

NB3H73113G

3.3 V / 2.5 V Programmable OmniClock Generator with I2C / SMBus Interface



Product Overview

For complete documentation, see the data sheet.

The NB3H73113G, which is a member of the OmniClock family, is a one-time programmable (OTP), low power PLL-based clock generator that supports any output frequency from 8 kHz to 200 MHz. The device accepts fundamental mode parallel resonant crystal or a single ended (LVCMOS/LVTTL) reference clock as input. It generates either three single ended (LVCMOS/LVTTL) outputs, or one single ended output and one differential (LVPECL/LVDS/HCSL/CML) output. The output signals can be modulated using the spread spectrum feature of the PLL (programmable spread spectrum type, deviation and rate) for applications demanding low electromagnetic interference (EMI). Individual output enable pins OE[2:0] are available to enable/disable the outputs. Individual output voltage pins VDDO[2:0] are available to independently set the output voltage of each output. The device supports SMBus / I2C interface with SCLK and SDATA signals. Using the standard protocol, data in the device registers can be modified to support different configurations. Using the PLL bypass mode, it is possible to get a copy of the input clock on any or all of the outputs. The device can be powered down using the Power Down pin (PD#). It is possible to program the internal input crystal load capacitance and the output drive current provided by the device. The device also has automatic gain control (crystal power limiting) circuitry which avoids the device overdriving the external crystal.

Features

- Member of the OmniClock Family of Programmable Clock Generators
 - Operating Power Supply: 3.3 V \pm 10%, 2.5 V \pm 10%
 - Supports SMBus / I2C Interface
 - I/O Standards - Inputs: LVCMOS/LVTTL, Fundamental Mode Crystal - Outputs: 1.8 V to 3.3 V LVCMOS/LVTTL - Outputs: LVPECL, LVDS, HCSL and CML
 - 3 Programmable Single Ended (LVCMOS/LVTTL) Outputs from 8 kHz to 200 MHz
 - 1 Programmable Differential Clock Output up to 200 MHz
 - Input Frequency Range - Crystal: 3 MHz to 50 MHz - Reference Clock: 3 MHz to 200 MHz
 - Configurable Spread Spectrum Frequency Modulation Parameters (Type, Deviation, Rate)
 - Individual Output Enable Pins
 - Independent Output Voltage Pins
- For more features, see the data sheet



Applications

- Consumer
- Industrial Equipment
- Computing and Peripherals
- Portable Equipment

End Products

- Smart Wearables
- Smart Phones
- Digital Cameras
- Camcorders
- Set Top Boxes

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Input Level	Output Level	V _s Typ (V)	f _{in} Typ (MHz)	f _{out} Typ (MHz)	t _{jitter} (Cy-Cy) Typ (ps)	t _{jitter} (Period) Typ (ps)	t _{jitter} (Φ) Typ (ps)	t _r & t _f Typ (ps)	t _r & t _f Max (ps)	T _A Min (°C)	T _A Max (°C)	Package Type
NB3H73113G00 MNR2G	2.9999	 	Active					0.008 to 200	100	100		1000	700	-40	85	QFN-16