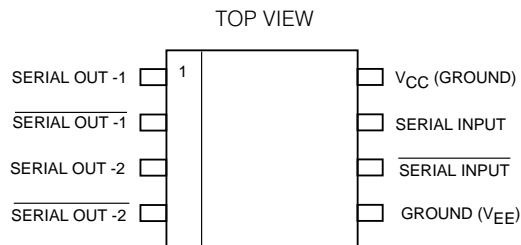


**FEATURES**

- 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
- 250 mW power dissipation
- interfaces with **GENLINX™ GS9002, GS9004A, GS9005A and GS9015A**

**PIN CONNECTIONS**



**DEVICE DESCRIPTION**

The **GENLINX™** GS9007 is a bipolar integrated circuit designed to drive four 75 Ω co-axial cables with SMPTE level serial digital video signals at data rates exceeding 400 Mb/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.

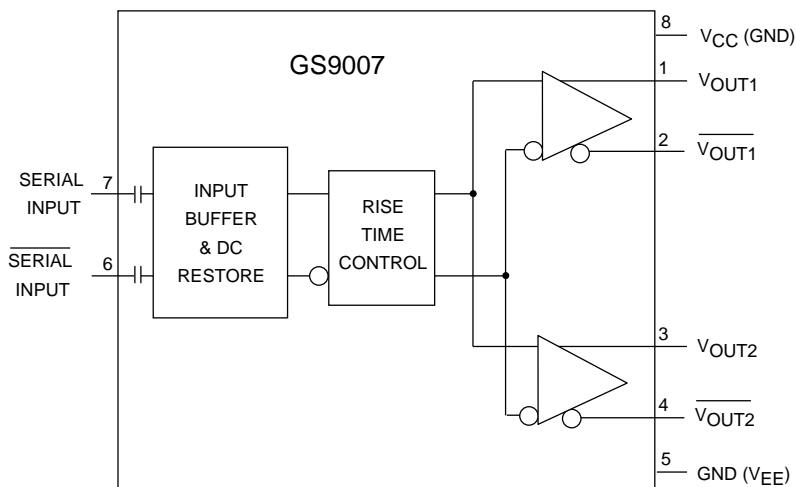
The GS9007 is packaged in an 8 pin SOIC, and operates from a single +5 or -5 volt supply consuming typically only 250 mW of power.

**APPLICATIONS**

4f<sub>SC</sub>, 4:2:2 and 360 Mb/s Serial Digital Interfaces.

**ORDERING INFORMATION**

Part Number	Package Type	Temperature Range
GS9007 - CKA	8 Pin SOIC	0° to 70°C



Patent No. 5,426,389.

**FUNCTIONAL BLOCK DIAGRAM**

## GS9007 CABLE DRIVER - DC ELECTRICAL CHARACTERISTICS

$V_S = 5\text{ V}$ ,  $T_A = 0\text{ to }70^\circ\text{C}$ ,  $R_L = 150\Omega$  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	$P_D$	4x150 $\Omega$ Loads DC	-	250	290	mW	
Supply Current	$I_{S1}$	1% Accuracy, $T_A = 25^\circ\text{C}$	-	105	110	mA	
	$I_{S2}$	DC No Loads, $T_A = 25^\circ\text{C}$	-	17.2	22	mA	

## GS9007 CABLE DRIVER - AC ELECTRICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS	NOTES	
SERIAL DIGITAL INPUTS	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	$t_J$	-	-	$\pm 25$	ps	at 270 Mb/s	
	Propagation Delay	$t_P$	-	1	-	ns		
	Output Overshoot		$t_R = t_F = 600\text{ ps}$	-	0	-	%	see Figure 4
	Signal Swing	$V_{OUT}$	Across 75 $\Omega$ Load	720	800	880	mVp-p	

## INPUT / OUTPUT CIRCUITS

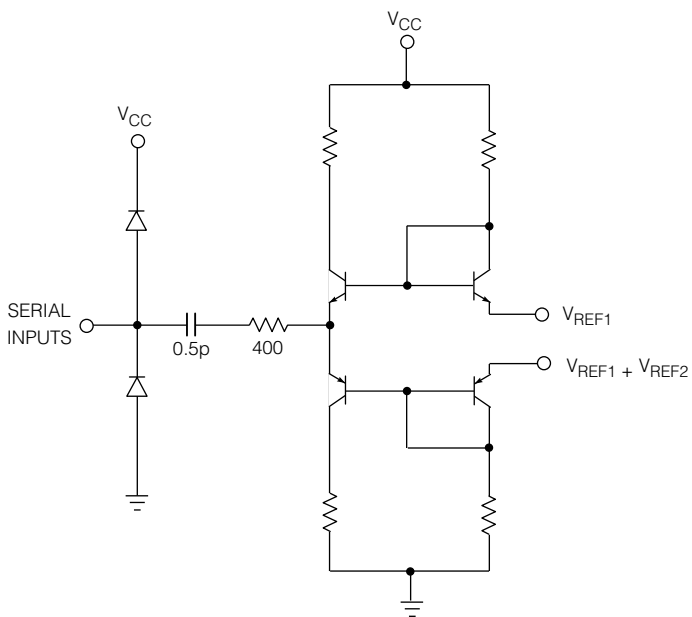


Fig. 1 Input Circuit (Pins 6 and 7)

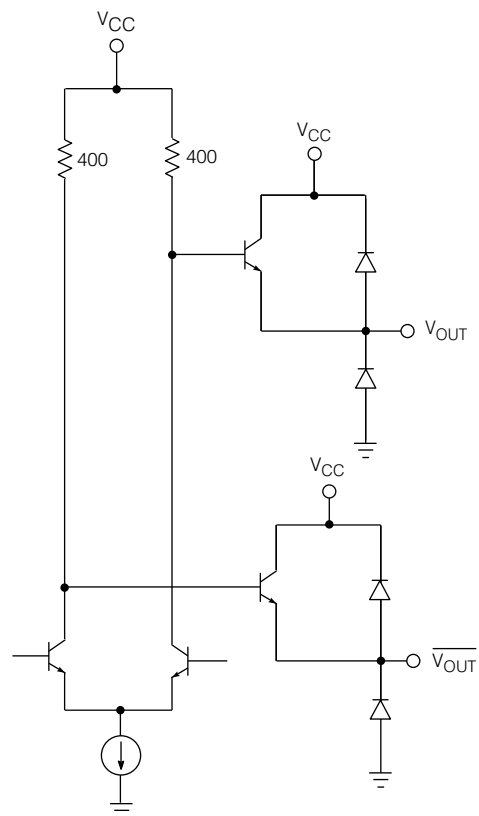


Fig. 2 Output Circuit (Pins 1, 2 and 3, 4)

## ABSOLUTE MAXIMUM RATINGS

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

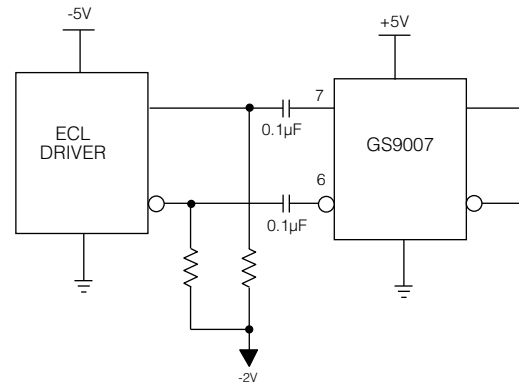


Fig. 3 Split Supply Interfacing

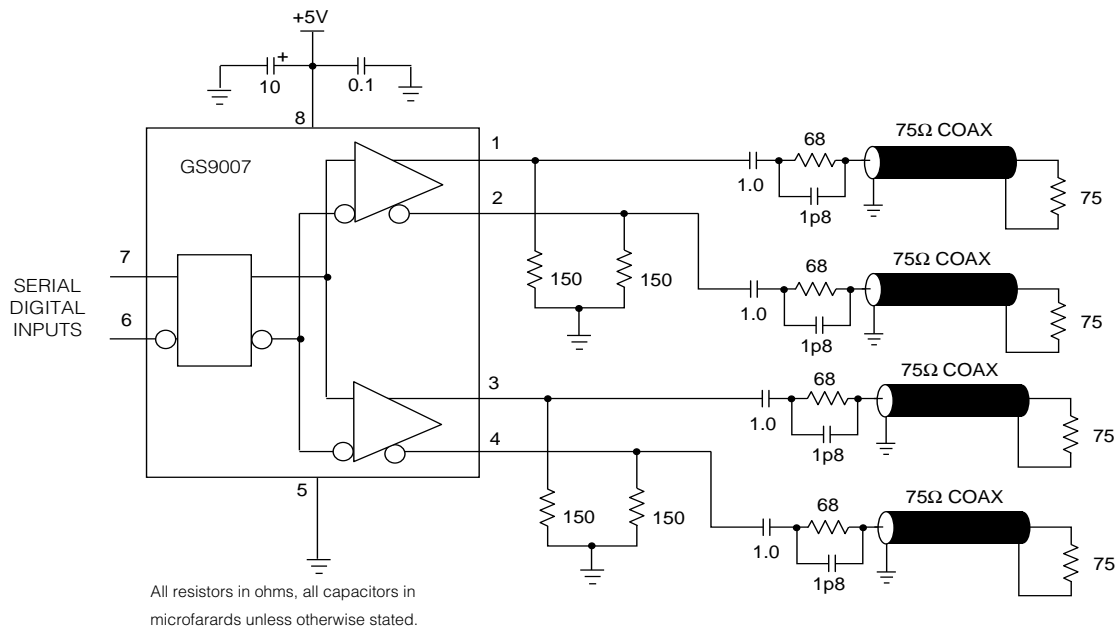


Fig. 4 Typical Termination Configuration

### REVISION NOTES

Changes to Electrical Characteristics.

### CAUTION

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



### DOCUMENT IDENTIFICATION

#### PRODUCT PROPOSAL

This data has been compiled for market investigation purposes only, and does not constitute an offer for sale.

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