



## Product Overview

### NB4N316M: AnyLevel™ Input to Open Collector CML Output Buffer/ Translator w/ Input Hysteresis

For complete documentation, see the data sheet

#### Product Description

The NB4N316M is a differential Clock or Data receiver and will accept AnyLevel input signals: LVPECL, CML, LVCMOS, LVTTTL, or LVDS. These signals will be translated to CML, operating up to 2.0 GHz or 2.5 Gb/s, respectively. As such, the NB4N316M is ideal for SONET, GigE, Fiber Channel, Backplane and other Clock or Data distribution applications. The CML outputs are 16 mA open collector which require a resistor load path to VTT termination voltage. The open collector CML outputs must be terminated to VTT at power up. The differential outputs produce Current Mode Logic (CML) compatible levels when the receiver is loaded with 50-ohm or 25-ohm loads connected to 1.8 V, 2.5 V or 3.3 V supplies. This simplifies device interface by eliminating a need for coupling capacitors. The NB4N316M features an input threshold of approximately 25mV, providing increased noise immunity and stability. The device is offered in a small 8-pin TSSOP package (MSOP-8 compatible).

#### Features

- Maximum Input Clock Frequency > 2.0 GHz
- Maximum Input Data Rate > 2.5 Gb/s
- Typically 1 ps of RMS Clock Jitter
- Typically 10 ps of Data Dependent Jitter
- 550 ps Typical Propagation Delay
- 150 ps Typical Rise and Fall Times
- Differential Open Collector CML Outputs

#### Applications

- Signal interface translation for Networking and ATE
- High Speed CLOCK Applications

#### Part Electrical Specifications

Product	Compliance	Status	Type	Channels	Input / Output Ratio	Input Level	Output Level	V <sub>CC</sub> Typ (V)	t <sub>jitter</sub> RMS Typ (ps)	t <sub>skew(o-o)</sub> Max (ps)	t <sub>pd</sub> Typ (ns)	t <sub>R</sub> & t <sub>F</sub> Max (ps)	f <sub>max</sub> Clock Typ (MHz)	f <sub>max</sub> Data Typ (Mbps)	Package Type
NB4N316MDTG	Pb-free Halide free	Active	Signal Driver	1	1:1	CML CMOS ECL HSTL LVDS TTL	CML	3.3	1	20	0.55	300	2000	2500	TSSOP-8
NB4N316MDTR2G	Pb-free Halide free	Active	Signal Driver	1	1:1	CML CMOS ECL HSTL LVDS TTL	CML	3.3	1	20	0.55	300	2000	2500	TSSOP-8

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com)

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