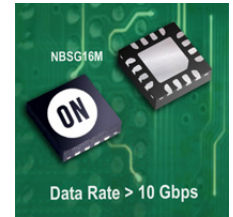


## Product Overview

### NBSG16M: Multilevel Input to CML Clock/Data Receiver/ Driver/Translator Buffer

For complete documentation, see the data sheet.



The NBSG16M is a differential current mode logic (CML) receiver/driver. The device is functionally equivalent to the EP16, LVEP16, or SG16 devices with CML output structure and lower EMI capabilities. Inputs incorporate internal 50  $\Omega$  termination resistors and accept NECL (Negative ECL), PECL (Positive ECL), LVTTTL, LVCMOS, CML, or LVDS. The CML output structure contains internal 50  $\Omega$  source termination resistor to VCC. The device generates 400 mV output amplitude with 50  $\Omega$  receiver resistor to VCC. The VBB pin is internally generated voltage supply available to this device only. For all single-ended input conditions, the unused complementary differential input is connected to VBB as a switching reference voltage. VBB may also rebias AC coupled inputs. When used, decouple VBB via a 0.01  $\mu$ F capacitor and limit current sourcing or sinking to 0.5 mA. When not used, VBB output should be left open.

## Features

- Maximum Input Clock Frequency > 10 GHz Typical
  - Maximum Input Data Rate > 10 Gb/s Typical
  - 120 ps Typical Propagation Delay
  - 35 ps Typical Rise and Fall Times
  - Positive CML Output with Operating Range: VCC = 2.375 V to 3.465 V with VEE = 0 V
  - Negative CML Output with RSNECL or NECL Inputs with Operating Range: VCC = 0 V with VEE = -2.375 V to -3.465 V
  - CML Output Level; 400 mV Peak-to-Peak Output with 50  $\Omega$  Receiver Resistor to VCC
  - 50  $\Omega$  Internal Input and Output Termination Resistors
  - Compatible with Existing 2.5 V/3.3 V LVEP, EP, LVEL and SG Devices
  - VBB Reference Voltage Output
- For more features, see the data sheet

## Applications

- Backplane buffering
- OC-3 through OC-192 clock or data distribution/driver
- Gigabit Ethernet clock or data driver
- Fibre Channel distribution/driver

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

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