

### FEATURES

- two output pairs (four outputs total) meeting SMPTE 259M
- nominal 550 ps rise and fall times
- accepts SMPTE and standard ECL input levels
- operates from a single +5 or -5 volt supply
- on-chip DC restoration for low jitter
- 250mW power dissipation
- Pb-free and Green

### APPLICATIONS

- $4f_{SC}$ , 4:2:2 and 360Mb/s Serial Digital Interfaces.

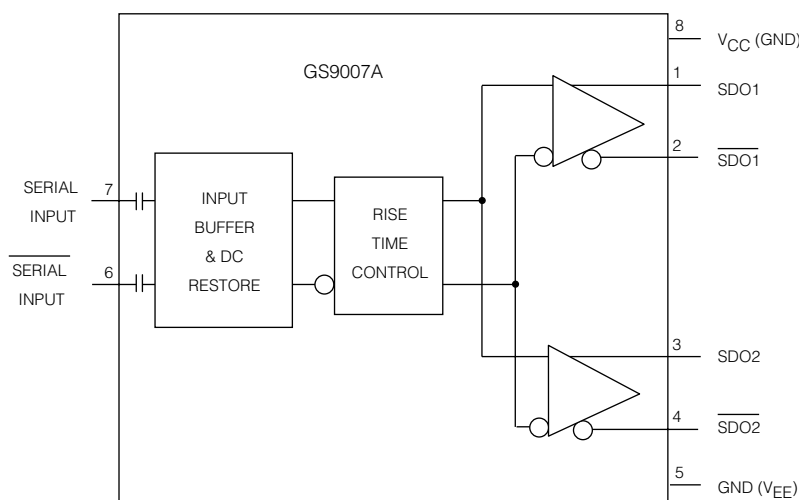
The **GENLINX**™ GS9007A is a bipolar integrated circuit designed to drive four 75Ω co-axial cables with SMPTE level serial digital video signals at data rates up to 360Mb/s. It directly interfaces with other **GENLINX**™ devices and can also be used as a general purpose high speed cable driver.

The differential inputs are AC-coupled and internally DC-restored which allows correct passage of pathological check codes associated with the serial digital standards. Even though the inputs are AC-coupled, static protection diodes at each input restrict the DC differential so that if the driving source uses the opposite polarity power supply, external DC blocking capacitors must be used.

The GS9007A is packaged in an 8 pin SOIC, and operates from a single +5 or -5 volt supply consuming typically only 250mW of power.

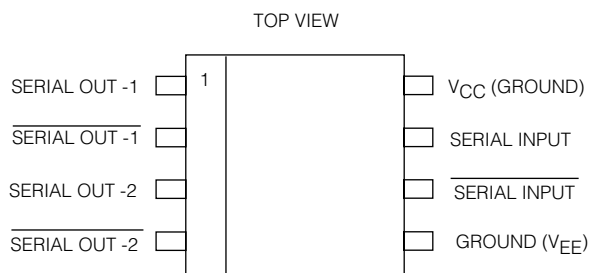
### ORDERING INFORMATION

| PART NUMBER  | PACKAGE TYPE | TEMPERATURE RANGE | Pb-FREE AND GREEN |
|--------------|--------------|-------------------|-------------------|
| GS9007ACKA   | 8 Pin SOIC   | 0°C to 70°C       | No                |
| GS9007ACKAE3 | 8 Pin SOIC   | 0°C to 70°C       | Yes               |



FUNCTIONAL BLOCK DIAGRAM

## PIN CONNECTIONS



## DC ELECTRICAL CHARACTERISTICS

$V_S = 5V$ ,  $T_A = 0^\circ C$  to  $70^\circ C$ ,  $R_L = 150\Omega$  to GND and  $143\Omega$  AC coupled unless otherwise shown.

| PARAMETER         | SYMBOL   | CONDITIONS                                           | MIN | TYP  | MAX | UNITS | NOTES |
|-------------------|----------|------------------------------------------------------|-----|------|-----|-------|-------|
| Supply Voltage    | $V_S$    | Operating Range                                      | 4.5 | 5.0  | 5.5 | V     |       |
| Power Consumption | $P_D$    | 4x15W Loads DC<br>1% Accuracy,<br>$T_A = 25^\circ C$ | -   | 250  | 290 | mW    |       |
| Supply Current    | $I_{S1}$ |                                                      | -   | 105  | 110 | mA    |       |
|                   | $I_{S2}$ | DC No Loads, $T_A = 25^\circ C$                      | -   | 17.2 | 22  | mA    |       |

## AC ELECTRICAL CHARACTERISTICS

$V_S = 5V$ ,  $T_A = 0^\circ C$  to  $70^\circ C$ ,  $R_L = 150\Omega$  to GND and  $143\Omega$  AC coupled unless otherwise shown.

| PARAMETER              |                   | SYMBOL     | CONDITIONS             | MIN | TYP | MAX      | UNITS | NOTES                   |
|------------------------|-------------------|------------|------------------------|-----|-----|----------|-------|-------------------------|
| SERIAL DIGITAL SIGNALS | Signal Swing      | $V_{IN}$   |                        | 700 | 800 | 1000     | mVp-p |                         |
|                        | Rise/Fall Times   | $t_R, t_F$ |                        | -   | -   | 750      | ps    | measured at 20% and 80% |
| SERIAL DIGITAL OUTPUTS | Rise/Fall Times   | $t_R, t_F$ |                        | 400 | 550 | 800      | ps    | measured at 20% and 80% |
|                        | Jitter            | $t_J$      | at 270Mb/s             | -   | -   | $\pm 25$ | ps    |                         |
|                        | Propagation Delay | $t_P$      |                        | -   | 1   | -        | ns    |                         |
|                        | Output Overshoot  |            | $t_R = t_J = 600$ ps   | -   | 0   | -        | %     | see Figure 4            |
|                        | Signal Swing      | $V_{OUT}$  | Across $75\Omega$ Load | 720 | 800 | 880      | mVp-p |                         |

**ABSOLUTE MAXIMUM RATINGS**

| PARAMETER                            | VALUES/UNITS                              |
|--------------------------------------|-------------------------------------------|
| Supply Voltage ( $V_S$ )             | 5.5V                                      |
| Input Voltage Range (any input)      | $V_S - 0.5V$                              |
| Power Dissipation                    | 300mW                                     |
| Operating Temperature Range          | $0^{\circ}C \leq T_A \leq 70^{\circ}C$    |
| Storage Temperature Range            | $-65^{\circ}C \leq T_S \leq 150^{\circ}C$ |
| Lead Temperature (Soldering, 10.sec) | 260°C                                     |

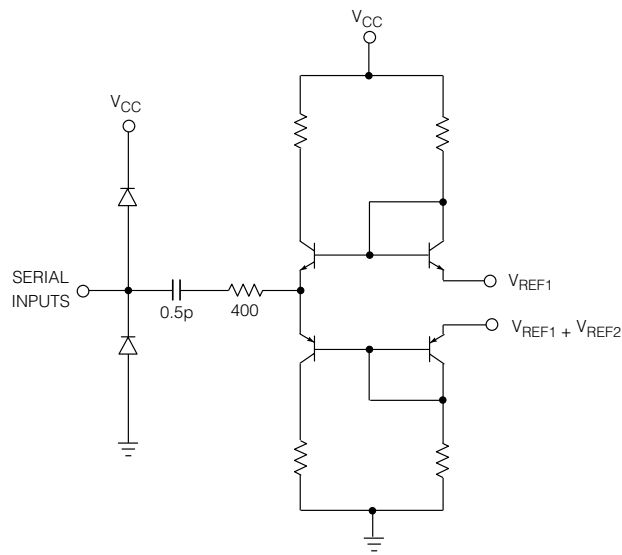
**INPUT / OUTPUT CIRCUITS**

Fig. 1 Input Circuit (Pins 6 and 7)

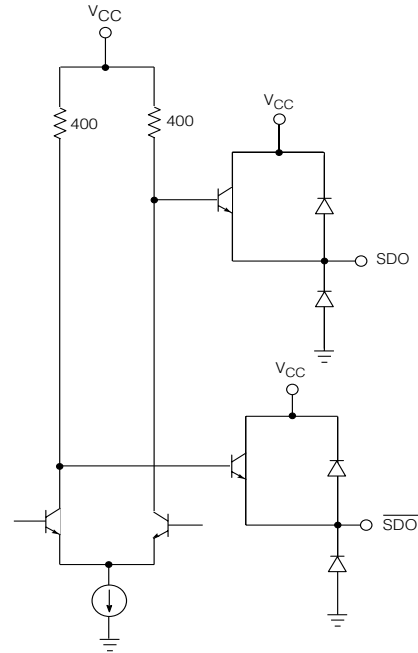


Fig. 2 Output Circuit (Pins 1, 2 and 3, 4)

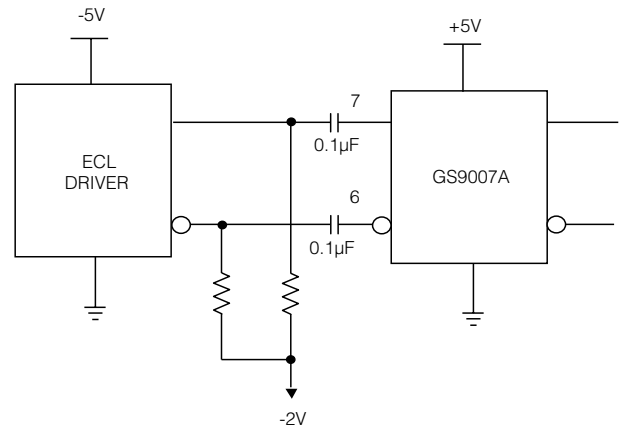


Fig. 3 Split Supply Interfacing

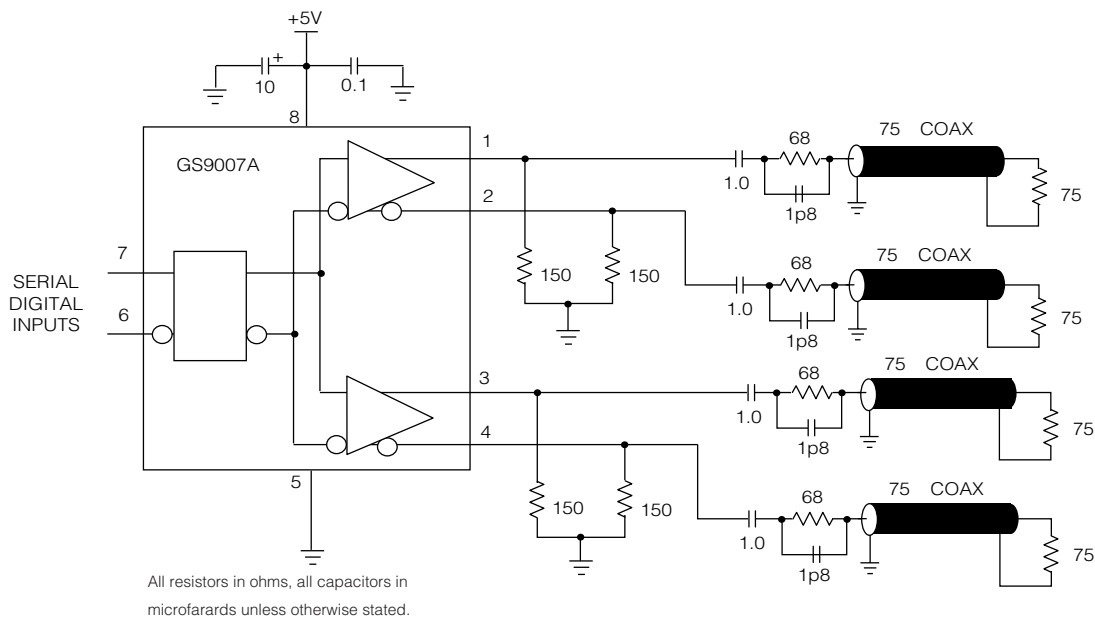


Fig. 4 Typical Application Circuit

**CAUTION**  
ELECTROSTATIC  
SENSITIVE DEVICES  
DO NOT OPEN PACKAGES OR HANDLE  
EXCEPT AT A STATIC-FREE WORKSTATION

**DOCUMENT IDENTIFICATION****DATA SHEET**

The product is in production. Gennum reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

**REVISION NOTES:**

Version 1 - Adding lead-free and green information.  
Version 2 - Adding minimum Rise / Fall time.

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