

Typical Applications

2, 5, 10 Gbit/s standard
 Sonet / SDh

Features

High Frequency Crystal-based Oscillator
 Very Low Jitter
 Reflow Process Compatible
 Surface Mount Package
 5 x 7mm Size

Frequency range

400MHz to 1GHz

Standard frequencies

622.08 MHz, 644.5313 MHz, 666.5143 MHz, 669.3265 MHz

Frequency stabilities¹

Parameter	Min	Typ	Max.	Units	Operating temp range
vs. operating temperature range (Referenced to +25°C)		40		ppm	-40°C to +85°C

Supply voltage

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)	3.135	3.3	3.465	VDC	LVPECL No Load
Current consumption			85	mA	

RF output

Parameter	Min	Typ	Max.	Units	Condition
Signal	LVPECL				
Load	50			Ω	Into Vs - 2V or Thevenin Equivalent
Signal Level (Vol)			Vs-1.62	Vdc	
Signal Level (Voh)	Vs-1.025			Vdc	
Start-up Time			10	mS	
Rise and Fall time			400	pS	Measured between 20% and 80 %
Duty cycle	45		55	%	
Spurious suppression	-70			dB	<150MHz from carrier
Spurious suppression	-30			dB	>150MHz from carrier
Jitter (rms)			0.2	pS	12kHz to 20MHz
Jitter (rms)			0.3	pS	50kHz to 80MHz
Phase Noise		-35		dBc/Hz	10 Hz Offset
		-70		dBc/Hz	100 Hz Offset
		-100		dBc/Hz	1 kHz Offset
		-130		dBc/Hz	10 kHz Offset
		-137		dBc/Hz	100 kHz Offset
		-140		dBc/Hz	1 MHz Offset
		-147		dBc/Hz	10 MHz Offset

Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Absolute Pulling Range (APR)	+/-50			ppm	
Linearity			15	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	1.65	3.3	VDC	with Vs=3.3VDC
Modulation Bandwidth	10			kHz	-3db
Input Impedance	50			K Ω	

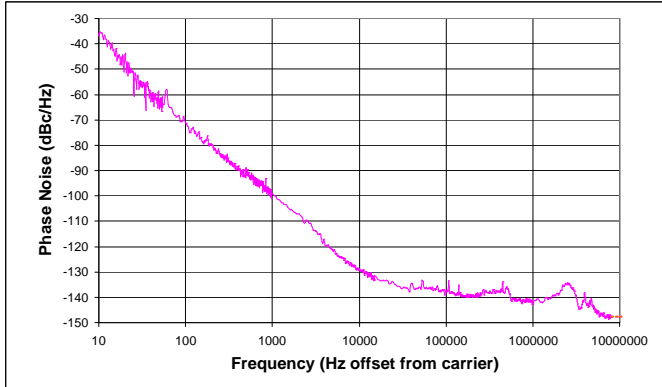
Additional parameters

Output Enable					
Weight			<2	g	
Processing & Packing	handling&processing note				

Absolute Maximum Ratings

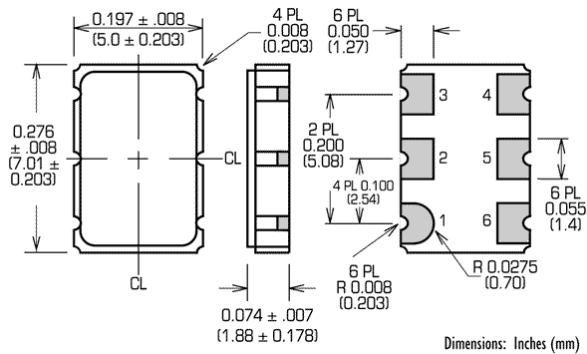
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

Typical Phase Noise (PECL output)



Enclosures

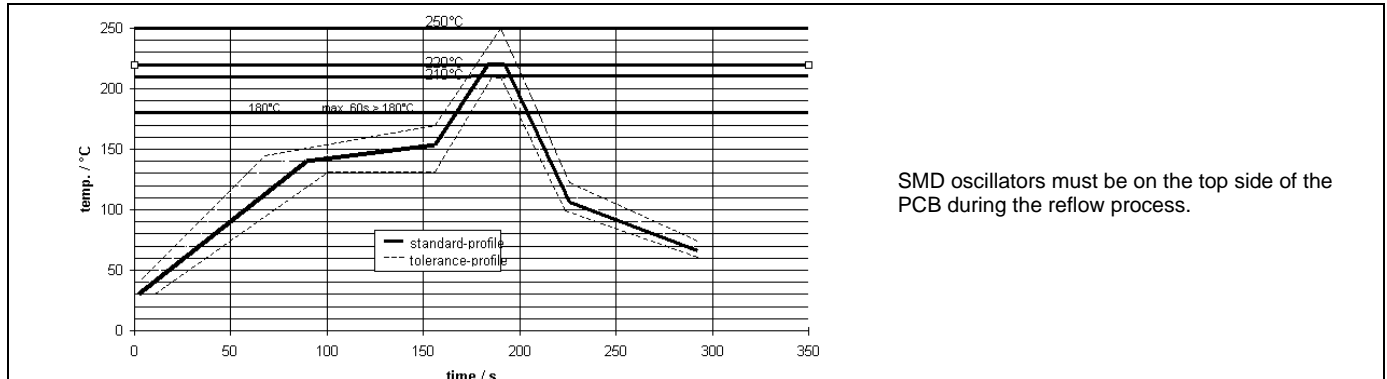
Type B (LVPECL)



Pin Connections

- 1 Control Voltage (Vc)
- 2 N/C / Enable (optional)
- 3 Ground (Case)
- 4 RF Output
- 5 Complementary RF Output
- 6 Supply Voltage Input (Vs)

Recommended Reflow Profile



SMD oscillators must be on the top side of the PCB during the reflow process.

Notes:

- 1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
- 3 Phase noise degrades with increasing output frequency.
- 4 Subject to technical modification.
- 5 Contact factory for availability.