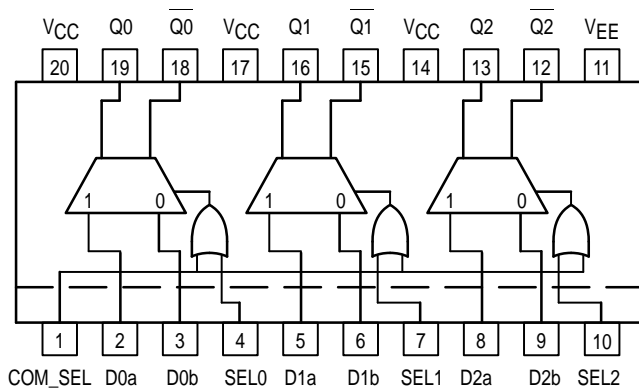


# Triple 2:1 Multiplexer

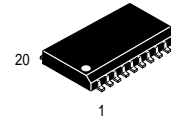
The MC100LVEL59 is a triple 2:1 multiplexer with differential outputs. The MC100EL59 is pin and functionally equivalent to the MC100LVEL59 but is specified for operation at the standard 100E ECL voltage supply. The output data of the muxes can be controlled individually via the select inputs or as a group via the common select input. The flexible selection scheme makes the device useful for both data path and random logic applications.

- Individual or Common Select Controls
- 20-Lead SOIC Packaging
- 500ps Typical Propagation Delays
- Supports Both Standard and Low Voltage 100K ECL
- Internal Input Pulldown Resistors
- >2000V ESD Protection

**Logic Diagram and Pinout: 20-Lead SOIC (Top View)**



## MC100LVEL59 MC100EL59



**DW SUFFIX**  
PLASTIC SOIC PACKAGE  
CASE 751D-04

### TRUTH TABLE

SEL	Data
H	a
L	b

### PIN NAMES

Pins	Function
D0a–D1a	Input Data a
D0b–D1b	Input Data b
SEL0–SEL1	Individual Select Input
COM_SEL	Common Select Input
<u>Q0–Q2</u>	True Outputs
Q0–Q2	Inverted Outputs



# MC100LVEL59 MC100EL59

## MC100LVEL59

### DC CHARACTERISTICS ( $V_{EE} = -3.0V$ to $-3.8V$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$I_{EE}$	Power Supply Current		27	32		27	32		27	32		27	32	mA
$I_{IH}$	Input HIGH Current			150			150			150			150	$\mu A$

## MC100LVEL59

### AC CHARACTERISTICS ( $V_{EE} = -3.0V$ to $-3.8V$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$t_{PLH}$	Propagation Delay DATA→Q/Q	340		690	340		690	340		690	340		690	ps
$t_{PHL}$	Delay SEL→Q/Q	340		690	340		690	340		690	340		690	ps
	COM_SEL→Q/Q	340		690	340		690	340		690	340		690	ps
$t_{sk(O)}$	Output–Output Skew Any $D_n$ , $D_m$ to Q			100			100			100			100	ps
$t_r$	Output Rise/Fall Times Q (20% – 80%)	200		540	200		540	200		540	200		540	ps
$t_f$														

## MC100EL59

### DC CHARACTERISTICS ( $V_{EE} = -4.2V$ to $-5.5V$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$I_{EE}$	Power Supply Current		27	32		27	32		27	32		27	32	mA
$I_{IH}$	Input HIGH Current			150			150			150			150	$\mu A$

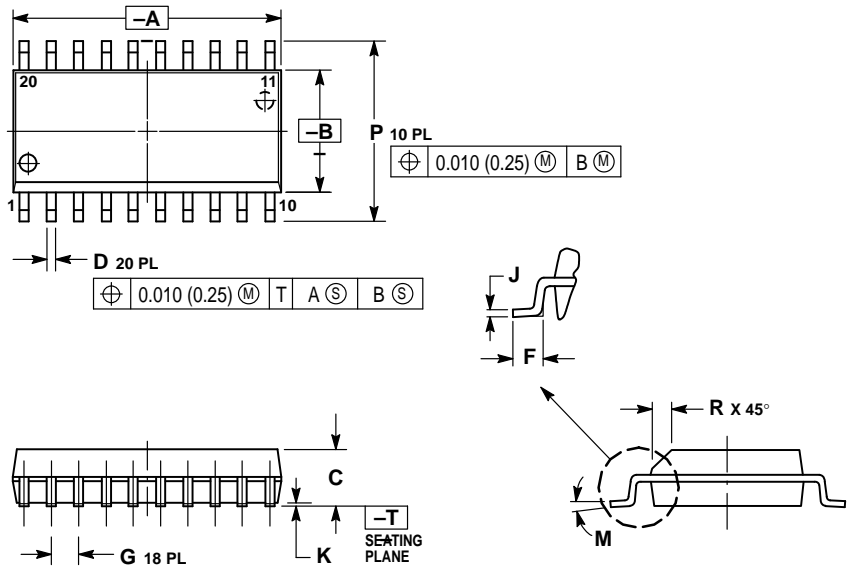
## MC100EL59

### AC CHARACTERISTICS ( $V_{EE} = -4.2V$ to $-5.5V$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$t_{PLH}$	Propagation Delay DATA→Q/Q	340		690	340		690	340		690	340		690	ps
$t_{PHL}$	Delay SEL→Q/Q	340		690	340		690	340		690	340		690	ps
	COM_SEL→Q/Q	340		690	340		690	340		690	340		690	ps
$t_{sk(O)}$	Output–Output Skew Any $D_n$ , $D_m$ to Q			100			100			100			100	ps
$t_r$	Output Rise/Fall Times Q (20% – 80%)	200		540	200		540	200		540	200		540	ps
$t_f$														

OUTLINE DIMENSIONS

DW SUFFIX  
PLASTIC SOIC PACKAGE  
CASE 751D-04  
ISSUE E



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETER.
  3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
  4. MAXIMUM MOLD PROTRUSION 0.150 (0.006) PER SIDE.
  5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.13 (0.005) TOTAL IN EXCESS OF D DIMENSION AT MAXIMUM MATERIAL CONDITION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	12.65	12.95	0.499	0.510
B	7.40	7.60	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
F	0.50	0.90	0.020	0.035
G	1.27 BSC		0.050 BSC	
J	0.25	0.32	0.010	0.012
K	0.10	0.25	0.004	0.009
M	0°	7°	0°	7°
P	10.05	10.55	0.395	0.415
R	0.25	0.75	0.010	0.029

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