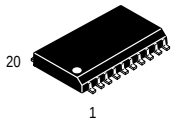
Triple 2:1 Multiplexer

MC100LVEL59
MC100EL59

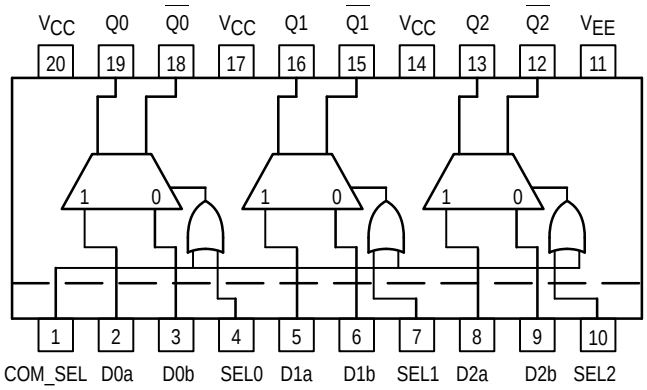
The MC100LVEL59 is a triple 2:1 multiplexer with differential outputs. The MC100EL59 is pin and functionally equivalent to the MC100LVEL59 but is specified for operation at the standard 100E ECL voltage supply. The output data of the muxes can be controlled individually via the select inputs or as a group via the common select input. The flexibile 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



DW SUFFIX
PLASTIC SOIC PACKAGE
CASE 751D–04

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



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
Q0–Q2	True Outputs
Q0–Q2	Inverted Outputs

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MC100LVEL59
DC CHARACTERISTICS (V_{EE} = –3.0V to –3.8V; V_{CC} = GND)

		–40°C			0°C			25°C			85°C			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
I_{EE}	Power Supply Current		27	32		27	32		27	32		27	32	mA
I_{IH}	Input HIGH Current			150			150			150			150	µA

MC100LVEL59
AC CHARACTERISTICS (V_{EE} = –3.0V to –3.8V; V_{CC} = GND)

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

MC100EL59
DC CHARACTERISTICS (V_{EE} = –4.2V to –5.5V; V_{CC} = GND)

		–40°C			0°C			25°C			85°C			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
I_{EE}	Power Supply Current		27	32		27	32		27	32		27	32	mA
I_{IH}	Input HIGH Current			150			150			150			150	µA

MC100EL59
AC CHARACTERISTICS (V_{EE} = –4.2V to –5.5V; V_{CC} = GND)

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

OUTLINE DIMENSIONS

DW SUFFIX
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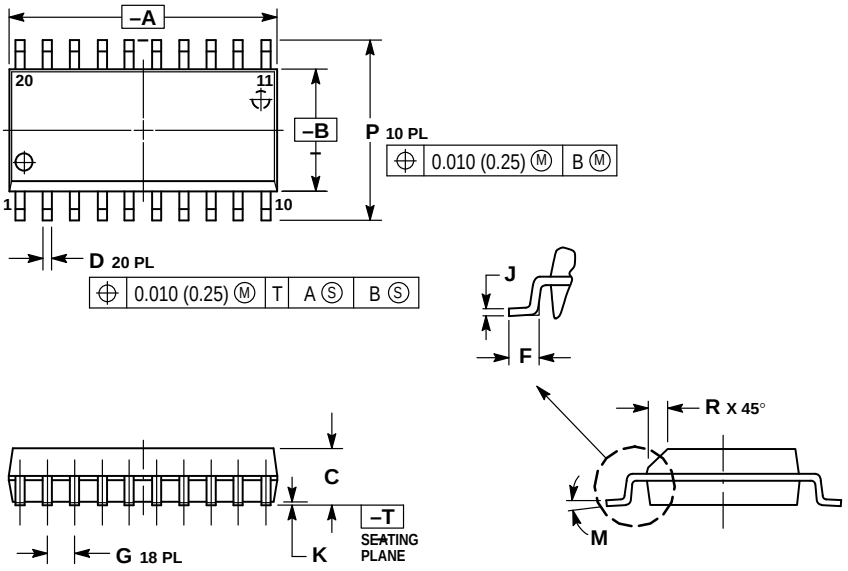
ISSUE E



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.

	MILLIMETERS		INCHES	
DIM	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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