M2065/2066 Ultra Low Jitter Oscillators
3.2x2.5mm ceramic package

MtronPTI has introduced a new family of high-performance crystal oscillators – M2065/2066. Offering the industry's lowest jitter solution, the M2065/2066 family of oscillators can deliver performance to less than 100 femtoseconds (fs) RMS jitter in a small 3.2x2.5mm ceramic package.

The growing demand for network bandwidth and faster data rates continue to drive the need for lower jitter reference clocks. High clock jitter can cause high bit error rates, lost traffic or the loss of system communication. Using an ultra low jitter clock can eliminate these performance risks. The M2065/2066 family of oscillators provide best-in-class frequency stability and superior jitter performance to meet these demanding applications.

Features:

- Ultra Low Jitter <100fs RMS Jitter (12kHz-20MHz @156.25MHz)
- Standard 3.2x2.5mm ceramic package
- Industrial Temp range -40 °C to +85 °C
- LVPECL / LVDS output

Applications:

- Datacenter
- Optical Module
- Military Communications
- Broadcast Video

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Output Type	LVPECL OUT PUT						LVDS OUTPUT					
Parameter	**Symbol**	**Min.**	**Typ.**	**Max.**	**Units**	**Conditions**	**Symbol**	**Min.**	**Typ.**	**Max.**	**Units**	**Conditions**
Frequency of Operation	F_O	25		220	MHz		F_O	25		220	MHz	
	Frequency Stability						**Frequency Stability**					
Frequency Stability	ΔF/F	+/-20ppm				Other stability options available	ΔF/F	+/-20ppm				Other stability options available
Aging		-5		5	ppm	1st year		-5		5	ppm	1st year
	RF Output						**RF Output**					
Output Type		LVPECL Compatible						LVDS Compatible				
Output Load		50 Ω to (Vcc-2.0) VDC			V			100 Ω Differential			V	
Symmetry (duty cycle)	V_{OH}	45		55	%	Ref. to 50% of waveform	V_{OH}	45		55	%	Ref. to 50% of waveform
Logic Level "1"	V_{OH}	V_{cc}-1.025		V_{cc}-0.880	V		V_{DIFF}	250	350	450	mV	peak-to-peak differential output voltage
Logic Level "0"	T_{DC}	V_{cc}-1.810		V_{cc}-1.620	V		V_{OS}	1.125	1.25	1.375	V	
Rise/Fall Time	T_R/T_F		0.2	0.4	ns	20% to 80% of waveform	T_R/T_F		0.2	0.4	ns	20% to 80% of waveform
Start-up Time	T_{SU}			10	ms	$T_{ambient}$ = +25°C	T_{SU}			10	ms	$T_{ambient}$ = +25°C
Enable Logic		70% V_{CC} or N/C			V	Pad 1 or Pad 2: Output Enabled		70% V_{CC} or N/C			V	Pad 1 or Pad 2: Output Enabled
Disable Logic				30% V_{CC}	V	Pad 1 or Pad 2: Output Disabled to high-Z				30% V_{CC}	V	Pad 1 or Pad 2: Output Disabled to high-Z
	Supply Voltage & Power Consumption						**Supply Voltage & Power Consumption**					
Operating Voltage	V_{CC}	3.135	3.3	3.465	V	2.5V option available	V_{CC}	3.135	3.3	3.465	V	2.5V option available
Supply Current	I_{CC}			75	mA		I_{CC}			40	mA	
	Other Parameters						**Other Parameters**					
Operating Temperature Range		**-40 °C to +85 °C**				Other temp options available		**-40 °C to +85 °C**				Other temp options available
Phase Jitter (RMS)	ΦJ			0.1	ps	12 KHz to 20 MHz 156.25 MHz	ΦJ			0.15	ps	12 KHz to 20 MHz 156.25 MHz