

# TCB004

## 20 GHz 1:4 Clock Buffer

### Features

- ◆ Differential Input and Output
- ◆ 100Ω Differential Input Impedance (50Ω at each port)
- ◆ Up to 20GHz Operation
- ◆ Output > 800mV Differential
- ◆ Minimum input 30mV Differential
- ◆ Independent Output Enable Control for Each Output
- ◆ Total Jitter < 1ps RMS
- ◆ Single Power Supply: 3.3V
- ◆ 4mm x 5.5mm QFN Package
- ◆ Power Dissipation of 650mW

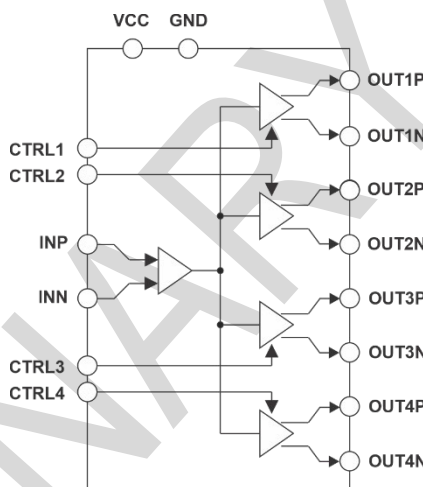



Figure 1 - Functional Block Diagram.

### Product Description

The TCB004 is a 1:4 differential to differential buffer with independent output enable for each output. It can work with small input signals down

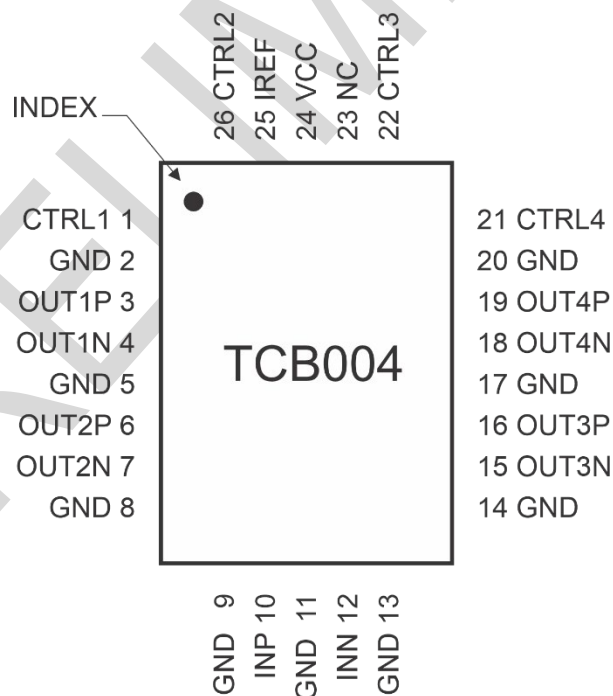
to 30mV differential and output an 800mV differential signal. The operation is rated up to 16GHz with low jitter.

### Ordering information

PART NUMBER	DESCRIPTION	<p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;">DEVICE SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD)</p> 
TCB004-QN	20GHz 1:4 Clock Buffer	
EVTCB004	Evaluation Board	

**Pin Description and Pin Out (20 I/O QFN Package)**

P/I/O	PIN	NUM.	NAME	FUNCTION
P	2,5,8,9,11,13,14,17,20, bottom pad	10	GND	Power Supply Ground
P	24	1	VCC	Positive Power Supply
I	10	1	INP	Input
I	12	1	INN	
O	3	1	OUT1P	Output1
O	4	1	OUT1N	
O	6	1	OUT2P	Output2
O	7	1	OUT2N	
O	16	1	OUT3P	Output3
O	15	1	OUT3N	
O	19	1	OUT4P	Output4
O	18	1	OUT4N	
I	1	1	CTRL1	Output1 Control (GND=OFF; VCC=ON)
I	26	1	CTRL2	Output2 Control (GND=OFF; VCC=ON)
I	22	1	CTRL3	Output3 Control (GND=OFF; VCC=ON)
I	21	1	CTRL4	Output4 Control (GND=OFF; VCC=ON)
I	25	1	IREF	*
R	23	1	NC	Reserved



**Figure 2 – TCB004 pinout (top view) 26 I/O QFN package.**

### Package Information -QN

The package is an organic laminate 26 IO QFN.

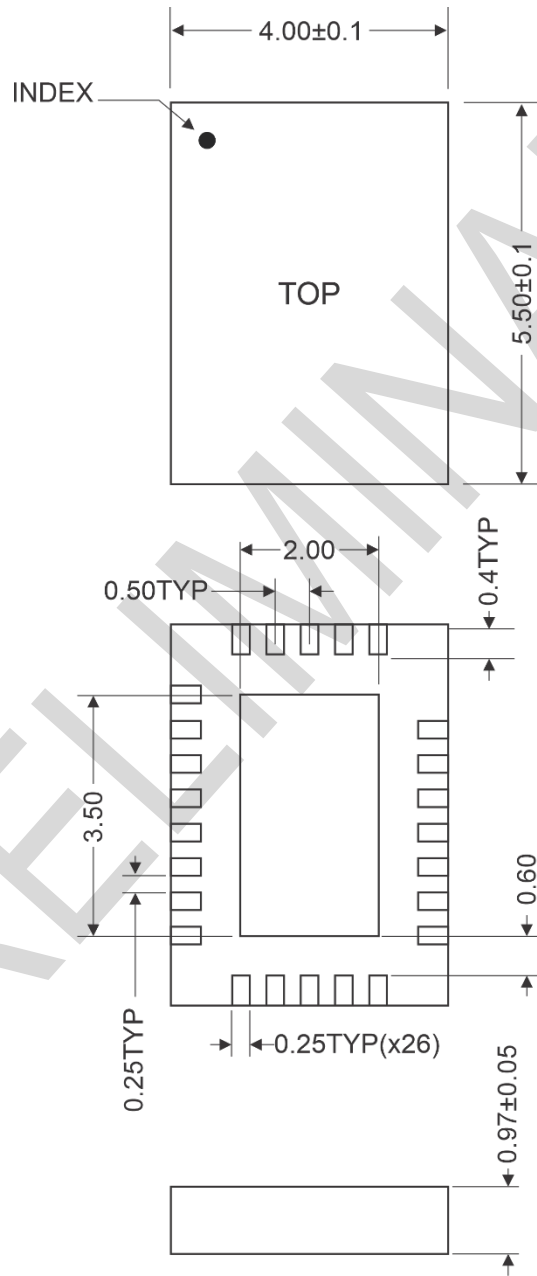


Figure 3 – TCB004-QN package outline, dimensions in mm.