

Product Features

- R_{ON} is 8-ohms typical
- Pulldown on B Ports
- Low Power – 1mW
- Industrial Operation Temperature: -40°C to 85°C
- Near Zero Propagation Delay
- Switching Speed: 4.5ns max.
- Channel on capacitance: 11pF typ.
- V_{CC} Operating Range: $3.3\text{V} \pm 10\%$
- >100 MHz bandwidth
- Package: 40-pin BQSOP (B)

Product Description

Pericom Semiconductor's PI3B series of logic circuits are produced using the Company's advanced submicron CMOS technology.

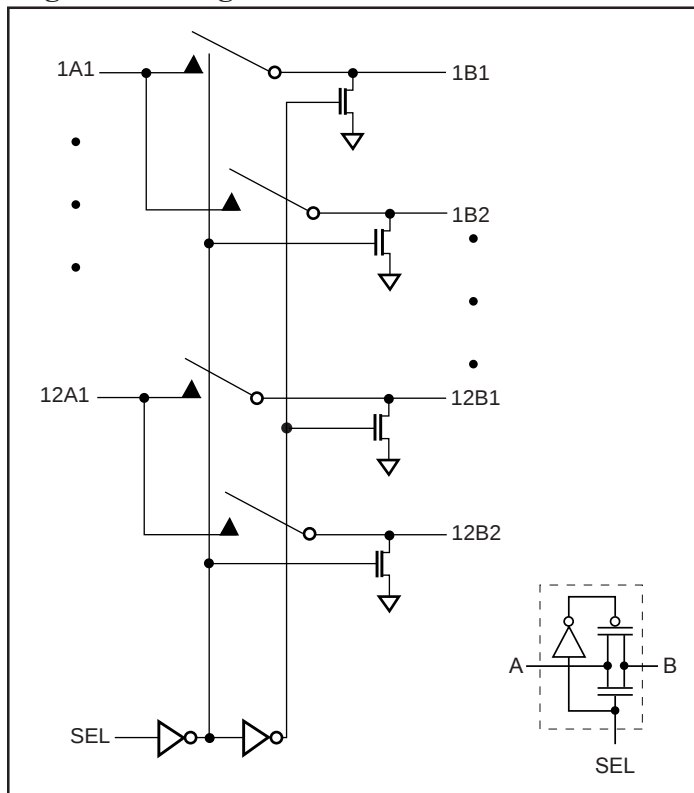
The PI3B16226 is a 12-bit to 24-bit mux/demux switch. Industry leading advantages include almost zero propagation delay of 500ps because of 8-ohm channel resistance and low I/O capacitance.

A1 port demultiplexes to either port B1 or B2. The switch is bidirectional.

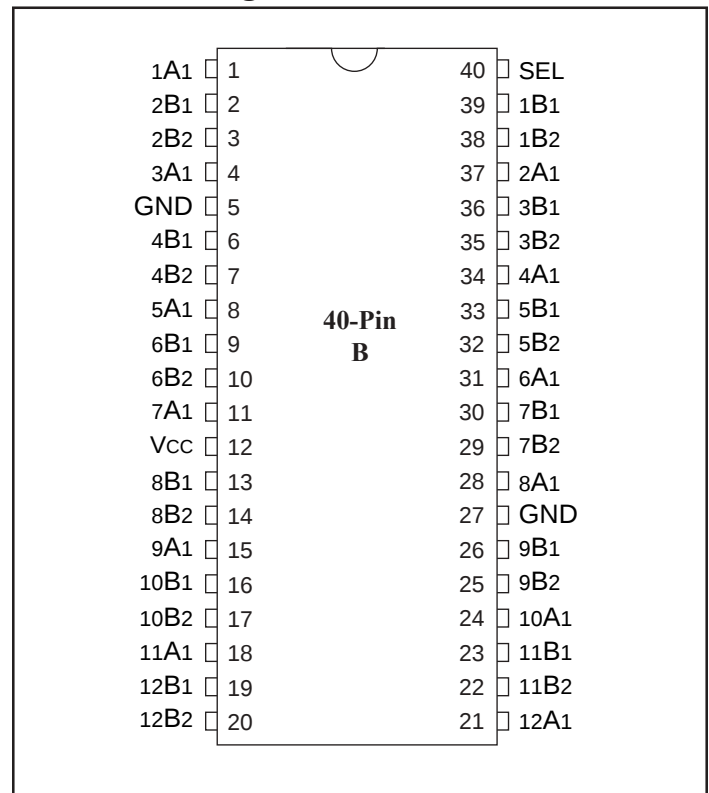
Application

Memory Switching

Logic Block Diagram



Product Pin Configuration



Function Table

SEL	FUNCTION
L	nA1 to nB1
H	nA1 to nB2

Note: n = 1–12

Maximum Ratings

(Above which useful life may be impaired. For user guidelines, not tested.)

Storage Temperature Range, T_{STG}	-65°C to +150°C
Supply Voltage Range, V_{CC}	-0.5V to +4.6V
Bias Voltage Range, $BIASV$	-0.5V to +4.6V
Input Voltage Range	-0.5V to +4.6V
DC Output Current	120mA
Power Dissipation	0.5W

Note:

Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

DC Electrical Characteristics ($V_{CC}=3.3V \pm 10\%$, $T_A=-40^\circ\text{C}$ to 85°C)

Parameters	Description	Test Conditions ⁽¹⁾	Min.	Typ ⁽¹⁾	Max.	Units
V_{IH}	TTL Input HIGH Voltage	SEL	2.0	—	—	V
V_{IL}	Input LOW Voltage		-0.5	—	0.8	
I_{IH}	Input High Current		—	—	1	μA
I_{IL}	Input Low Current		—	—	1	
R_{ON}	Switch ON Resistance	$V_{CC} = \text{Min.}, V_{IN} = 0.0\text{V}, I_{ON} = 48\text{mA}$ $V_{CC} = \text{Min.}, V_{IN} = 2.4\text{V}, I_{ON} = 8\text{mA}$	—	8 12	12 23	
I_O	B Port Pulldown Current	$V_{CC} = \text{Min.}, V_O = V_{CC}$ SEL = High for B1, SEL = Low for B2	2.5	—	—	mA
C_{IN}	Input Capacitance	$V_{IN} = 0\text{V}$	—	2.6	3.3	
C_{ON}	A/B Capacitance, Switch On		—	11	14	pF
I_{CC}	Power Supply Quiescent		—	—	20	μA
ΔI_{CC}	Supply current per inut @ TTL HIGH	$V_{CC} = \text{Max}, V_{IN} = 3\text{V}$	—	—	2.5	mA

AC Timing Characteristics ($V_{CC}=3.3V \pm 10\%$, $T_A=-40^\circ\text{C}$ to 85°C)

Parameters	Description	Test Conditions	Min.	Typ.	Max.	Units
t_{PLH}	Propagation Delay	$C_L = 25\text{pF}, R_L = 500\Omega^{(2)}$			500	ps
t_{PHL}						
t_{PE}	Bus Disable	$C_L = 25\text{pF}, R_L = 500\Omega$	1.3		4.5	ns
t_{PD}						

Notes:

1. Typical values are shown at $V_{CC}=3.3\text{V}$, $+25^\circ\text{C}$ ambient and maximum loading.
2. Guaranteed by design.

