

QS316384, QS3162384



High Speed CMOS 20-bit Bus Switches in VSOP

QS316384
QS3162384
Preliminary

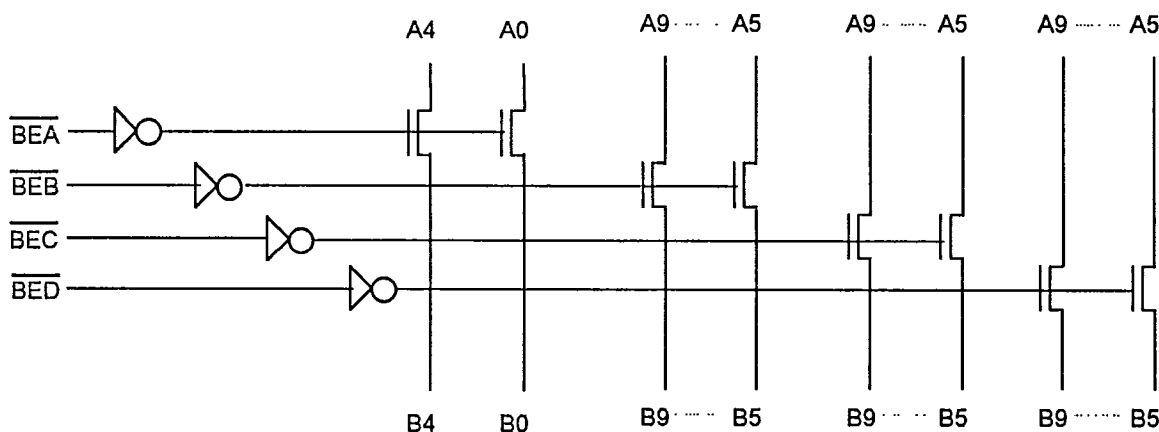
FEATURES/BENEFITS

- 5Ω switches connect inputs to outputs
- Direct bus connection when switches on
- Zero propagation delay
- Undershoot clamp diodes on all inputs
- AC compatible with the QS3384 and QS32384
- 3162384 is 25Ω version for low noise
- Four enables control 5 bits each
- Zero ground bounce in flow-through mode
- TTL-compatible input and output levels
- Available in 48-pin VSOP

DESCRIPTION

The QS316384 and QS3162384 each provide a set of ten high-speed CMOS TTL-compatible bus switches. The low on resistance of the QS316384 allows inputs to be connected to outputs without adding propagation delay and without generating additional ground bounce noise. The QS3162384 includes internal 25Ω series termination resistors to reduce reflection noise in high speed applications. The bus enable (IBE) signals turn the switches on. Four bus enable signals are provided, one for each of five bits of the 20-bit bus.

FUNCTIONAL BLOCK DIAGRAM



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PIN CONFIGURATIONS

IBEA	1	48	VCC
B0	2	47	B19
A0	3	46	A19
A1	4	45	A18
B1	5	44	B18
B2	6	43	B17
A2	7	42	A17
A3	8	41	A16
B3	9	40	B16
B4	10	39	B15
A4	11	38	A15
GND	12	37	IBED
IBEB	13	36	VCC
A5	14	35	A14
B5	15	34	B14
B6	16	33	B13
A6	17	32	A13
A7	18	31	A12
B7	19	30	B12
B8	20	29	B11
A8	21	28	A11
A9	22	27	A10
B9	23	26	B10
GND	24	25	IBEC

TOP VIEW

Pin Description

Name	I/O	Function
A0-A19	I/O	Bus A
B0-B19	I/O	Bus B
IBEA/B/C/D	I	Bus Switch Enables

Function Table

IBEA	IBEB	IBEC	IBED	B0-4	B5-9	B10-14	B15-19	Function
H	H	H	H	Hi-Z	Hi-Z	Hi-Z	Hi-Z	disconnect
L	H	H	H	A0-A4	Hi-Z	Hi-Z	Hi-Z	nibble connect
H	L	H	H	Hi-Z	A5-A9	Hi-Z	Hi-Z	nibble connect
H	H	L	H	Hi-Z	Hi-Z	A10-A14	Hi-Z	nibble connect
H	H	H	L	Hi-Z	Hi-Z	Hi-Z	A15-A19	nibble connect
L	L	L	L	A0-A4	A5-A9	A10-A14	A15-A19	full connect