

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 2:1 MUX. 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: $V_{CC} = 2.375$ V to 3.465 V with $V_{EE} = 0$ V
 - CML Output with Operating Range: $V_{CC} = 2.375$ V to 3.465 V with $V_{EE} = 0$ 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.

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