9-BIT TTL-TO-ECL WITH TTL, ECL ENABLE

SY10H600
SY100H600

FEATURES

- **9-bit ideal for byte-parity applications**
- **Flow-through configuration**
- **Extra TTL and ECL power/ground pins to minimize switching noise**
- **ECL and TTL enable inputs**
- **Dual supply**
- **3.5ns max. D to Q**
- **PNP TTL inputs for low loading**
- **Choice of ECL compatibility: MECL 10KH (10Hxxx) or 100K (100Hxxx)**
- **Fully compatible with MC10H/100H600**
- **Available in 28-pin PLCC package**

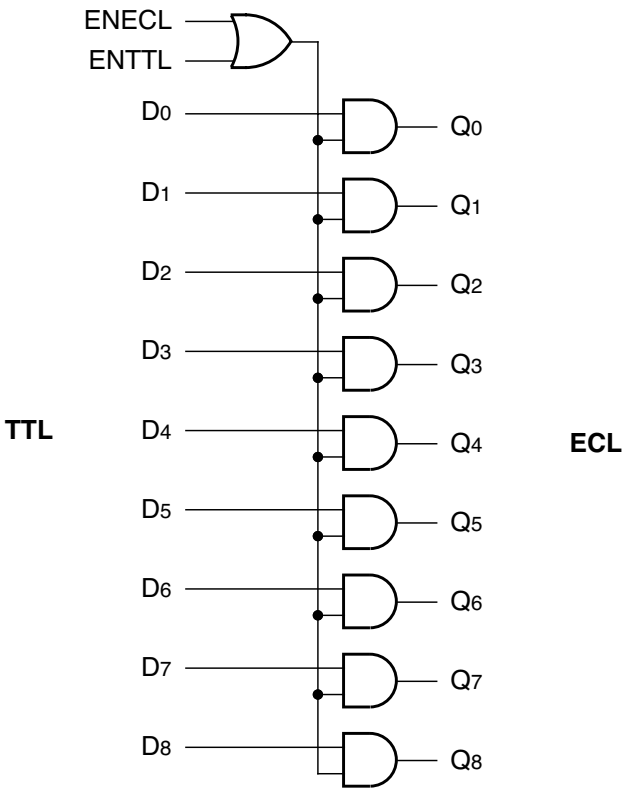
DESCRIPTION

The SY10/100H600 are 9-bit, dual supply TTL-to-ECL translators. Devices in the Micrel 9-bit translator series utilize the 28-lead PLCC for optimal power pinning, signal flow-through and electrical performance.

The H600 features both ECL and TTL logic enable controls for maximum flexibility.

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

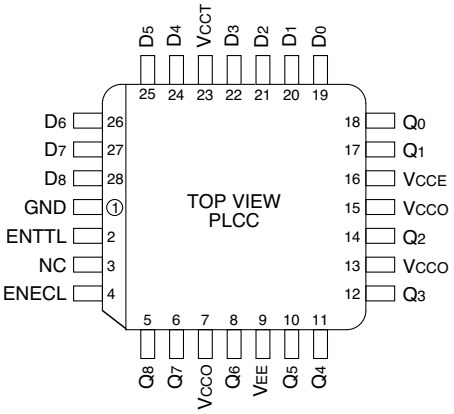
BLOCK DIAGRAM



PIN NAMES

Pin	Function
GND	TTL Ground (0V)
V_{CCE}	ECL V_{CC} (0V)
V_{CCO}	ECL V_{CC} (0V) — Outputs
V_{CCT}	TTL Supply (+5.0V)
V_{EE}	ECL Supply (–5.2/–4.5V)
D_0–D_8	Data Inputs (TTL)
Q_0–Q_8	Data Outputs (ECL)
ENECL	Enable Control (ECL)
ENTTL	Enable Control (TTL)

PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information[1]

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10H600JC	J28-1	Commercial	SY10H600JC	Sn-Pb
SY10H600JCTR[2]	J28-1	Commercial	SY10H600JC	Sn-Pb
SY100H600JC	J28-1	Commercial	SY100H600JC	Sn-Pb
SY100H600JCTR[2]	J28-1	Commercial	SY100H600JC	Sn-Pb
SY10H600JZ[3]	J28-1	Commercial	SY10H600JZ with Pb-Free bar-line indicator	Matte-Sn
SY10H600JZTR[2, 3]	J28-1	Commercial	SY10H600JZ with Pb-Free bar-line indicator	Matte-Sn
SY100H600JZ[3]	J28-1	Commercial	SY100H600JZ with Pb-Free bar-line indicator	Matte-Sn
SY100H600JZTR[2, 3]	J28-1	Commercial	SY100H600JZ with Pb-Free bar-line indicator	Matte-Sn

Notes:

1. Contact factory for die availability. Dice are guaranteed at $T_A = 25°C$, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

TRUTH TABLE

ENECL	ENTTL	D	Q
H	X	H	H
H	X	L	L
X	H	H	H
X	H	L	L
L	L	X	L

DC ELECTRICAL CHARACTERISTICS

V_{CCT} = 5.0V ± 10%; V_{EE} = –4.75V to –5.5V (10H Version); V_{EE} = –4.2V to –5.5V (100H Version)

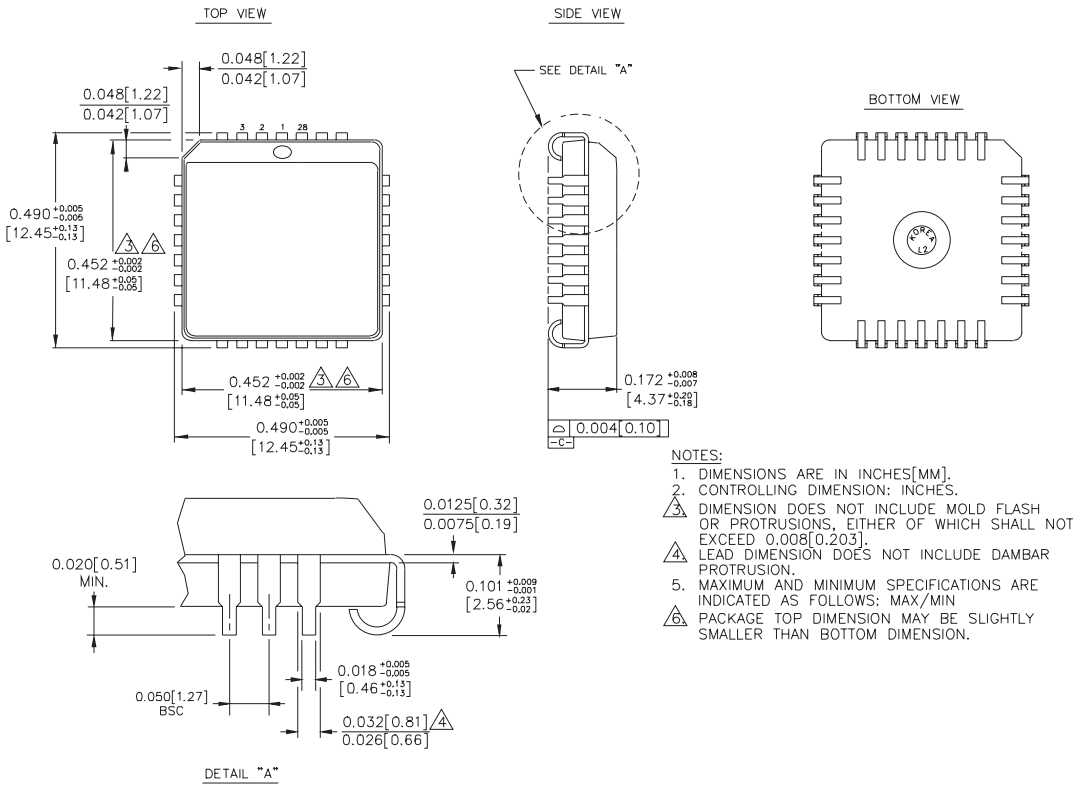
Symbol	Parameter	T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
I_{EE}	Power Supply Current, ECL 10H	—	125	—	125	—	125	mA	—
	100H	—	122	—	123	—	132		
I_{CCH}	Power Supply Current,	—	48	—	48	—	48	mA	—
I_{CCL}	TTL	—	50	—	50	—	50		

AC ELECTRICAL CHARACTERISTICS

V_{CCT} = 5.0V ± 10%; V_{EE} = –4.75V to –5.5V (10H Version); V_{EE} = –4.2V to –5.5V (100H Version)

Symbol	Parameter	T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t_{PD}	Propagation Delay to Output D	1.4	3.0	1.5	3.2	1.7	3.5	ns	50Ω to –2.0V
	ENECL/ENTTL	1.8	3.7	1.9	3.9	2.0	4.1		
t_r t_f	Output Rise/Fall Time 20% to 80%, 80% to 20%	0.5	1.5	0.5	1.5	0.5	1.5	ns	50Ω to –2.0V

28-PIN PLCC (J28-1)



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