

9-Bit ECL/TTL Translator

The MC10H/100H601 is a 9-bit, dual supply ECL to TTL translator. Devices in the Motorola 9-bit translator series utilize the 28-lead PLCC for optimal power pinning, signal flow-through and electrical performance.

The devices feature a 48 mA TTL output stage, and AC performance is specified into both a 50 pF and 200 pF load capacitance. For the 3-state output disable, both ECL and TTL control inputs are provided, allowing maximum design flexibility.

The 10H version is compatible with MECL 10H ECL logic levels. The 100H version is compatible with 100K levels.

- 9-Bit Ideal for Byte-Parity Applications
- 3-State TTL Outputs
- Flow-Through Configuration
- Extra TTL and ECL Power Pins to Minimize Switching Noise
- ECL and TTL 3-State Control Inputs
- Dual Supply
- 4.8 ns Max Delay into 50 pF, 9.6 ns into 200 pF (all outputs switching)
- PNP TTL Inputs for Low Loading

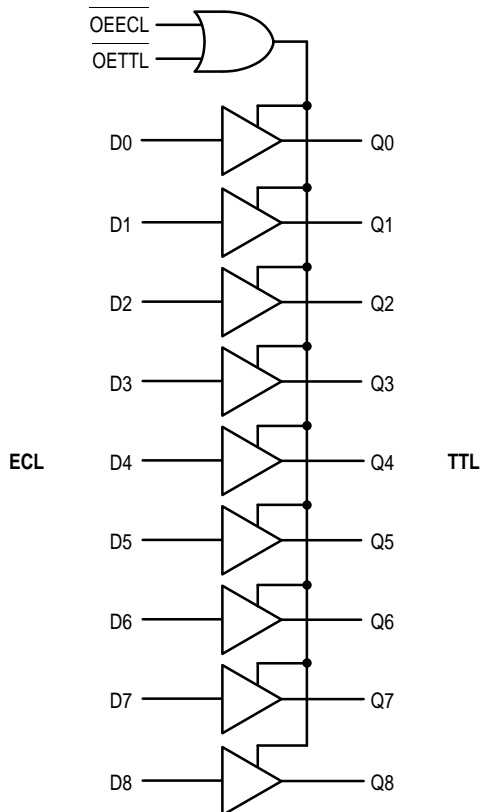
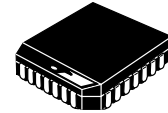


Figure 2. Logic Diagram

MC10H601 MC100H601



FN SUFFIX
28-LEAD PLASTIC PLCC PACKAGE
CASE 776-02

PIN NAMES

PIN	FUNCTION
GND	TTL Ground (0 V)
V _{CCE}	ECL V _{CC} (0 V)
V _{CCT}	TTL Supply (+5.0 V)
VEE	ECL Supply (-5.2/-4.5 V)
D0-D8	Data Inputs (ECL)
Q0-Q8	Data Outputs (TTL)
OEECL	3-State Control (ECL)
OETTL	3-State Control (TTL)

TRUTH TABLE

OEECL	OETTL	D	Q
L	L	L	L
L	L	H	H
H	X	X	Z
X	H	X	Z

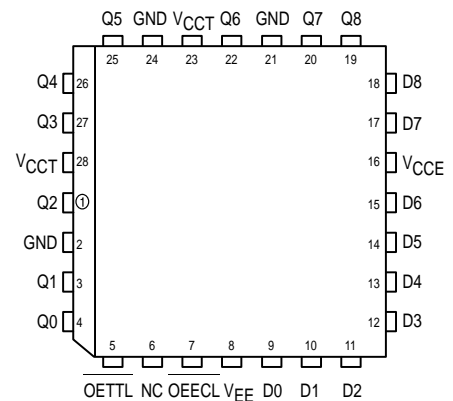


Figure 1. 28-Lead Pinout (Top View)



MC10H601 MC100H601

10H ECL DC CHARACTERISTICS: $V_{CC} = 5.0\text{ V} \pm 10\%$; $V_{EE} = -5.2\text{ V} \pm 5\%$

Symbol	Parameter	0°C		25°C		85°C		Unit	Condition
		Min	Max	Min	Max	Min	Max		
I_{EE}	Power Supply Current		-51		-51		-51	mA	
I_{IH} I_{IL}	Input HIGH Current Input LOW Current	0.5	225	0.5	145	0.5	145	μA μA	
V_{IH} V_{IL}	Input HIGH Voltage Input LOW Voltage	-1170 -1950	-840 -1480	-1130 -1950	-810 -1480	-1060 -1950	-720 -1445	mV	

100H ECL DC CHARACTERISTICS: $V_{CC} = 5.0\text{ V} \pm 10\%$; $V_{EE} = -4.2\text{ V}$ to -5.5 V

Symbol	Parameter	0°C		25°C		85°C		Unit	Condition
		Min	Max	Min	Max	Min	Max		
I_{EE}	Power Supply Current		-51		-51		-53	mA	
I_{IH} I_{IL}	Input HIGH Current Input LOW Current	0.5	225	0.5	145	0.5	145	μA μA	
V_{IH} V_{IL}	Input HIGH Voltage Input LOW Voltage	-1165 -1810	-880 -1475	-1165 -1810	-880 -1475	-1165 -1810	-880 -1475	mV	

TTL DC CHARACTERISTICS: $V_{CC} = 5.0\text{ V} \pm 10\%$; $V_{EE} = -5.2\text{ V} \pm 5\%$ (10H version);
 $V_{EE} = -4.2\text{ V}$ to -5.5 V (100H version)

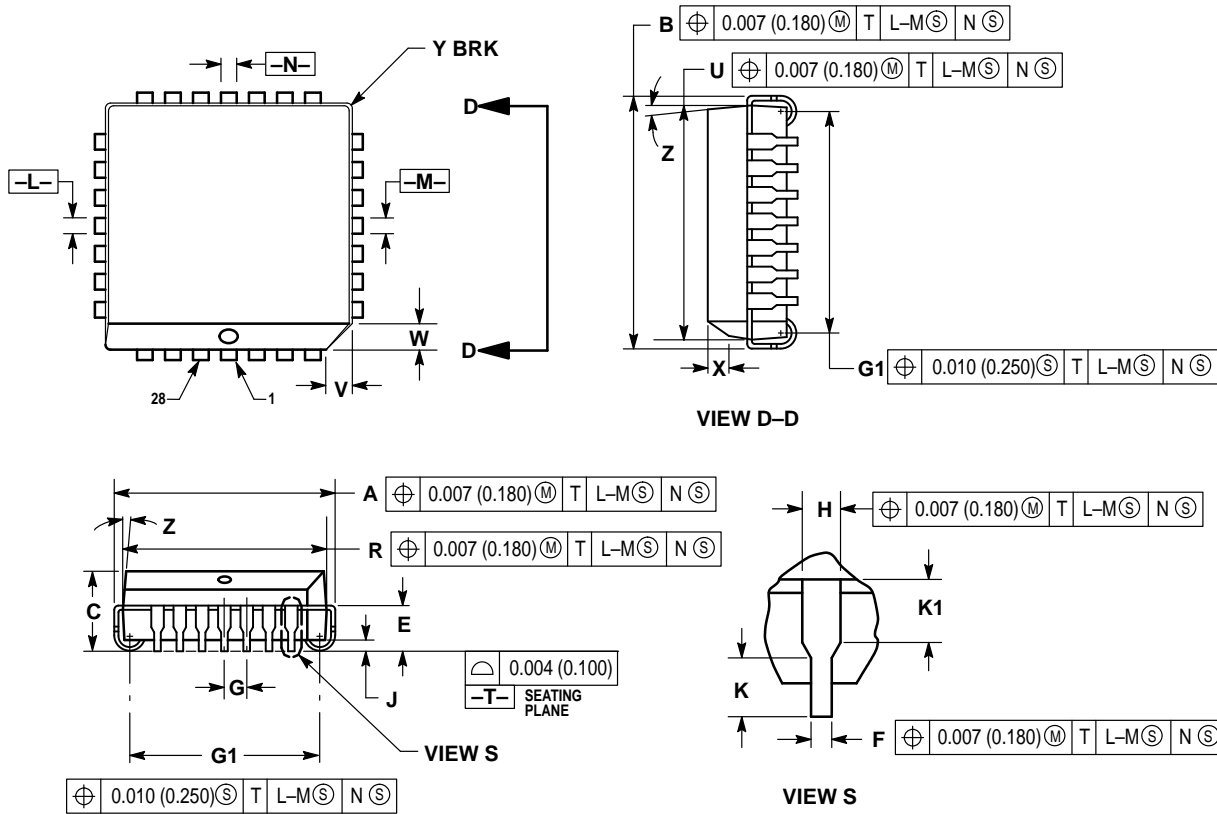
Symbol	Parameter	0°C		25°C		85°C		Unit	Condition
		Min	Max	Min	Max	Min	Max		
I_{CCH}	Power Supply Current		110		110		110	mA	
I_{CCL}			110		110		110		
I_{CCZ}			105		105		105		
I_{IH}	Input HIGH Current		20 100		20 100		20 100	μA	$V_{IN} = 2.7\text{ V}$ $V_{IN} = 7.0\text{ V}$
I_{IL}	Input LOW Current		-0.6		-0.6		-0.6	mA	$V_{IN} = 0.5\text{ V}$
I_{OS}	Output Short Circuit Current	-100	-225	-100	-225	-100	-225	mA	$V_{OUT} = 0\text{ V}$
I_{OZH} I_{OZL}	Output Disable Current HIGH Output Disable Current LOW		50 -50		50 -50		50 -50	μA	$V_{OUT} = 2.7\text{ V}$ $V_{OUT} = 0.5\text{ V}$
V_{IHT} V_{ILT}	Input HIGH Voltage Input LOW Voltage	2.0	0.8	2.0	0.8	2.0	0.8	V	
V_{OHT}	Output HIGH Voltage	2.5 2.0		2.5 2.0		2.5 2.0		V	$I_{OH} = -3.0\text{ mA}$ $I_{OH} = -15\text{ mA}$
V_{OLT}	Output LOW Voltage		0.55		0.55		0.55	V	$I_{OL} = 48\text{ mA}$
V_{IK}	Input Clamp Voltage		-1.2		-1.2		-1.2	V	$I_{IN} = -18\text{ mA}$

AC CHARACTERISTICS: $V_{CC} = 5.0\text{ V} \pm 10\%$; $V_{EE} = -5.2\text{ V} \pm 5\%$ (10H version);
 $V_{EE} = -4.2\text{ V}$ to -5.5 V (100H version)

Symbol	Parameter	0°C		25°C		85°C		Unit	Condition
		Min	Max	Min	Max	Min	Max		
t_{PLH} t_{PHL}	Propagation Delay to Output	1.7 3.4	4.8 9.6	1.7 3.4	4.8 9.6	1.7 3.4	4.8 9.6	ns	$C_L = 50\text{ pF}$ $C_L = 200\text{ pF}$
t_{PLZ} t_{PHZ}		Output Disable Time	3.7 5.4	6.5 13	3.7 5.4	6.5 13	3.7 5.4	6.5 13	ns
t_{PLZ} t_{PHZ}	Output Enable Time		4.3 7.0	7.5 15	4.3 7.0	7.5 15	4.3 7.0	7.5 15	ns
t_{PZL} t_{PZH}		Output Enable Time	3.5 5.0	6.0 12	3.5 5.0	6.0 12	3.5 5.0	6.0 12	ns
t_{PZL} t_{PZH}	Output Enable Time		4.2 6.0	7.0 14	4.2 6.0	7.0 14	4.2 6.0	7.0 14	ns
t_R t_F		Output Rise/Fall Time 1.0 V–2.0 V		1.2 3.0		1.2 3.0		1.2 3.0	ns

OUTLINE DIMENSIONS


FN SUFFIX
 PLASTIC PLCC PACKAGE
 CASE 776-02
 ISSUE D



NOTES:

- DATUMS -L-, -M-, AND -N- DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
- DIMENSION G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
- DIMENSIONS R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
- 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).

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.485	0.495	12.32	12.57
B	0.485	0.495	12.32	12.57
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050 BSC		1.27 BSC	
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.450	0.456	11.43	11.58
U	0.450	0.456	11.43	11.58
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2° - 10°		2° - 10°	
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Mfax is a trademark of Motorola, Inc.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 1-303-675-2140 or 1-800-441-2447

JAPAN: Nippon Motorola Ltd.: SPD, Strategic Planning Office, 4-32-1,
Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan. 81-3-5487-8488

Customer Focus Center: 1-800-521-6274

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 1-602-244-6609
Motorola Fax Back System – US & Canada ONLY 1-800-774-1848
– <http://sps.motorola.com/mfax/>

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

HOME PAGE: <http://motorola.com/sps/>



Copyright © Each Manufacturing Company.

All Datasheets cannot be modified without permission.

This datasheet has been download from :

www.AllDataSheet.com

100% Free DataSheet Search Site.

Free Download.

No Register.

Fast Search System.

www.AllDataSheet.com