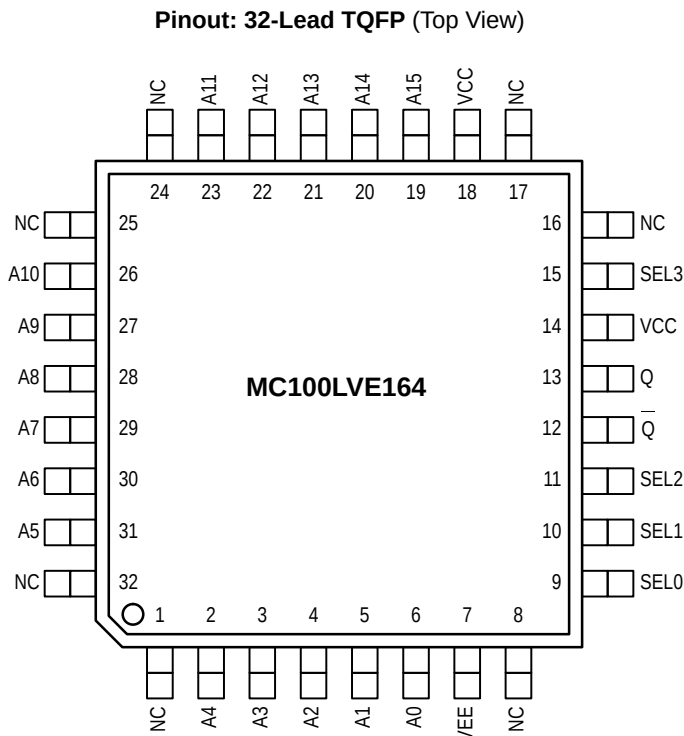


Low Voltage 16:1 Multiplexer

The MC100LVE164 is a 16:1 multiplexer with a differential output. The select inputs (SEL0, 1, 2, 3) control which one of the sixteen data inputs (A0 – A15) is propagated to the output. The device is functionally equivalent to the MC100E164 except it operates from a –3.3V supply. The device is packaged in the 32-lead TQFP. The TQFP has a 7x7mm body with a 0.8mm lead pitch.

Special attention to the design layout results in a typical skew between the 16 inputs of only 50ps.

- 850ps Data Input to Output
- Differential Output
- Extended 100E V_{EE} Range of –3.0V to –3.8V
- Internal 75kΩ Input Pulldown Resistors

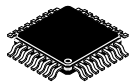


PIN NAMES

Pin	Function
A0 – A15	Data Inputs
SEL[0:3]	Select Inputs
Q, Q	Output

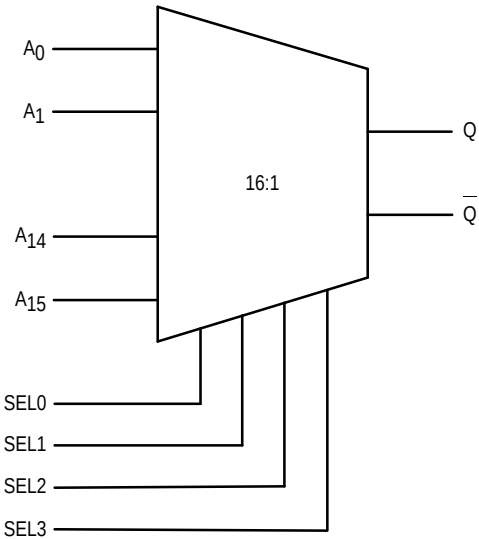
MC100LVE164

LOW VOLTAGE 16:1 MULTIPLEXER



FA SUFFIX
TQFP PACKAGE
CASE 873A-02

LOGIC DIAGRAM



MC100LVE164

DC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = V_{CCO} = GND)

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
I _{IH}	Input HIGH Current			150			150			150			150	μA
I _{EE}	Power Supply Current		34	45		34	45		35	45		37	45	mA

AC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = V_{CCO} = GND)

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
t _{PLH} t _{PHL}	Propagation Delay A Input to Output SEL0 SEL1 SEL2 SEL3	350 500 400 400 400	600 700 675 675 550	850 900 900 900 700	350 500 400 400 400	600 700 675 675 550	850 900 900 900 700	350 500 400 400 400	600 700 675 675 550	850 900 900 900 700	350 500 400 400 400	600 700 675 675 550	850 900 900 900 700	ps
t _{SKEW}	Within Device Skew ¹		75			75			50			50		ps
t _r t _f	Rise/Fall Times 20% – 80%	275	400	550	275	400	550	275	400	550	275	400	550	ps

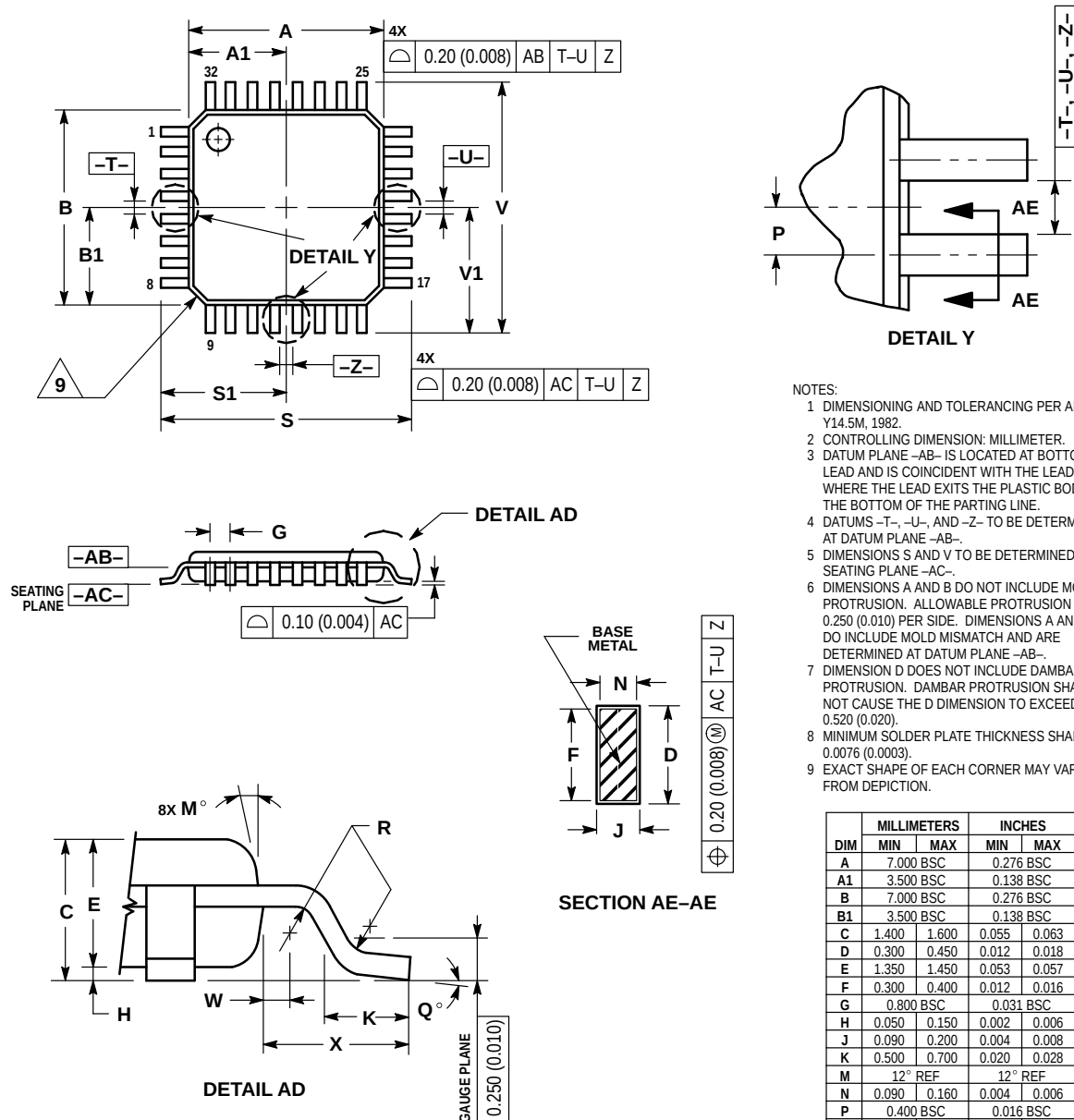
1. Within Device skew is defined as the difference in the A to Q delay between the 16 different A inputs.

FUNCTION TABLE

SEL3	SEL2	SEL1	SEL0	Data
L	L	L	L	A0
L	L	L	H	A1
L	L	H	L	A2
L	L	H	H	A3
L	H	L	L	A4
L	H	L	H	A5
L	H	H	L	A6
L	H	H	H	A7
H	L	L	L	A8
H	L	L	H	A9
H	L	H	L	A10
H	L	H	H	A11
H	H	L	L	A12
H	H	L	H	A13
H	H	H	L	A14
H	H	H	H	A15

OUTLINE DIMENSIONS

FA SUFFIX
TQFP PACKAGE
CASE 873A-02
ISSUE A



NOTES:

- 1 DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- 2 CONTROLLING DIMENSION: MILLIMETER.
- 3 DATUM PLANE -AB- IS LOCATED AT BOTTOM OF LEAD AND IS COINCIDENT WITH THE LEAD WHERE THE LEAD EXITS THE PLASTIC BODY AT THE BOTTOM OF THE PARTING LINE.
- 4 DATUMS -T-, -U-, AND -Z- TO BE DETERMINED AT DATUM PLANE -AB-.
- 5 DIMENSIONS S AND V TO BE DETERMINED AT SEATING PLANE -AC-.
- 6 DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION IS 0.250 (0.010) PER SIDE. DIMENSIONS A AND B DO INCLUDE MOLD MISMATCH AND ARE DETERMINED AT DATUM PLANE -AB-.
- 7 DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. DAMBAR PROTRUSION SHALL NOT CAUSE THE D DIMENSION TO EXCEED 0.520 (0.020).
- 8 MINIMUM SOLDER PLATE THICKNESS SHALL BE 0.0076 (0.0003).
- 9 EXACT SHAPE OF EACH CORNER MAY VARY FROM DEPICTION.

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MC100LVE164/D

