

8B Industrial Way
 Salem NH 03079
 TEL: (603)898-6800
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Monolithic Multi-Throw Driver Chips

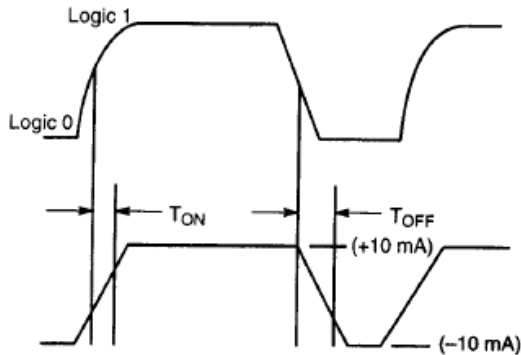
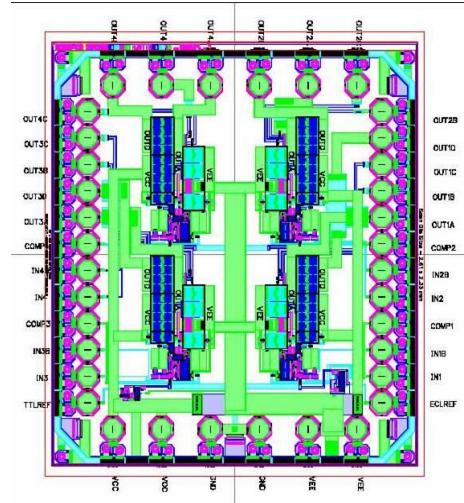
SP1750-04

Features

- 2 ns Video Switching Time
- Low in Band Noise: -50 dBm at 1 GHz
- True Differential Inputs
- Compatible with TTL, ECL, and CMOS to 5.0V
- Internal Referenced for TTL, CMOS, ECL
- Inverting, Non-Inverting
- Low Internal Current
- ±3.0 Volts, ±120 mA Output Per Driver
- Multiple Outputs from Each Driver
- ESD Protected
- Packaged Devices Also Available (Contact Factory for Options)

Description

LNX Corporation's Silicon Monolithic PIN/FET Driver Chips offer new low cost driver options for low power multi-throw switches. Versatile logic modes, multiple outputs, and provision for trade-off between switching speed and in band noise make these drivers suitable for a wide range of applications, both PIN and FET switches. Also, the differential input permits use in RF controlled limiter or receiver protector circuits.

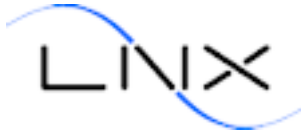


Typical Switching Waveform, Output C TON TOF
 4 ns, Max., 2 ns, Typical.

Electrical Specifications (-50°C to + 85°C)

Output Current:	±120 mA, Min., Per Driver
Peak Output Current:	±300 mA, Min., Per Driver
Open Circuit Output Voltage:	±3.0 Volts, Min. (+/-5V Supplies) ²
Switching Time:	4 ns, Max., TON and TOFF ¹
Internal Current (Per Driver):	+/- 6.3 mA, Typ.
Internal Current (Total):	± 32 mA, Typ.
Operating Voltage:	+4.0/+8.0V and -4.0/-8.0V ³
Internal TTL References:	+1.6 ± 0.1V
Internal ECL Reference:	-1.26 ± 0.1V
TTL, ECL, Logic Inputs:	10 KΩ to Vcc; Sink up to 1.4 mA
Chip Dimensions:	0.103 ± 0.003 by 0.092 ± 0.003 by 0.018 ± 0.001
Bonding Pads:	4.7 Mils, Min., Octagon, Gold Metallization
Reliability:	All units are designed to meet the environmental and screening requirements of MIL-STD-883.

1. Driving opposed polarity pair 1N4148, 50% to 90% and 50% to 10%.
2. Output voltage varies 1:1 with supply
3. Absolute maximum voltage Vcc - Vee 12 volts



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Logic Example

Driver NBR4

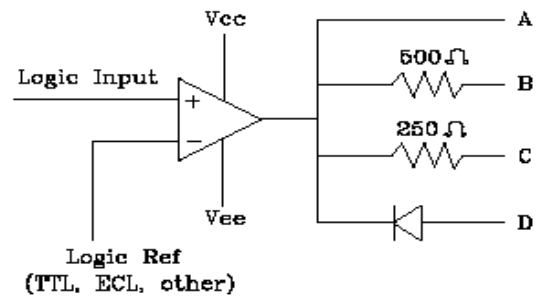
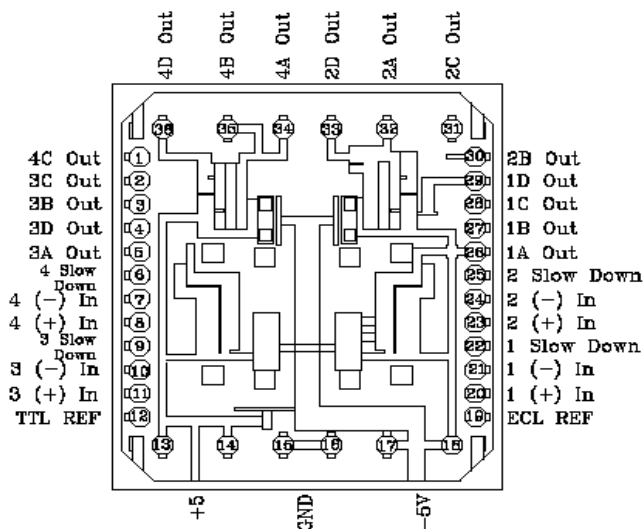
- Pad 7 Connected to Pad 12; Logic Inputs to Pad 8: TTL - Non-Inverting
- Pad 8 connected to Pad 19; Logic Input to Pad 7: ECL – Inverting

Outputs

- Direct; +/-3.0V at 120 mA; 300 mA peak - Not short circuit protected.
- 500Ω series resistor, for 5 mA output.
- 250Ω series resistor, for 10 mA output.
- Series diode for driving series-shunt configurations.

Comments

1. Approximately 0.1V differential is enough to control outputs.
2. Slow down capacitor, approximately 2 - 10 pF, will reduce in band RF noise substantially with minor degradation of switching speed. Connect to either VEE or to ground.
3. Mount capacitors to ground from each power supply; minimal lead length.
 - Approximately 0.01 μF in parallel with 100 pF to +Vcc and -Vee
4. For single ended operations, the other input must be connected to the ECL or TTL reference.
5. One of the logic ports should be grounded on any unused active drivers.
6. Effective source (output) impedance approximately 5 ohms.
7. Slow down pads are for use when switching speeds are not critical but in band RF noise is. Capacitor Installed from slow down pad to -Vee or ground.
8. The bottom of the chip should be either floating or connected to VEE.



With the "-" input tied to the desired logic reference, the driver will be non-inverting.

With the "+" input tied to desired logic reference driver will be inverting.