

DUAL PERIPHERAL POSITIVE-AND DRIVER

DESCRIPTION

The SG5541B/SG55461/SG55471 (SG75451B/SG75461/SG75471) series of dual peripheral Positive-AND drivers are a family of versatile devices designed for use in systems that employ TTL or DTL logic. This family of drivers are direct replacements for the Texas Instruments SN55451B/61/71 (SN75451B/61/71) series. Diode-clamped inputs simplify circuit design. Typical applications include high-speed logic buffers, power drivers, relay drivers, MOS drivers, line drivers, and memory drivers. The SG55451B/SG55461/SG55471 drivers are characterized for operation over the full military ambient temperature range of -55°C to 125°C and the SG75451B/SG75461/SG75471 drivers are characterized for operation from 0°C to 70°C.

FEATURES

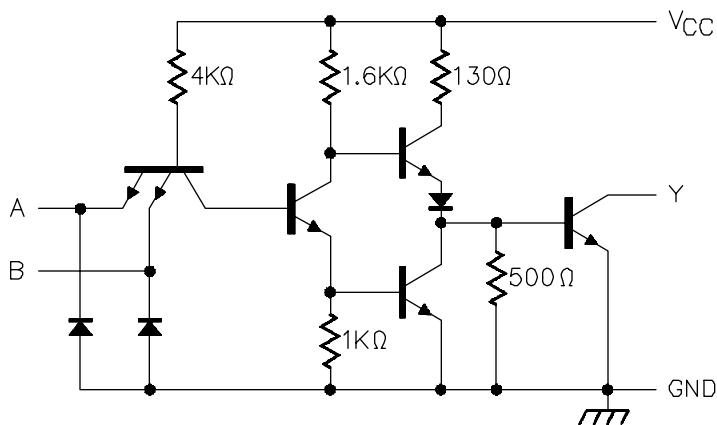
- 300mA output current capability
- High-voltage output
- No output latch-up at 20V
- High speed switching
- TTL or DTL compatible diode-clamped inputs
- Standard supply voltages

HIGH RELIABILITY FEATURES

- SG55451B/SG55461/SG55471

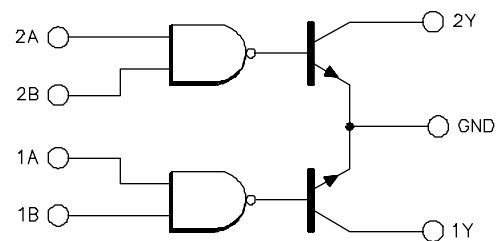
- ◆ Available to MIL-STD-883
- ◆ Scheduled for MIL-M-38510 QPL listing
- ◆ LMI level "S" processing available

EQUIVALENT CIRCUIT SCHEMATIC (each driver)



BLOCK DIAGRAM

Positive Logic: $Y = AB$



FUNCTION TABLE (each gate)

A	B	Y
L	L	L (on-state)
L	H	L (on-state)
H	L	L (on-state)
H	H	H (off-state)

H = High Level, L = Low Level

SG55451B/61/71 SERIES

SWITCHING CHARACTERISTICS ($V_{CC} = 5V, T_A = 25^\circ C$)

Parameter	Test Conditions	SG55451B SG75451B			SG55461 SG75461			SG55471 SG75471			Units	
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
Propagation Delay Time, Low-to-High Level Output	$I_C = 200mA, C_L = 15pF,$ $R_L \approx 50\Omega$		18	25		30	110		30	110	ns	
Propagation Delay Time, High-to-Low Level Output			18	25		25	80		25	80	ns	
Transition Time, Low-to-High Output				5	8		8	25		8	25	ns
Transition Time, High-to-Low Level Output				7	12		10	25		10	25	ns
High-Level Output Voltage After Switching (Note 1)	$I_C = 300mA,$ $V_S = 20V$ SGX5451B	$V_S - 6.5$									mV	
	$V_S = 30V$ SGX5461				$V_S - 10$						mV	
	$V_S = 55V$ SGX5471							$V_S - 18$			mV	

Note 1. These parameters, although guaranteed, are not tested in production.

CONNECTION DIAGRAMS & ORDERING INFORMATION (See Notes Below)

Package	Part No.	Ambient Temperature Range	Connection Diagram
8-PIN CERAMIC DIP Y - PACKAGE	SG55451BY/883B SG55451BY SG55461Y/883B SG55461Y SG55471Y/883B SG55471Y SG75451BY SG75461Y SG75471Y	-55°C to 125°C -55°C to 125°C -55°C to 125°C -55°C to 125°C -55°C to 125°C 0°C to 70°C 0°C to 70°C 0°C to 70°C	
20-PIN CERAMIC LEADLESS CHIP CARRIER L- PACKAGE	SG55451BL/883B SG55451BL SG55461L/883B SG55461L SG55471L/883B SG55471L	-55°C to 125°C -55°C to 125°C -55°C to 125°C -55°C to 125°C -55°C to 125°C -55°C to 125°C	

Note 1. Contact factory for JAN and DESC product availability.
 2. All parts are viewed from the top.
 3. Product is also available in flat pack. Consult factory for price and delivery.