change (100% white signals more than 1Vp-p).
Confirm the large APL change waveform (100% white signals more than 1Vp-p) and evaluate sufficiently.

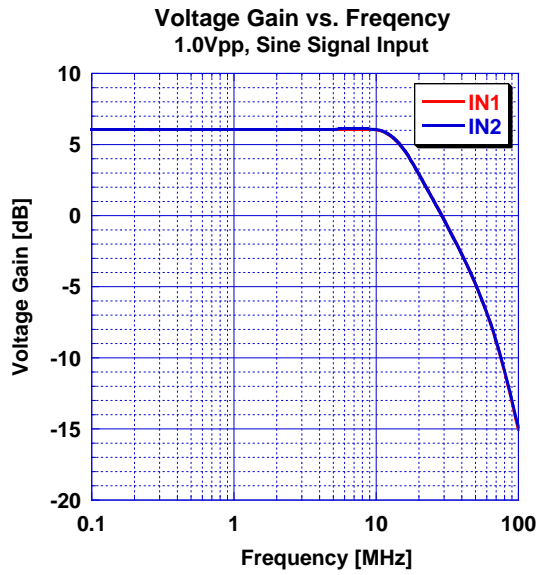
TYPICAL CHARACTERISTICS











[CAUTION]
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