

FEATURES

- Differential 50Ω ECL outputs
- Choice between differential PECL or TTL clock input
- Single +5V power supply
- VBB output for single-ended use
- Multiple power and ground pins to minimize noise
- Specified within-device skew
- Fully compatible with Motorola MC10H/100H606
- Available in 28-pin PLCC package

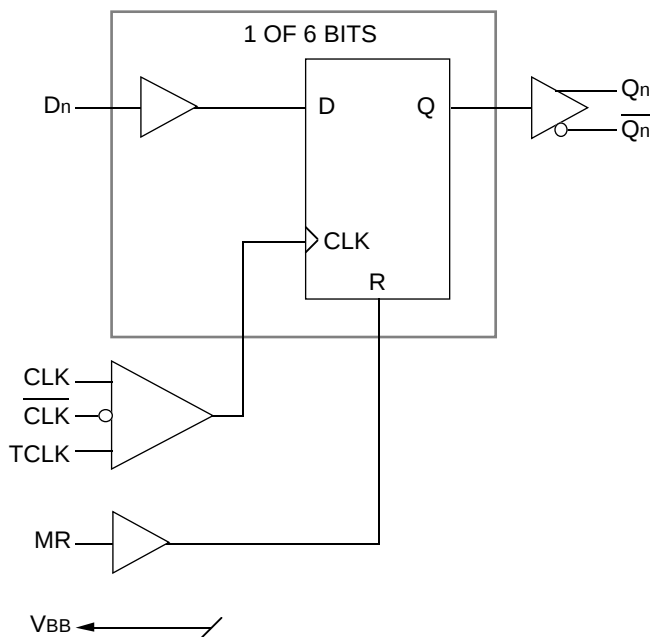
DESCRIPTION

The SY10/100H606 are 6-bit, registered, single supply TTL-to-PECL translators. The devices feature differential PECL outputs as well as a choice between either a differential PECL clock input or a TTL clock input. The asynchronous master reset control is a PECL level input.

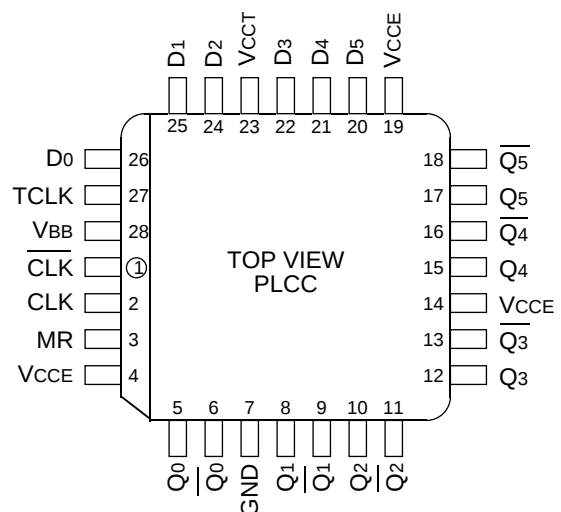
With its differential ECL outputs and TTL inputs, the H606 device is ideally suited for the transmit function of a HPPI bus-type board-to-board interface application. The on-chip registers simplify the task of synchronizing the data between the two boards.

The device is available in either ECL standard: the 10H device is compatible with 10K logic levels, while the 100H device is compatible with 100K logic levels.

BLOCK DIAGRAM



PIN CONFIGURATION



PIN NAMES

Pin	Function
D0 – D5	TTL Data Inputs
CLK, $\overline{\text{CLK}}$	Differential PECL Clock Inputs
TCLK	TTL Clock Input
MR	PECL Master Reset Input
Q0 – Q5	True PECL Outputs
$\overline{\text{Q}}_0 – \overline{\text{Q}}_5$	Inverted PECL Outputs
VCCCE	PECL Vcc (5.0V)
VCCCT	TTL Vcc (5.0V)
GND	TTL/PECL Ground
VBB	VBB Reference Output (PECL)

TRUTH TABLE

Dn	MR	TCLK/CLK	Qn + 1
L	L	Z	L
H	L	Z	H
X	H	X	L

Z = Low to High Transition.

DC ELECTRICAL CHARACTERISTICSV_{CCT} = V_{CCE} = 5.0V ±5%

Symbol	Parameter	T _A = 0°C			T _A = +25°C			T _A = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
I _{CCTL}	Supply Current	—	18	30	—	18	30	—	18	30	mA	Outputs LOW
I _{CCTH}	Supply Current	—	13	25	—	13	25	—	13	25	mA	Outputs HIGH
I _{GND}	Supply Current	—	75	90	—	75	90	—	75	95	mA	

TTL DC ELECTRICAL CHARACTERISTICSV_{CCT} = V_{CCE} = 5.0V ±5%

Symbol	Parameter	T _A = 0°C		T _A = +25°C		T _A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
V _{IH}	Input HIGH Voltage	2.0	—	2.0	—	2.0	—	V	
V _{IL}	Input LOW Voltage	—	0.8	—	0.8	—	0.8	V	
V _{IK}	Input Clamp Voltage	—	−1.2	—	−1.2	—	−1.2	V	I _{IN} = −18mA
I _{IH}	Input HIGH Current	—	20 100	—	20 100	—	20 100	μA	V _{IN} = 2.7V V _{IN} = 7.0V
I _{IL}	Input LOW Current	—	−0.6	—	−0.6	—	−0.6	mA	V _{IN} = 0.5V

10H PECL DC ELECTRICAL CHARACTERISTICS⁽¹⁾V_{CCT} = V_{CCE} = 5.0V ±5%

Symbol	Parameter	T _A = 0°C		T _A = +25°C		T _A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
I _{IH}	Input HIGH Current	—	225	—	145	—	145	μA	
I _{IL}	Input LOW Current	0.5	—	0.5	—	0.5	—	μA	
V _{IH}	Input HIGH Voltage	3830	4160	3870	4190	3930	4280	mV	V _{CCT} = 5.0V
V _{IL}	Input LOW Voltage	3050	3520	3050	3520	3050	3555	mV	V _{CCT} = 5.0V
V _{OH}	Output HIGH Voltage	3980	4160	4020	4190	4080	4270	mV	V _{CCT} = 5.0V
V _{OL}	Output LOW Voltage	3050	3370	3050	3370	3050	3400	mV	V _{CCT} = 5.0V
V _{BB}	Output Bias Voltage	3620	3730	3650	3750	3690	3810	mV	V _{CCT} = 5.0V

NOTE:1. PECL V_{IL}, V_{IH}, V_{OL}, V_{OH}, V_{BB} are given for V_{CCT} = V_{CCE} = 5.0V and will vary 1:1 with power supply.

100H PECL DC ELECTRICAL CHARACTERISTICS⁽¹⁾ $V_{CC} = V_{EE} = 5.0V \pm 5\%$

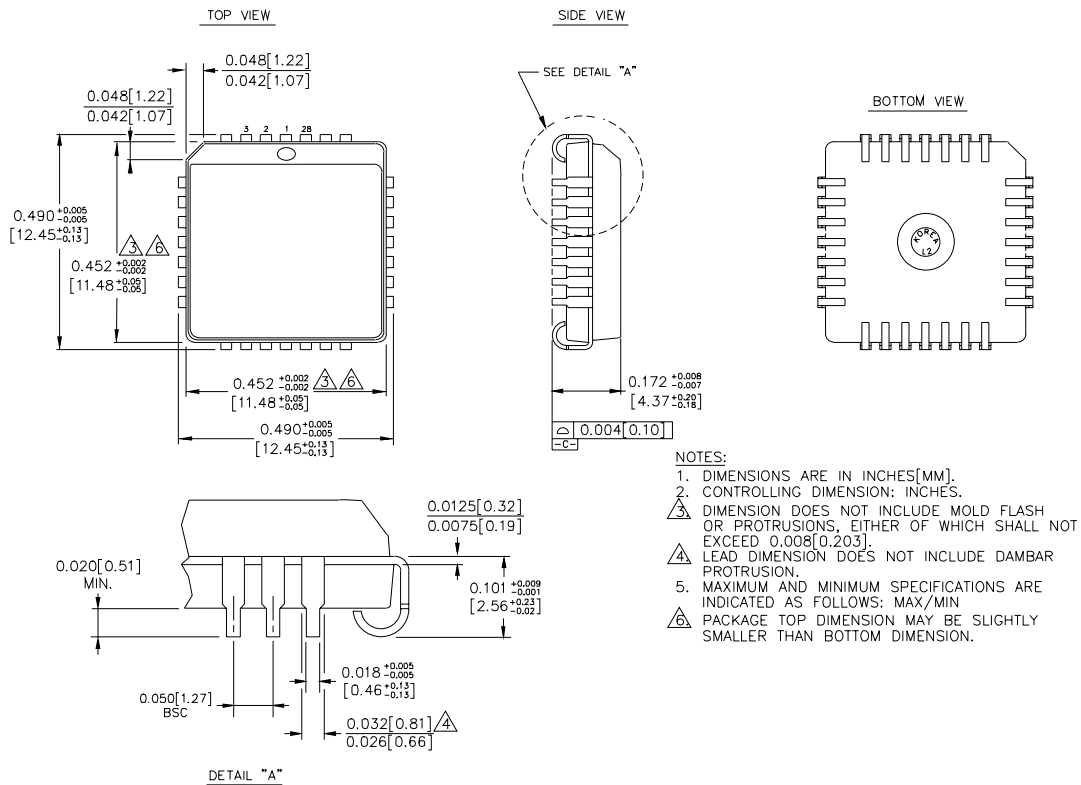
Symbol	Parameter	TA= 0°C		TA= +25°C		TA= + 85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
I _{IH}	Input HIGH Current	—	225	—	145	—	145	μA	
I _{IL}	Input LOW Current	0.5	—	0.5	—	0.5	—	μA	
V _{IH}	Input HIGH Voltage	3835	4120	3835	4120	3835	4120	mV	V _{CC} = 5.0V
V _{IL}	Input LOW Voltage	3190	3525	3190	3525	3190	3525	mV	V _{CC} = 5.0V
V _{OH}	Output HIGH Voltage	3975	4120	3975	4120	3975	4120	mV	V _{CC} = 5.0V
V _{OL}	Output LOW Voltage	3190	3380	3190	3380	3190	3380	mV	V _{CC} = 5.0V
V _{BB}	Output Bias Voltage	3620	3740	3620	3740	3620	3740	mV	V _{CC} = 5.0V

NOTE:1. PECL V_{IL}, V_{IH}, V_{OL}, V_{OH}, V_{BB} are given for V_{CC} = V_{CE} = 5.0V and will vary 1:1 with power supply.**AC ELECTRICAL CHARACTERISTICS** $V_{CC} = V_{CE} = 5.0V \pm 5\%$

Symbol	Parameter	TA= 0°C			TA= +25°C			TA= + 85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t _{PD}	Propagation Delay TCLK+ +	0.800	—	2.800	0.800	—	2.800	0.800	—	2.800	ns	
t _{PD}	Propagation Delay TCLK+ –	0.800	—	2.800	0.800	—	2.800	0.800	—	2.800	ns	
t _{PD}	Propagation Delay CLK+ +	0.800	—	2.800	0.800	—	2.800	0.800	—	2.800	ns	
t _{PD}	Propagation Delay CLK+ –	0.800	—	2.800	0.800	—	2.800	0.800	—	2.800	ns	
t _{PD}	Propagation Delay MR+ –	0.800	—	2.800	0.800	—	2.800	0.800	—	2.800	ns	
t _S	Set-up Time	1.5	0.5	—	1.5	0.5	—	1.5	0.5	—	ns	
t _H	Hold Time	0.5	—	1.5	0.5	—	1.5	0.5	—	ns		
t _{PW}	Minimum Pulse Width CLK	1.5	—	—	1.5	1.0	—	1.5	—	—	ns	
t _{PW}	Minimum Pulse Width MR	1.5	—	—	1.5	—	—	1.5	—	—	ns	
t _r t _f	Rise/Fall Time	—	—	2.0	—	1.0	2.0	—	—	2.0	ns	
t _{RES/REC}	Reset/Recovery Time	2.5	2.0	—	2.5	2.0	—	2.5	2.0	—	ns	

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10H606JC	J28-1	Commercial
SY10H606JCTR	J28-1	Commercial
SY100H606JC	J28-1	Commercial
SY100H606JCTR	J28-1	Commercial

28 LEAD PLCC (J28-1)

Rev. 03

MICREL-SYNERGY 3250 SCOTT BOULEVARD SANTA CLARA CA 95054 USATEL + 1 (408) 980-9191 FAX + 1 (408) 914-7878 WEB <http://www.micrel.com>

This information is believed to be accurate and reliable, however no responsibility is assumed by Micrel for its use nor for any infringement of patents or other rights of third parties resulting from its use. No license is granted by implication or otherwise under any patent or patent right of Micrel Inc.

© 2000 Micrel Incorporated

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