

2.5V / 3.3V D 2:1 M I 1:6 LVPECL C /D F B / T

Multi-Level Inputs w/ Internal Termination

NB7L585

Description

The NB7L585 is a differential 1:6 LVPECL Clock/Data distribution chip featuring a 2:1 Clock/Data input multiplexer with an input select pin. The INx/ $\overline{\text{INx}}$ inputs incorporate internal 50 Ω termination resistors and will accept LVPECL, CML, or LVDS logic levels.

The NB7L585 produces six identical output copies of Clock or Data operating up to 5 GHz or 8 Gb/s, respectively. As such, NB7L585 is ideal for SONET, GigE, Fiber Channel, Backplane and other Clock/Data distribution applications.

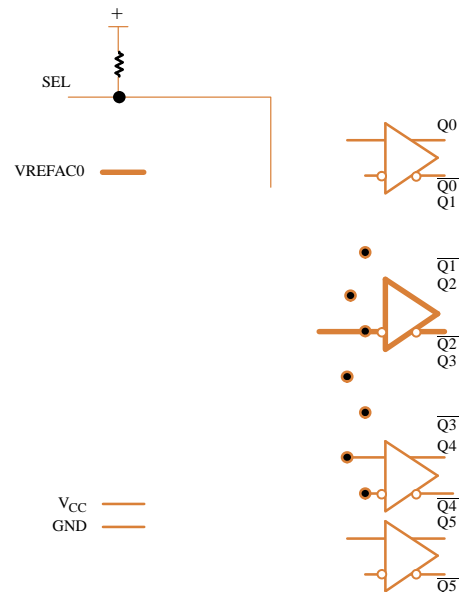
The NB7L585 is powered with either 2.5 V or 3.3 V supply and is offered in a low profile 5mm x 5mm 32-pin QFN package.

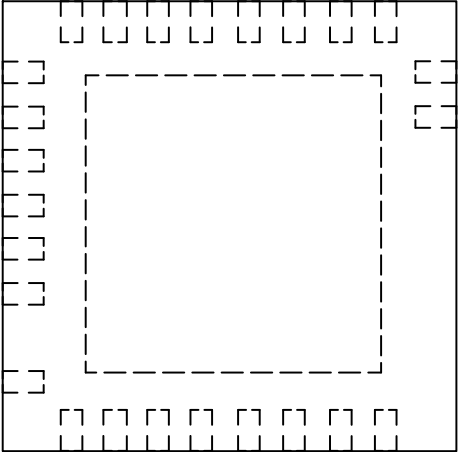
Application notes, models, and support documentation are available at www.onsemi.com.

The NB7L585 is a member of the GigaComm™ family of high performance clock products.

Features

- Maximum Input Data Rate > 8 Gb/s
- Data Dependent Jitter < 15 ps
- Maximum Input Clock Frequency > 5 GHz
- Random Clock Jitter < 0.8 ps RMS
- Low Skew 1:6 LVPECL Outputs, 20 ps max
- 2:1 Multi-Level Mux Inputs
- 175 ps Typical Propagation Delay
- 55 ps Typical Rise and Fall Times
- Differential LVPECL Outputs, 800 mV peak-to-peak, typical
- Operating Range: $V_{CC} = 2.375 \text{ V to } 3.6 \text{ V}$ with $GND = 0 \text{ V}$
- Internal 50 Ω Input Termination Resistors
- VREFAC Reference Output
- QFN-32 Package, 5mm x 5mm
- -40°C to +85°C Ambient Operating Temperature
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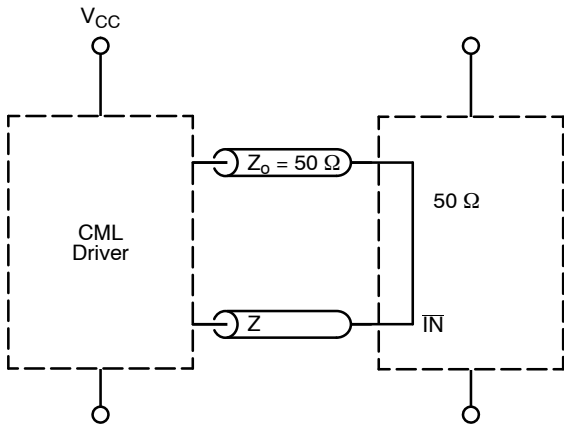
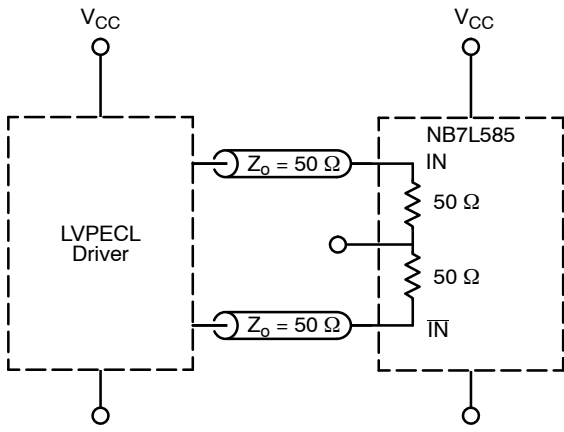
NB7L585

NB7L585

Table 6. AC CHARACTERISTICS $V_{CC} = 2.375\text{ V to }3.6\text{ V}$; $GND = 0\text{ V}$; $T_A = -40^\circ\text{C to }85^\circ\text{C}$ (Note 11)

Symbol	Characteristic	Min	Typ	Max	Unit	
f_{MAX}	Maximum Input Clock Frequency; $V_{OUTpp} \geq 400\text{ mV}$	5	7		GHz	
$f_{DATAMAX}$	Maximum Operating Data Rate (PRBS23)	8	10		Gbps	
f_{SEL}	Maximum Toggle Frequency, SEL	1.0	1.5		GHz	
V_{OUTpp}	Output Voltage Amplitude (@ $V_{INPPmin}$) (Note 12) (Figures 8 and 10)	$f_{in} \leq 4\text{ GHz}$ 400	800 650		mV	
t_{PLH} , t_{PHL}	Propagation Delay to Differential Outputs, @ 1 GHz, measured at differential crosspoint	IN/\overline{IN} to Q/\overline{Q} SEL to Q	125 75	175 200	250 300	ps
$t_{PLH\ TC}$	Propagation Delay Temperature Coefficient		50		Δf	

NB7L585

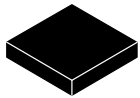


NB7L585

DEVICE ORDERING INFORMATION

Device	Package	Shipping†
NB7L585MNG	QFN-32 (Pb-Free)	74 Units / Tube
NB7L585MNR4G	QFN-32 (Pb-Free)	1000 / Tape & Reel
NB7L585MNTWG	QFN-32 (Pb-Free)	1000 / Tape & Reel

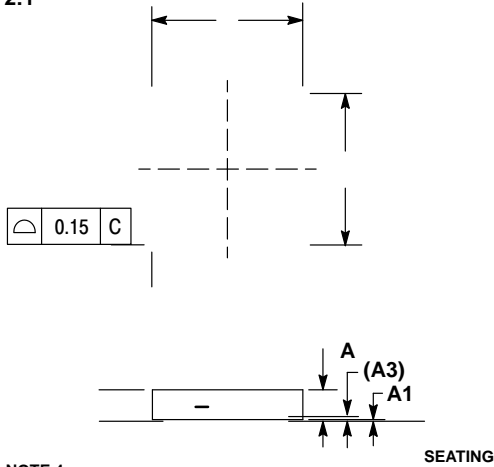
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](#).



QFN32 5x5, 0.5P
CASE 488AM
ISSUE A

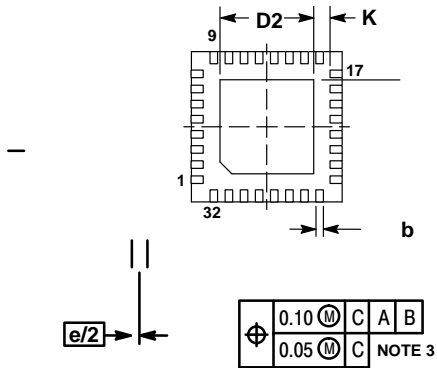
DATE 23 OCT 2013

SCALE 2:1



NOTE 4

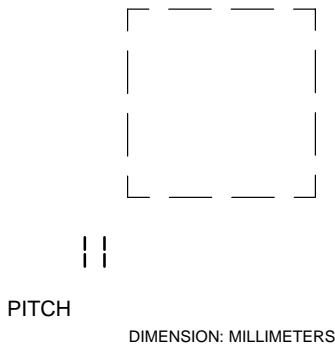
	MAX
A1	0.80 1.00
A3	0.20 REF 0.05
b	0.18 0.30
D	5.00 BSC
D2	2.95 3.25
E	5.00 BSC
E2	2.95 3.25
e	0.50 BSC
K	0.20
L	0.30 0.50
L1	0.15



XXXXXXXXXX
XXXXXXXXXX
AWLYYYWW■

■Free indicator, "G" or

RECOMMENDED



PITCH

DIMENSION: MILLIMETERS

DOCUMENT NUMBER:	98AON20032D	

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