

## Product Overview

### NBSG72A: 2 x 2 Crosspoint Switch, SiGe Differential, 2.5 V / 3.3 V, with Output Level Select

For complete documentation, see the data sheet.



The NBSG72A is a high-bandwidth fully differential 2 X 2 crosspoint switch with Output Level Select (OLS) capabilities. This is a part of the GigaComm family of high performance Silicon Germanium products. The device is housed in a low profile 3 X 3 mm 16-pin QFN package.

Differential inputs incorporate internal 50  $\Omega$  termination resistors and accept NECL (Negative ECL), PECL (Positive ECL), LVCMOS/LVTTL, CML, or LVDS. The OLS input is used to program the peak-to-peak output amplitude between 0 and 800 mV in five discrete steps. The SELECT inputs are single-ended and can be driven with either LVECL or LVCMOS/LVTTL input levels.

## Features

- Maximum Input Clock Frequency > 7 GHz Typical
- Maximum Input Data Rate > 7 Gb/s Typical
- 200 ps Typical Propagation Delay (OLS = FLOAT)
- 55/45 ps Typical Rise/Fall Times (OLS = FLOAT)
- Selectable Swing PECL Output with Operating Range:  $V_{CC} = 2.375$  V to 3.465 V with  $V_{EE} = 0$  V
- Selectable Swing NECL Output with NECL Inputs with Operating Range:  $V_{CC} = 0$  V with  $V_{EE} = -2.375$  V to  $-3.465$  V
- Selectable Output Levels (0 mV, 200 mV, 400 mV, 600 mV or 800 mV Peak-to-Peak Output)
- 50  $\Omega$  Internal Input Termination Resistors
- Single-ended LVECL or LVCMOS/LVTTL Select Inputs (SELA, SELB)
- Failure management system to automatically re-route data

For more features, see the data sheet

## Applications

- Interfacing between standard SDH equipment and DWDM equipment to select which lambda (wavelength) to be transmitted.
- Routing reference clocks to SERDES/Framers to support Metro Applications using MULTI-RATE devices
- Telecom/Datacom switching
- Serial digital video routing
- Fanout Buffering

## Part Electrical Specifications

Product	Compliance	Status	Input/Output Ratio	Channels	Input Level	Output Level	$V_{CC}$ Typ (V)	$f_{Max}$ Typ (MHz)	$t_{Jitter}$ Typ (ps)	$t_{skew(OO)}$ Max (ps)	$t_{pd}$ Typ (ns)	Package Type
NBSG72AMNG	Pb-free	Active	2:1	2	CML	ECL	2.5	7000	0.17	25	0.205	QFN-16
	Halide free				ECL							
					LVDS							
					CMOS							
NBSG72AMNR2G	Pb-free	Active	2:1	2	ECL	ECL	2.5	7000	0.17	25	0.205	QFN-16
	Halide free				LVDS							
					CML							
					CMOS							

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