

Features

- Differential spread spectrum oscillator
- Extremely low cycle-cycle jitter: 10ps (typ.)
- Wide frequency range
 - 1MHz to 333.33MHz
 - 30kHz ~ 63kHz modulation rate for down spread
 - 30kHz ~ 63kHz modulation rate for center spread
- Spread depth
 - Center: $\pm 0.05\% \sim \pm 1.5\%$
 - Down: $-0.1\% \sim -3\%$
- Low frequency stability (Spread = Off)
 - $\pm 20\text{ppm}$ (-40°C to 85°C)
- Operating voltage
 - 1.8V or 2.5V
- Operating temperature range
 - Industrial, -40°C to 85°C
- Small footprint 6-LGA package:
 - 3.2mm x 2.5mm

- Pb-free and RoHS compliant
- Robust startup with enhanced interference rejection

Benefits

- Support PC peripherals, networking, and consumer applications
- Provide wide range of spread percentage for EMI reduction
- Factory programmable for ultra-fast lead time
- No external crystal or load capacitors required
- Save over 50% board space

Applications

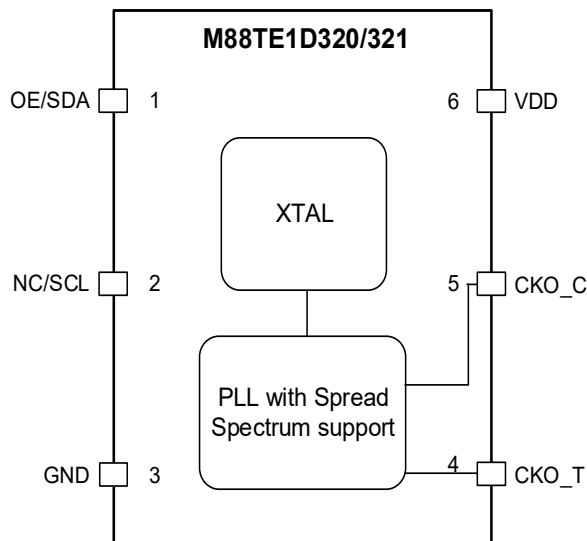
- Blade Server
- Router
- Networking and Computing
- Industrial Products

Ordering Information

Part Number	Description	Package
M88TE1D320	• Output enable/disable by Pin • 1x differential output (LP-HCSL/LVDS/LVCMOSD) or 2x single-ended LVCMOS • 1MHz ~ 333.33MHz output frequency, down spread & center spread support • 1.8V ~ 2.5V	6-LGA, 3.2mm x 2.5mm
M88TE1D321	• Output controlled by I²C Interface • 1x differential output (LP-HCSL/LVDS/LVCMOSD) or 2x single-ended LVCMOS • 1MHz ~ 333.33MHz output frequency, down spread & center spread support • 1.8V ~ 2.5V	

Block Diagram

Figure 1. Block Diagram



Pin Description

Table 1. Pin Description (M88TE1D320)

Pin No.	Pin Name	Type	Description
1	OE	Input	Output enable/disable
2	NC	-	Not connected
3	GND	Power	Power supply ground
4	CKO_T	Output	1 to 333.33 MHz programmable clock output. LP-HCSL/HCSL/LVDS/LVCMOS IO type support. Note: T means true side; C means complementary side.
5	CKO_C		
6	VDD	Power	Power supply, 1.8V/2.5V

Table 2. Pin Description (M88TE1D321)

Pin No.	Pin Name	Type	Description
1	SDA	Input/Output	I ² C Interface data
2	SCL	Input	I ² C Interface clock
3	GND	Power	Power supply ground
4	CKO_T	Output	1 to 333.33 MHz programmable clock output. LP-HCSL/HCSL/LVDS/LVCMOS IO type support. Note: T means true side; C means complementary side.
5	CKO_C		
6	VDD	Power	Power supply, 1.8V/2.5V