

Product Overview

NB7L86M: 2.5 V / 3.3 V, 12 Gb/s Differential Clock / Data Smart Gate with CML Output and Internal Termination

For complete documentation, see the data sheet.

The NB7L86M is a multi-function differential Logic Gate, which can be configured as an AND/NAND, OR/NOR, XOR/XNOR, or 2:1MUX. This device is part of the GigaComm family of high-performance Silicon Germanium products. The NB7L86M is an ultra-low jitter multi-logic gate with a maximum data rate of 12 Gb/s and input clock frequency of 8 GHz suitable for Data Communication Systems, Telecom Systems, Fiber Channel, and GigE applications. The device is housed in a low profile 3x3 mm 16-pin QFN package. Differential inputs incorporate internal 50 Ω termination resistors and accept LVNECL (Negative ECL), LVPECL (Positive ECL), LVCMOS, LVTTTL, CML, or LVDS. The differential 16 mA CML output provides matching internal 50 Ω termination, and 400 mV output swing when externally terminated 50 Ω to VCC. Application notes, models, and support documentation are available on www.onsemi.com.

Features

- Maximum Input Clock Frequency up to 8 GHz
- Maximum Input Data Rate up to 12 Gb/s Typical
- 30 ps Typical Rise and Fall Times
- 90 ps Typical Propagation Delay
- 2 ps Typical Within Device Skew
- CML Output with Operating Range: VCC = 2.375 V to 3.465 V with VEE = 0 V
- CML Output with Operating Range: VCC = 2.375 V to 3.465 V with VEE = 0 V
- CML Output Level (400 mV Peak-to-Peak Output) Differential Output
- 50 Ω Internal Input and Output Termination Resistors
- Functionally Compatible with Existing 2.5 V/3.3 V LVEL, LVEP, EP and SG Devices

For more features, see the data sheet

Applications

- Data routing in Data Communication Systems, Telecom Systems, Fiber Channel, and GigE applications.
- Clock multiplexing for redundancy

Part Electrical Specifications

Product	Compliance	Status	Type	Channels	Input Level	Output Level	V _{CC} Typ (V)	f _{Toggle} Max (MHz)	t _{pd} Typ (ns)	t _{Jitter} Typ (ps)	t _r & t _f Max (ps)	Package Type
NB7L86MMNG	Pb-free Halide free	Active	SmartGate	1	ECL	CML	2.5	8000	0.09	0.2	60	QFN-16
					CML		3.3					
					TTL							
					LVDS							
					CMOS							
NB7L86MMNR2G	Pb-free Halide free	Active	SmartGate	1	CMOS	CML	2.5	8000	0.09	0.2	60	QFN-16
					ECL		3.3					
					CML							
					LVDS							
					TTL							

For more information please contact your local sales support at www.onsemi.com.

Created on: 9/18/2019