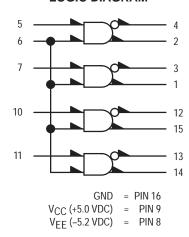
Quad TTL to ECL Translator with ECL Strobe

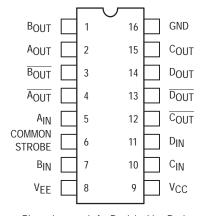
The MC10H424 is a Quad TTL-to-ECL translator with an ECL strobe. Power supply requirements are ground, +5.0 volts, and -5.2 volts.

- Propagation Delay, 1.5 ns Typical
- Improved Noise Margin 150 mV (Over Operating Voltage and Temperature Range)
- Voltage Compensated
- MECL 10K Compatible

LOGIC DIAGRAM



DIP PIN ASSIGNMENT



Pin assignment is for Dual–in–Line Package.
For PLCC pin assignment, see the Pin Conversion Tables on page 18 of the ON Semiconductor MECL Data Book (DL122/D).



ON Semiconductor

http://onsemi.com

MARKING DIAGRAMS



CDIP-16 L SUFFIX CASE 620 MC10H424L AWLYYWW



PDIP-16 P SUFFIX CASE 648





PLCC-20 FN SUFFIX CASE 775



A = Assembly Location

WL = Wafer Lot YY = Year

WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
MC10H424L	CDIP-16	25 Units/Rail
MC10H424P	PDIP-16	25 Units/Rail
MC10H424FN	PLCC-20	46 Units/Rail

MAXIMUM RATINGS

Symbol	Characteristic	Rating	Unit
VEE	Power Supply (V _{CC} = 5.0 V)	-8.0 to 0	Vdc
Vcc	Power Supply (V _{EE} = – 5.2 V)	0 to +7.0	Vdc
VI	Input Voltage (ECL)	0 to V _{EE}	Vdc
VI	Input Voltage (TTL)	0 to V _{CC}	Vdc
l _{out}	Output Current - Continuous - Surge	50 100	mA
TA	Operating Temperature Range	0 to +75	°C
T _{stg}	Storage Temperature Range – Plastic – Ceramic	−55 to +150 −55 to +165	°C

ELECTRICAL CHARACTERISTICS ($V_{EE} = -5.2 \text{ V} \pm 5\%$, $V_{CC} = 5.0 \text{ V} \pm 5.0\%$)

		0 °		25°		75°		
Symbol	Characteristic	Min	Max	Min	Max	Min	Max	Unit
ΙE	Negative Power Supply Drain Current	_	72	_	66	_	72	mAdc
ICCH	Positive Power Supply	_	16	_	16	_	18	mAdc
ICCL	Drain Current	_	25	_	25	_	25	mAdc
I _R	Reverse Current Pin 5,7,10,11	_	50	-	50	-	50	μAdc
ΙF	Forward Current Pin 5,7,10,11	_	-3.2	-	-3.2	-	-3.2	mAdc
linH	Input HIGH Current Pin 6	_	450	_	310	_	310	μAdc
l _{inL}	Input LOW Current Pin 6	0.5	_	0.5	_	0.3	_	μAdc
V _{(BR)in}	Input Breakdown Voltage	5.5	-	5.5	_	5.5	_	Vdc
V _I	Input Clamp Voltage	_	-1.5	_	-1.5	_	-1.5	Vdc
Voн	High Output Voltage	-1.02	-0.84	-0.98	-0.81	-0.92	-0.735	Vdc
VOL	Low Output Voltage	-1.95	-1.63	-1.95	-1.63	-1.95	-1.60	Vdc
VIH	High Input Voltage Pin 5,7,10,11	2.0	_	2.0	_	+2.0	-	Vdc
VIL	Low Input Voltage Pin 5,7,10,11	_	0.8	-	0.8	-	0.8	Vdc
VIH	High Input Voltage Pin 6	-1.17	-0.84	-1.13	-0.81	-1.07	-0.735	Vdc
V _{IL}	Low Input Voltage Pin 6	-1.95	-1.48	-1.95	-1.48	-1.95	-1.45	Vdc

AC PARAMETERS

Propaga- tion Delay Data Strobe	^t pd	0.5 0.5	2.2 2.2	0.5 0.5	2.3 2.3	0.5 0.5	2.4 2.4	ns
Rise Time	t _r	0.5	2.0	0.5	2.0	0.5	2.2	ns
Fall Time	t _f	0.5	2.0	0.5	2.0	0.5	2.2	ns

NOTE:

Each MECL 10H series circuit has been designed to meet the dc specifications shown in the test table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 lfpm is maintained. Outputs are terminated through a 50-ohm resistor to -2.1 volts.

APPLICATIONS INFORMATION

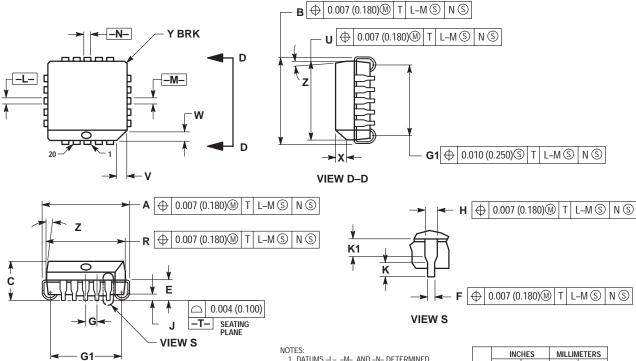
The MC10H424 has TTL-compatible inputs, an ECL strobe and MECL complementary open-emitter outputs that allow use as an inverting/non-inverting translator or as a differential line driver. When the common strobe input is at the low-logic level, it forces all true outputs to a MECL low-logic state and all inverting outputs to a MECL high-logic state.

An advantage of this device is that TTL-level information can be transmitted differentially, via balanced twisted pair lines, to MECL equipment, where the signal can be received by the MC10H115 or MC10H116 differential line receivers.

PACKAGE DIMENSIONS

PLCC-20 **FN SUFFIX**

PLASTIC PLCC PACKAGE CASE 775-02 **ISSUE C**



NOTES:

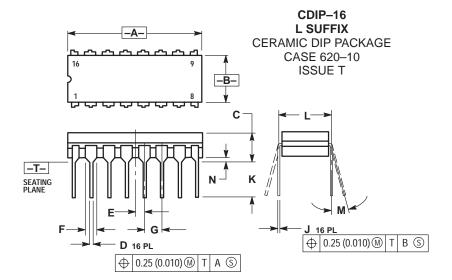
⊕ 0.010 (0.250)⑤ T L-M ⑤ N ⑤

- DATUMS -L-, -M-, AND -N- DETERMINED
 WHERE TOP OF LEAD SHOULDER EXITS PLASTIC WILLY LOVE LEAD STOUDER EXTRA FRAST BODY AT MOLD PARTING LINE.

 2. DIMENSION G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.

 3. DIMENSIONS R AND U DO NOT INCLUDE MOLD
- FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
 4. DIMENSIONING AND TOLERANCING PER ANSI
- Y14.5M, 1982. 5. CONTROLLING DIMENSION: INCH.
- 6. THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
- DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

	INC	HES	MILLIN	IETERS
DIM	MIN	MAX	MIN	MAX
Α	0.385	0.395	9.78	10.03
В	0.385	0.395	9.78	10.03
С	0.165	0.180	4.20	4.57
Е	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050	BSC	1.27	BSC
Н	0.026	0.032	0.66	0.81
J	0.020		0.51	
K	0.025		0.64	
R	0.350	0.356	8.89	9.04
U	0.350	0.356	8.89	9.04
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
Χ	0.042	0.056	1.07	1.42
Υ		0.020		0.50
Z	2°	10 °	2 °	10 °
G1	0.310	0.330	7.88	8.38
K1	0.040		1.02	

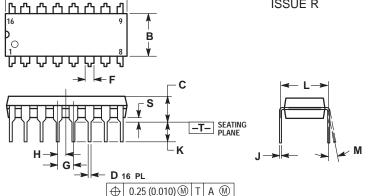


NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
 DIMENSION L TO CENTER OF LEAD WHEN
- FORMED PARALLEL.
 DIMENSION F MAY NARROW TO 0.76 (0.030) WHERE THE LEAD ENTERS THE CERAMIC

	INC	HES	MILLIN	IETERS	
DIM	MIN MAX		MIN	MAX	
Α	0.750	0.785	19.05	19.93	
В	0.240	0.295	6.10	7.49	
С		0.200		5.08	
D	0.015	0.020	0.39	0.50	
E	0.050 BSC		1.27 BSC		
F	0.055	0.065	1.40	1.65	
G	0.100	BSC	2.54 BSC		
Н	0.008	0.015	0.21	0.38	
K	0.125	0.170	3.18	4.31	
L	0.300 BSC		7.62	BSC	
M	0°	15°	0 °	15°	
N	0.020	0.040	0.51	1.01	





NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI
- Y14.5M, 1982. CONTROLLING DIMENSION: INCH.
- DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
- DIMENSION B DOES NOT INCLUDE MOLD FLASH.
- ROUNDED CORNERS OPTIONAL

	INC	HES	MILLIN	IETERS	
DIM	MIN MAX		MIN	MAX	
Α	0.740	0.770	18.80	19.55	
В	0.250	0.270	6.35	6.85	
С	0.145	0.175	3.69	4.44	
D	0.015	0.021	0.39	0.53	
F	0.040	0.70	1.02	1.77	
G	0.100	BSC	2.54 BSC		
Н	0.050	BSC	1.27 BSC		
J	0.008	0.015	0.21	0.38	
K	0.110	0.130	2.80	3.30	
L	0.295	0.305	7.50	7.74	
M	0°	10°	0 °	10 °	
S	0.020	0.040	0.51	1.01	

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