

## 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 stabilities<sup>1</sup>

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	

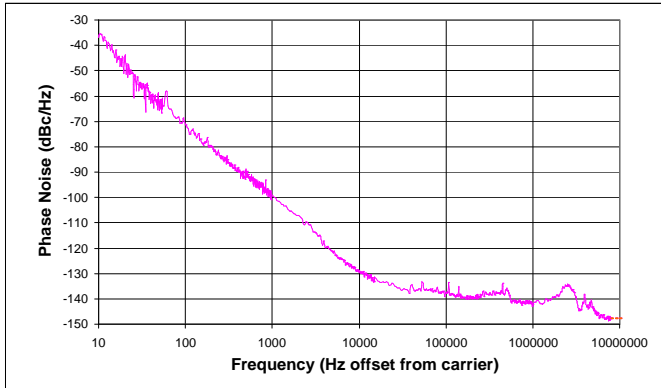
## Additional parameters

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

## Absolute Maximum Ratings

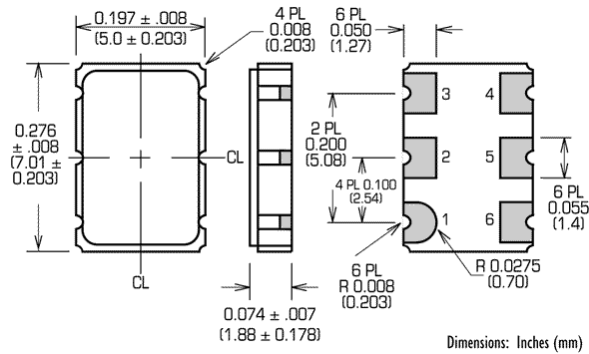
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

## Typical Phase Noise (PECL output)



## Enclosures

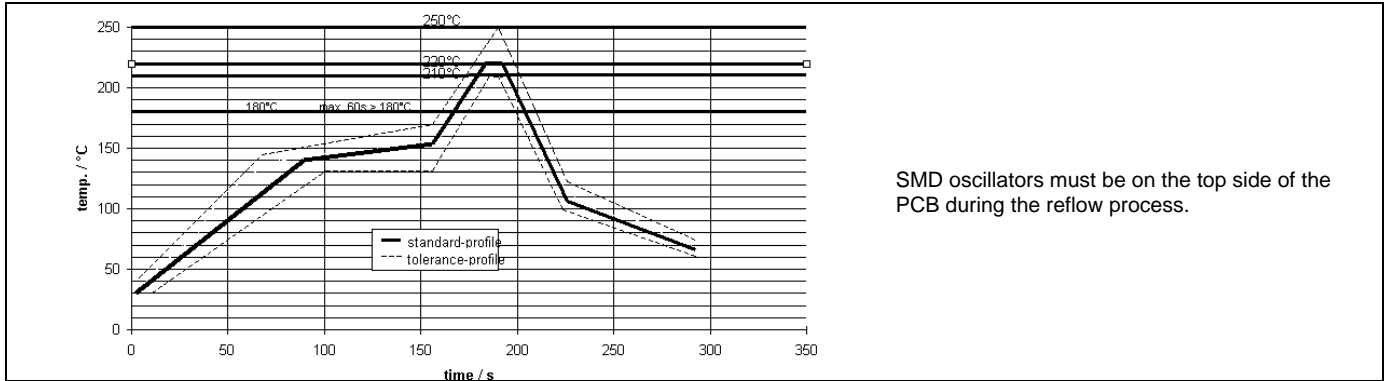
### Type B (LVPECL)



### 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.