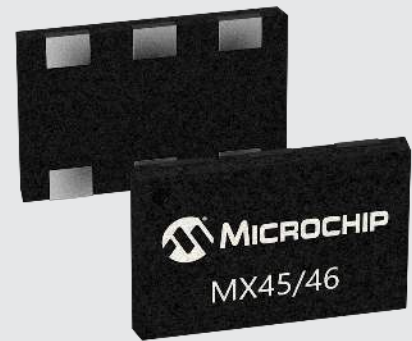


# MX45/46

## Family of Low-Jitter Crystal Oscillators

### Summary

Meet the MX45/46 any-rate crystal oscillators that offer unparalleled performance, flexibility and reliability making them ideal for high-frequency and low-jitter applications such as networking equipment, data centers, cloud computing and medical applications. The programmable oscillator utilizes a high-performance and low-power fractional PLL to generate any frequency between 2.5 MHz to 450 MHz to meet your application needs.

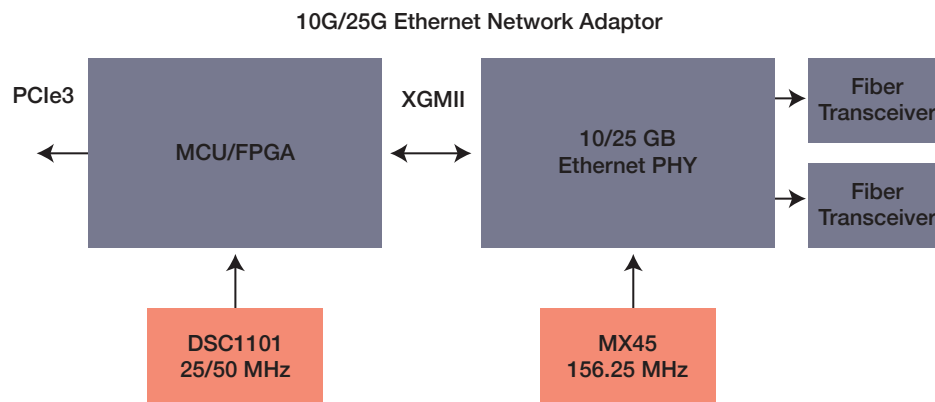


### Key Features

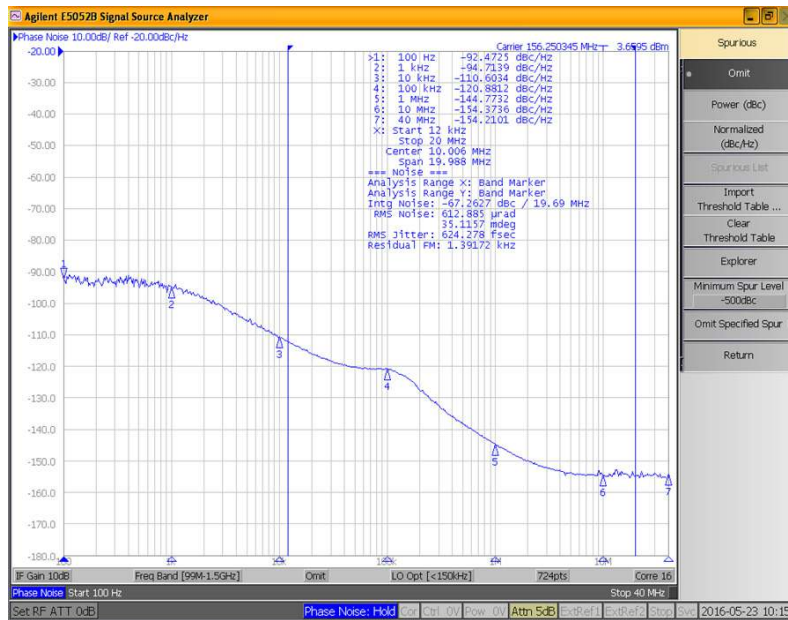
- Low-phase noise: 650 fs typical/1 ps max (12 kHz–20 MHz)
- Supports any frequency between 2.5 MHz to 450 MHz
- Excellent frequency stability:  $\pm 20$  ppm over voltage and temperature
- Available in CMOS, LVPECL, LVDS and HCSL output format
- 2.25V to 3.63V supply voltage
- $-40^{\circ}$  to  $+85^{\circ}\text{C}$  operating temperature range
- Industry standard 6-pin 5.0 x 3.2 mm package
- Short production lead time
- Four programmable output drive strength
- Up to two output frequencies with Frequency Select (FS) input
- 50% lower-power consumption than competition:  
30 mA–50 mA (typ)

### Target Applications

- 10/100G ethernet
- SONET/SDH
- PCIe gen 1/2/3/4
- Data center/high-performance computing
- HD video broadcasting/processing



## Phase Noise Plot



156.25 MHz LVPECL output Phase Noise: 624 fs (12 kHz–20 MHz)

## Configure and Sample

With ClockWorks® Configurator online tool, you can customize the MX45/46 instantly and receive datasheets and samples within a few days. Go to [www.clockworks.microchip.com/timing](http://www.clockworks.microchip.com/timing) and order samples now.



## Product Variants

Product	Output Frequency (MHz)	Output Logic	Input Function	Frequency Stability (ppm)	Temperature Range (°C)	Supply Voltage (V)	Phase Noise (ps RMS)	Package (mm)
MX45	2.5–450	LVCMS, LVPECL, LVDS, HCSL	OE/STDBY/FS on pin 1	±20/25/50	-40 to +85	2.25–3.63	0.7	5.0 x 3.2
MX46	2.5–450	LVCMS, LVPECL, LVDS, HCSL	OE/STDBY/FS on pin 2	±20/25/50	-40 to +85	2.25–3.63	0.7	5.0 x 3.2

To order samples and create an orderable part number, go to [www.clockworks.microchip.com/timing](http://www.clockworks.microchip.com/timing).

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