

TRIPLE ISOLATION AMPLIFIER

■ GENERAL DESCRIPTION

NJM41033 is the triple isolation amplifier developed for the component video signal. It can remove the noise of a signal with isolation amplifier. It is suitable for the interface of the video signal of a car AV system.

■ FEATURES

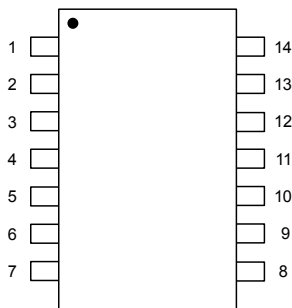
- Operating Voltage 2.6 to 5.5V
- Common Mode Noise Rejection Ratio -55dBtyp.
- Voltage Gain 0dBtyp.
- Frequency Characteristics 0dBtyp.at 13.5MHz(for 480p)
- Bipolar Technology
- Package SSOP14

■ PACKAGE OUTLINE



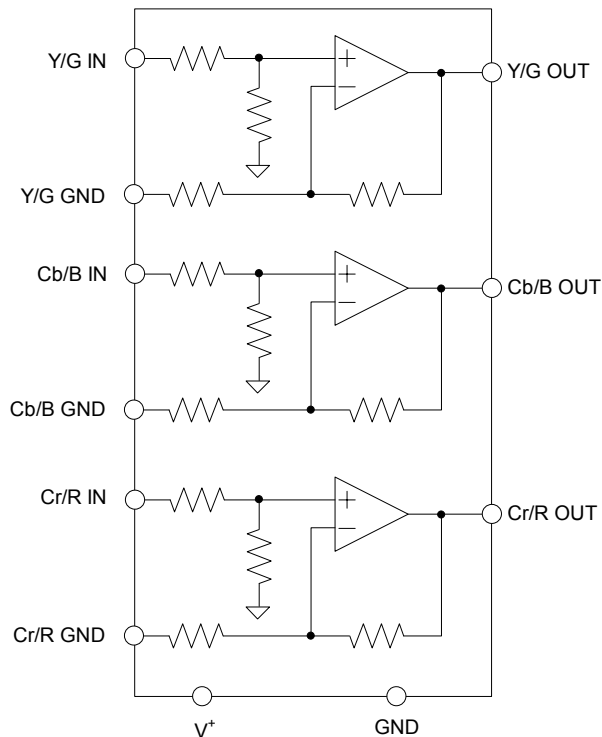
NJM41033V

■ PIN CONFIGURATION



- | | |
|-------------|--------------|
| 1. Y/G in | 8. N.C. |
| 2. Y/G GND | 9. Cr/R out |
| 3. GND | 10. N.C. |
| 4. Cb/B in | 11. Cb/B out |
| 5. Cb/B GND | 12. V+ |
| 6. Cr/R in | 13. Y/G out |
| 7. Cr/R GND | 14. N.C. |

■ BLOCK DIAGRAM



NJM41033

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| PARAMETERS | SYMBOL | RATINGS | UNIT |
|-----------------------------|----------------|-------------|------|
| Supply Voltage | V+ | 15.0 | V |
| Power Dissipation | P _D | 440(Note) | mW |
| Operating Temperature Range | Topr | -40 to +85 | °C |
| Storage Temperature Range | Tstg | -40 to +125 | °C |

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

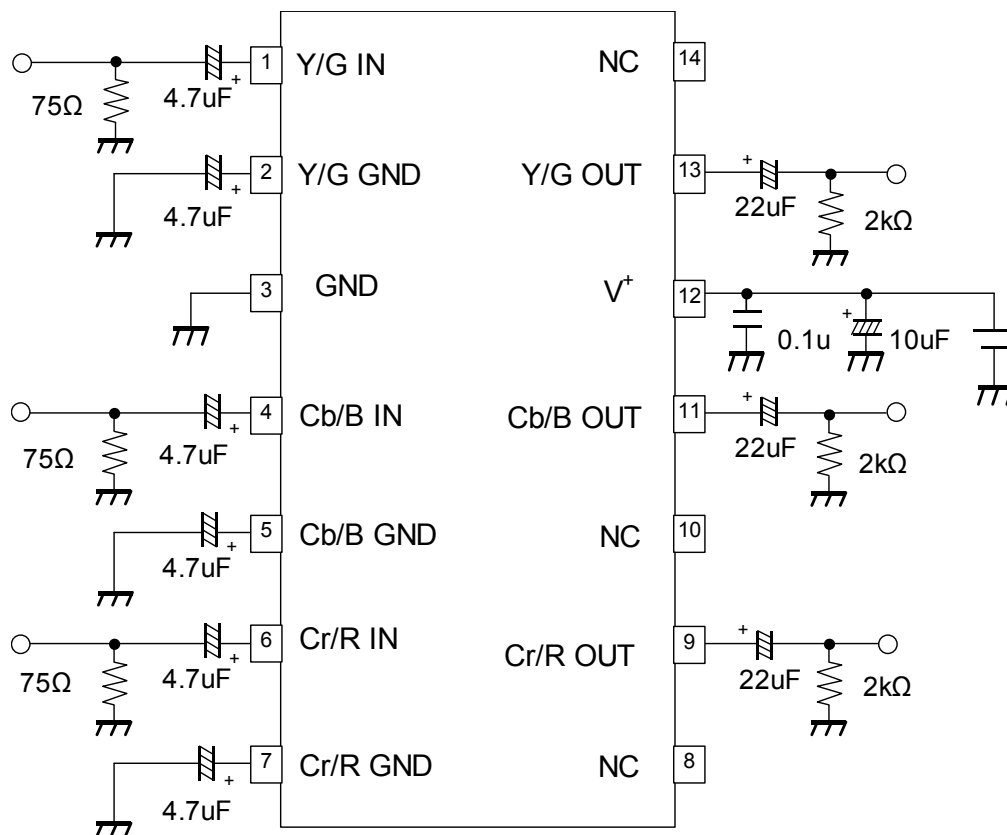
■ RECOMMENDED OPERATING CONDITION (Ta= 25 °C)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------|--------|----------------|------|------|------|------|
| Operating Voltage | Vopr | | +2.6 | - | +5.5 | V |

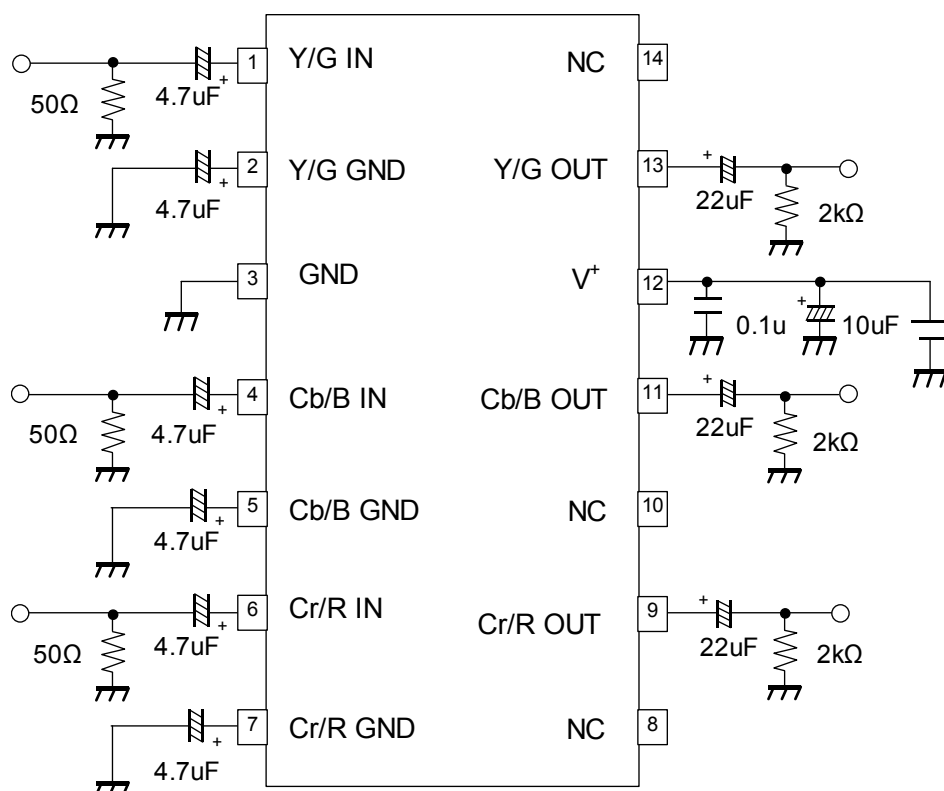
■ ELECTRICAL CHARACTERISTICS (V_{CC}= 5.0V, Ta= 25°C)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------|-----------------|---|-------|------|------|------------------|
| Supply Current | I _{CC} | No signal | - | 23 | 29 | mA |
| Maximum Output Level | V _{om} | V _{in} =100kHz, sin-signal, THD=1%, | 3.9 | 4.6 | - | V _{p-p} |
| Voltage Gain | G _v | V _{in} =100kHz, 1.0V _{p-p} sin-signal | -1.0 | 0 | 1.0 | dB |
| Frequency Characteristics | G _f | V _{in} =13.5MHz/ 1MHz, 1.0V _{pp} sin-signal | -1.0- | 0 | 1.0 | dB |
| Common Mode Noise Ratio | CMR | V _{in} =20KHz, V _{in} =1V _{pp} | - | -55 | - | dB |
| Differential Gain | DG | V _{in} =1.0V _{p-p} 10step video signal | - | 0.5 | - | % |
| Differential Phase | DP | V _{in} =1.0V _{p-p} 10step video signal | - | 0.5 | - | deg |
| Channel Cross-talk | CT | V _{in} =13.5MHz, 1.0V _{p-p} | - | -55 | - | dB |

■ TEST CIRCUIT 1 (Icc, Vom, DG, DP, S/N)

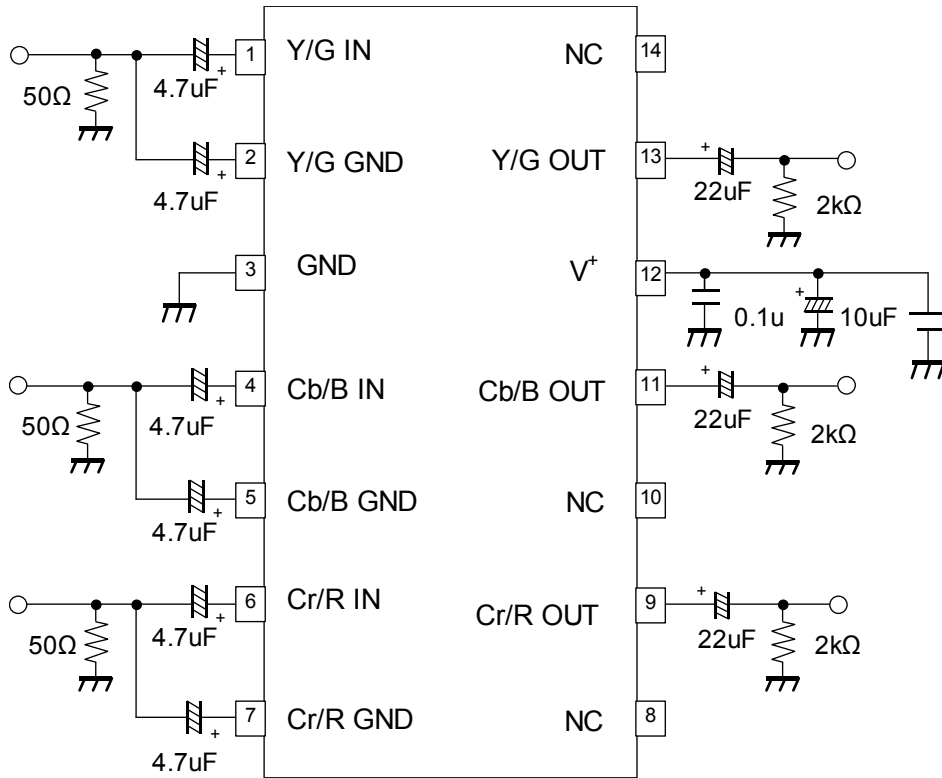


■ TEST CIRCUIT 2 (Gf, Gv)

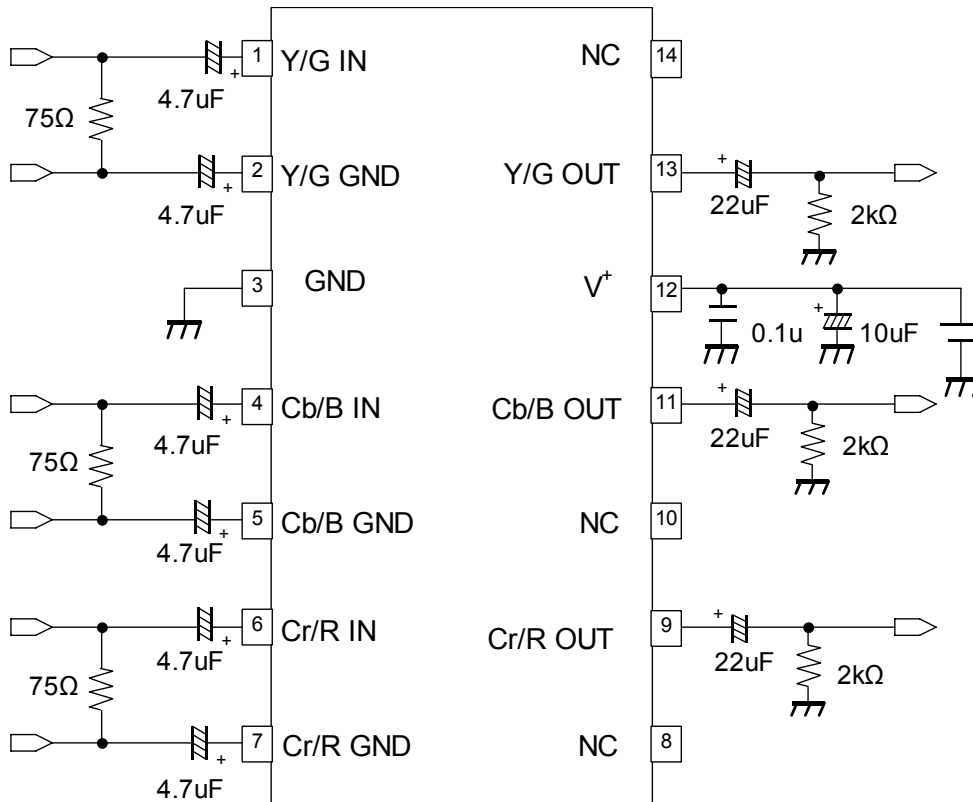


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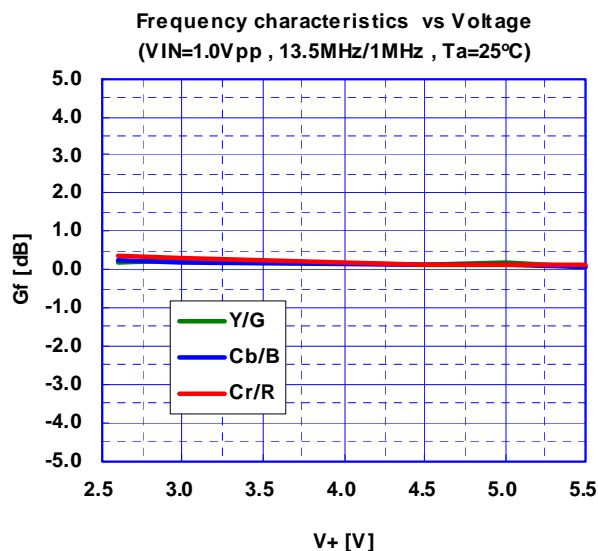
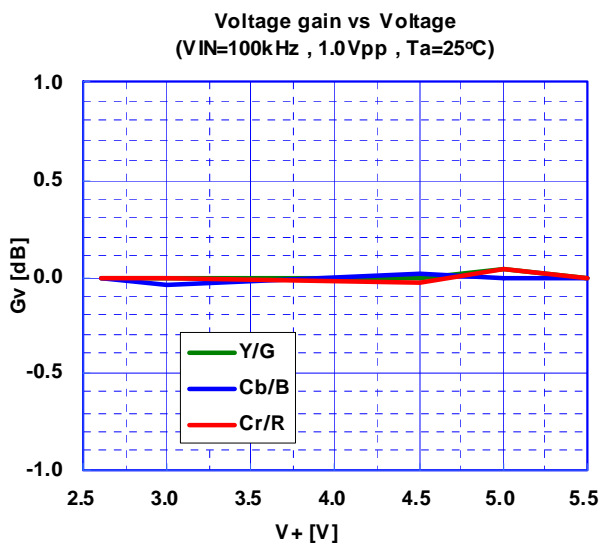
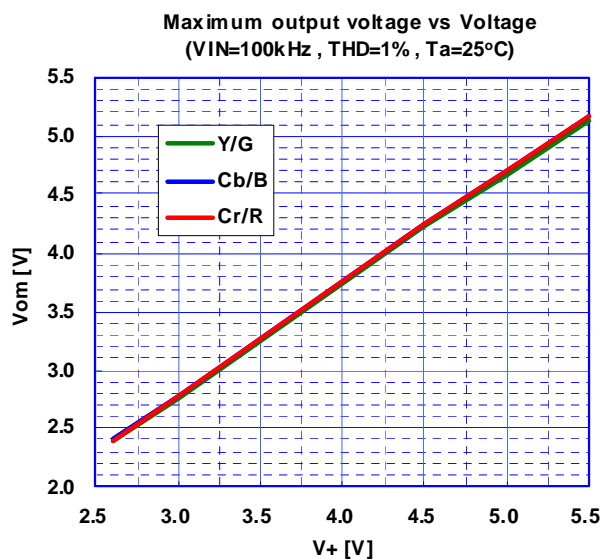
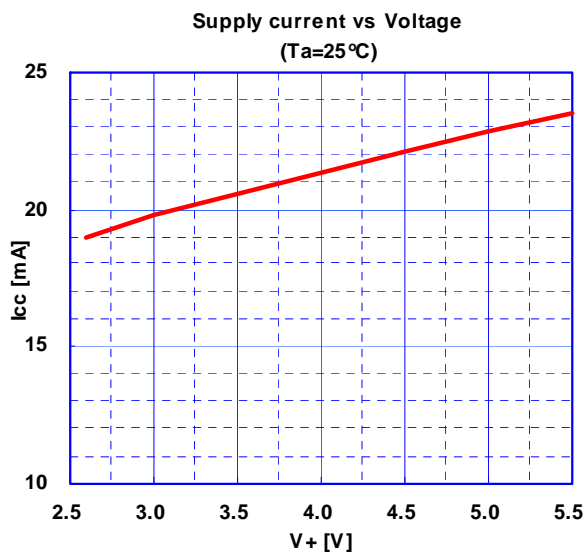
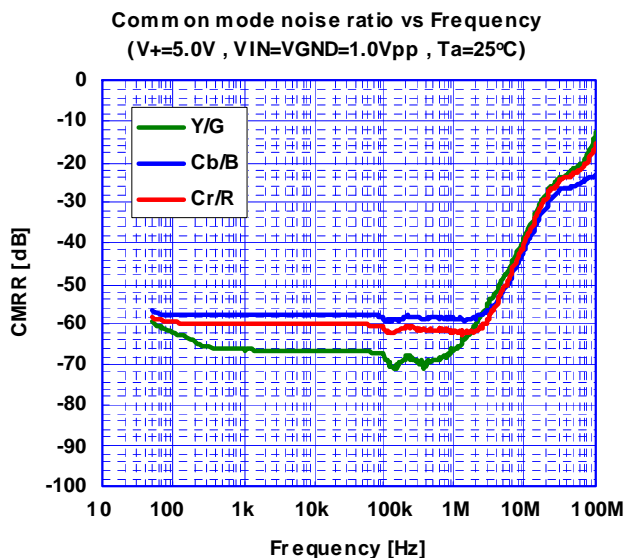
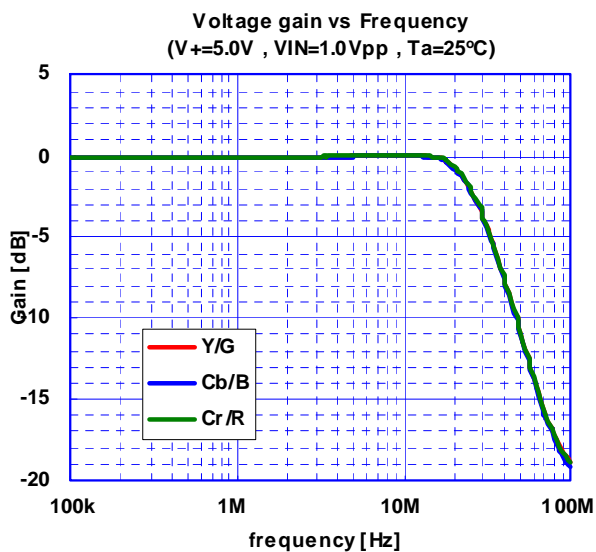
TEST CIRCUIT 3 (CMRR)



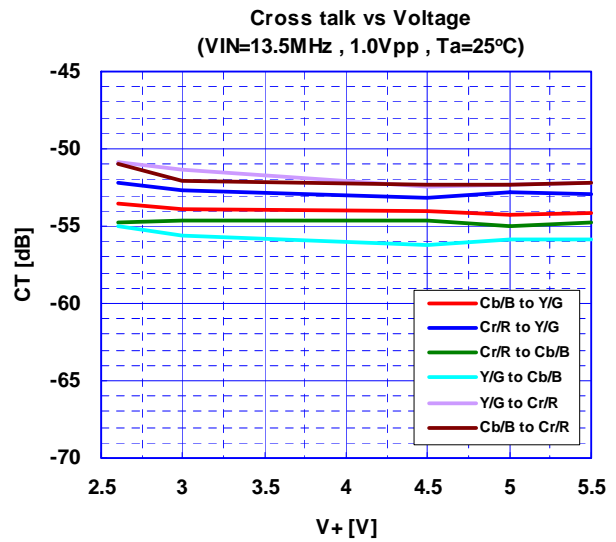
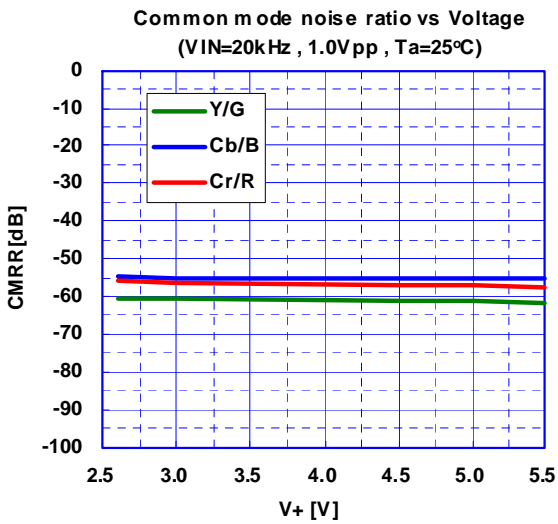
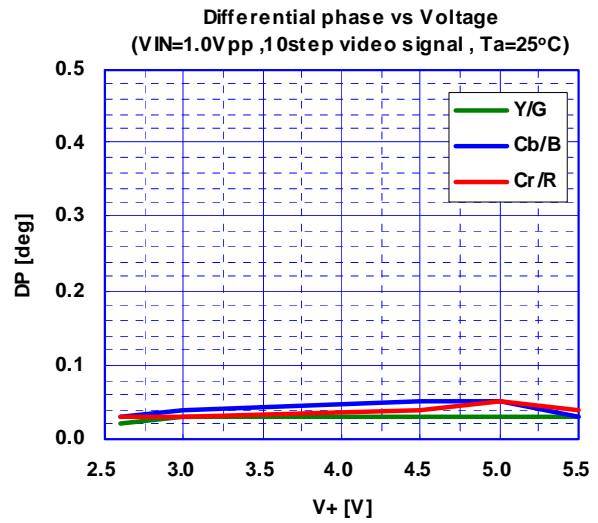
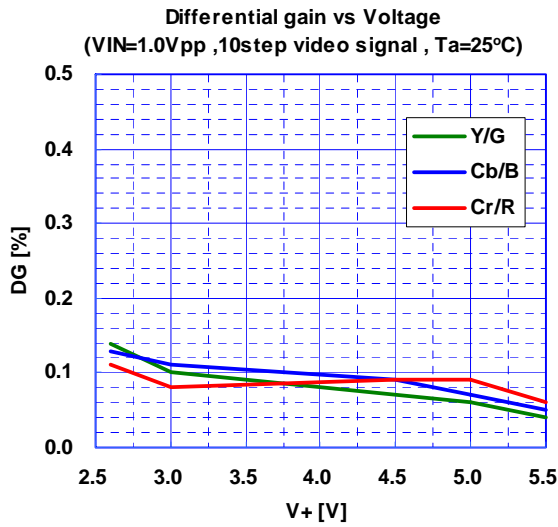
APPLICATION CIRCUIT



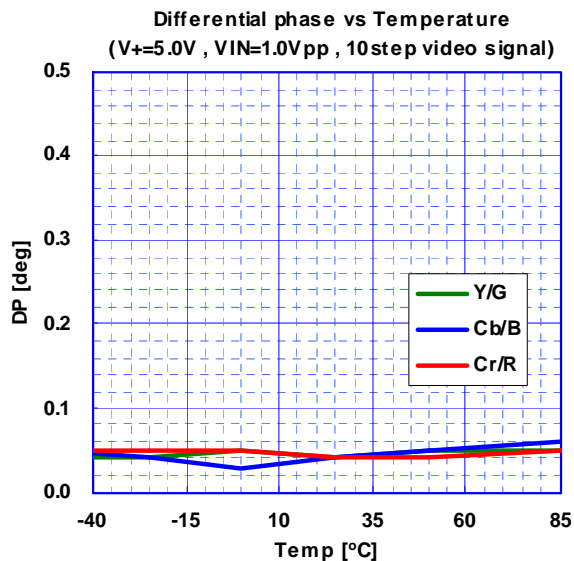
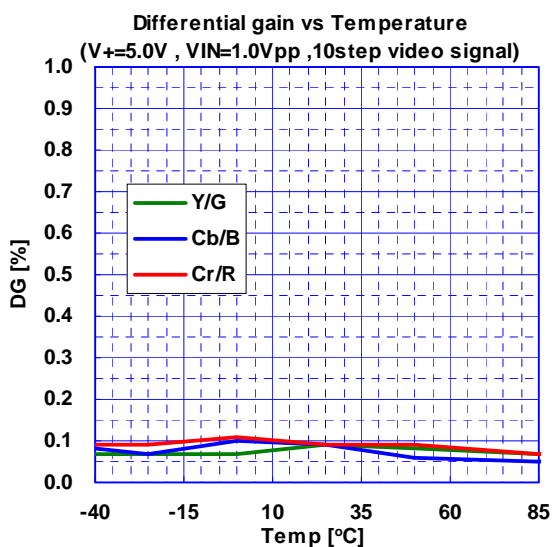
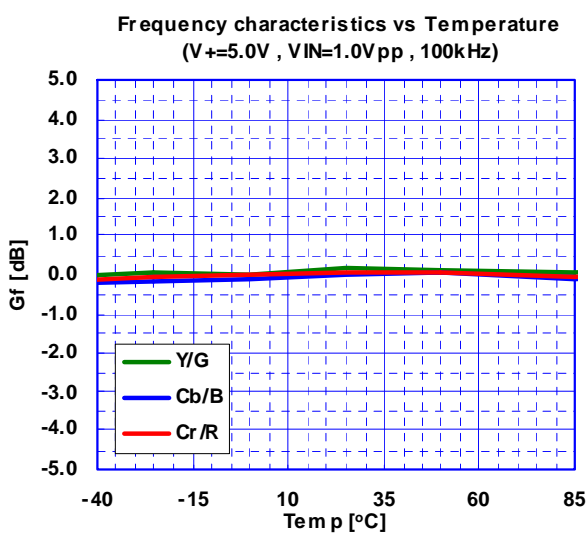
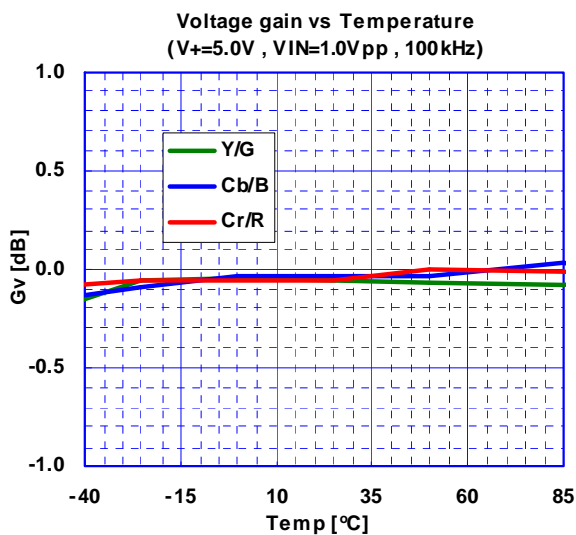
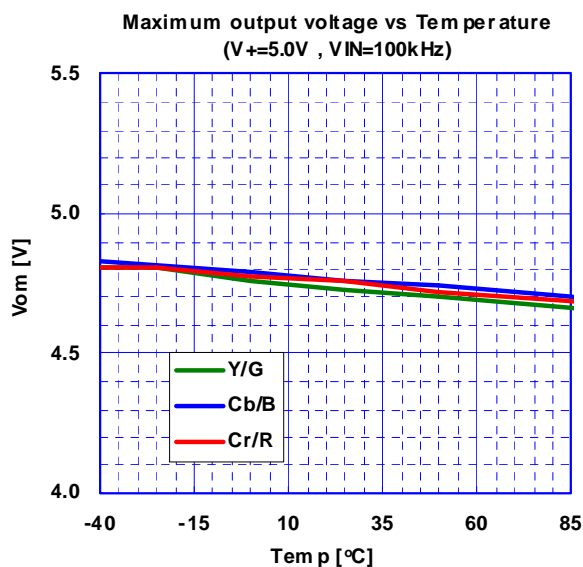
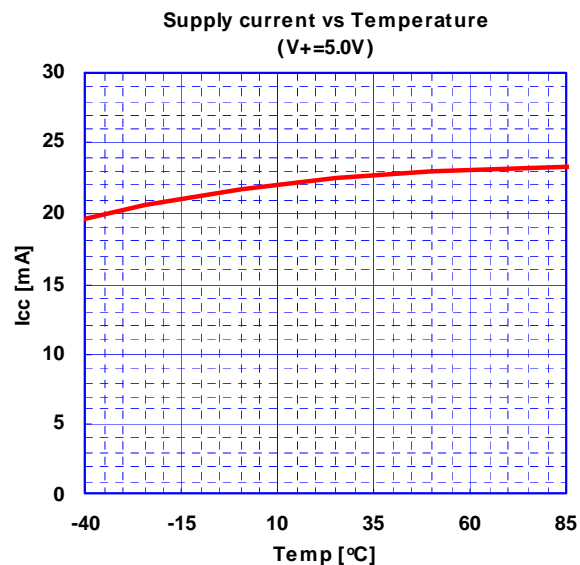
TYPICAL CHARACTERISTICS



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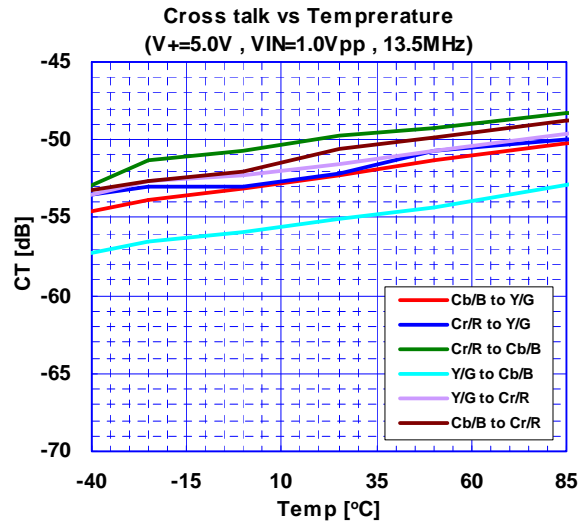
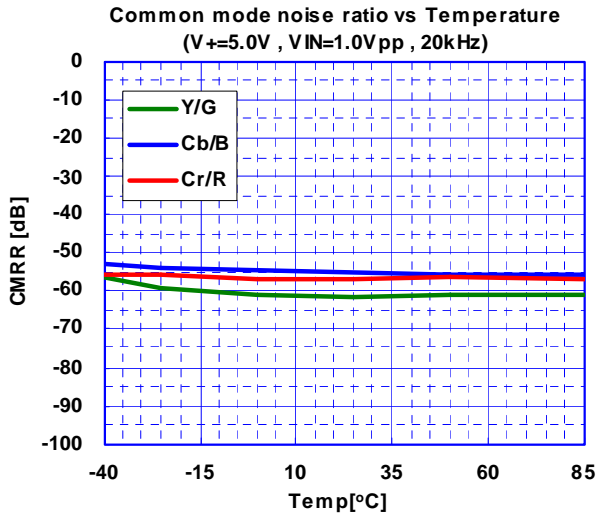


TYPICAL CHARACTERISTICS



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TYPICAL CHARACTERISTICS



[CAUTION]

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