



**THE DATASHEET OF  
ZL30165GDG2**



## Features

- Four independent clock channels
- Four programmable digital PLLs/Numerically Controlled Oscillators (NCOs)
- Programmable synthesizers generate any clock-rate from 1 kHz to 750 MHz
- Four precision synthesizers generate clocks with low jitter of 0.63 ps RMS for 10 G PHYs
- Programmable digital PLLs synchronize to any clock rate from 1 kHz to 750 MHz
- Flexible two-stage architecture translates between arbitrary data rates, line coding rates and FEC rates
- Digital PLLs filter jitter at 5.2 Hz, 14 Hz, 28 Hz, 56 Hz, 112 Hz, 224 Hz, 448 Hz or 896 Hz
- Automatic hitless reference switching and digital holdover on reference fail
- Eight reference inputs configurable as single ended or differential

**Ordering Information**

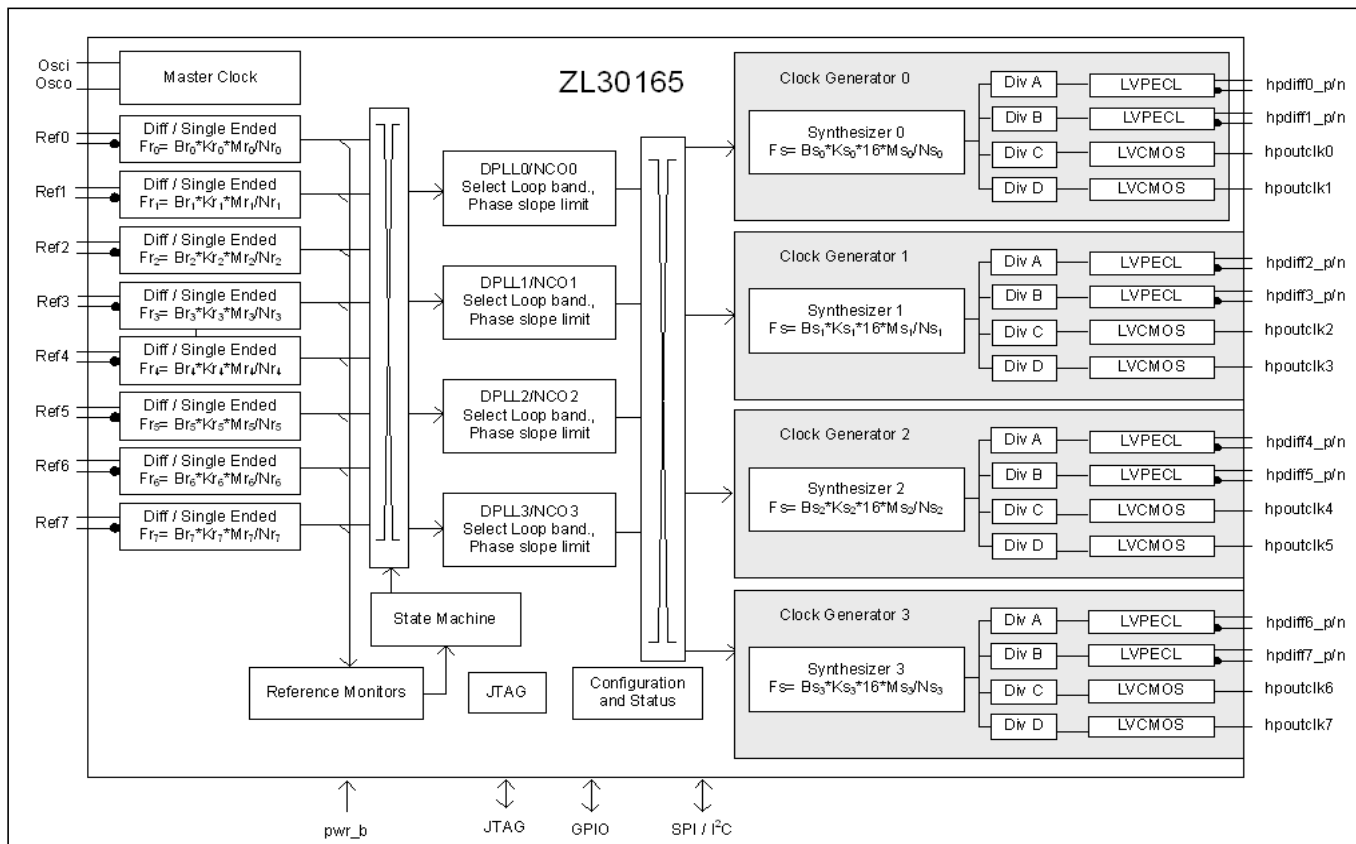
ZL30165GDG2 144 Pin LPGA      Trays

Pb Free Tin/Silver/Copper  
**-40°C to +85°C**  
 Package Size: 13 x 13 mm

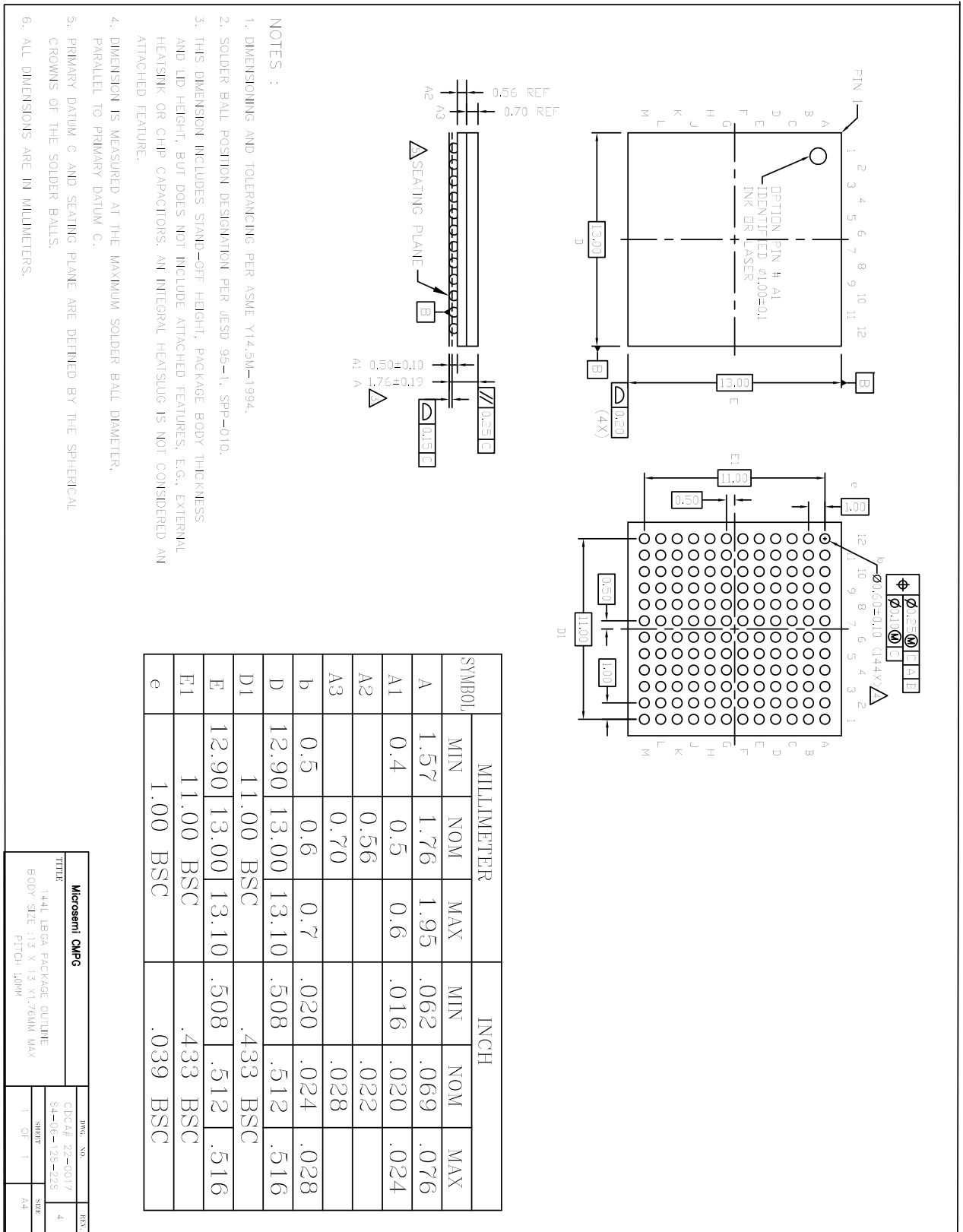
- Eight LVPECL outputs and eight LVCMOS outputs
- Operates from a single crystal resonator or clock oscillator
- Field programmable via SPI/I<sup>2</sup>C interface

## Applications

- OTN muxponders and transponders
- 10 Gigabit line cards
- Synchronous Ethernet, 10 GBASE-R and 10 GBASE-W
- SONET/SDH, Fibre Channel, XAUI



1.0 Mechanical Drawing



- NOTES :
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
  2. SOLDER BALL POSITION DESIGNATION PER JEDEC 95-1, SPP-010.
  3. THIS DIMENSION INCLUDES STAND-OFF HEIGHT, PACKAGE BODY THICKNESS AND LID HEIGHT, BUT DOES NOT INCLUDE ATTACHED FEATURES, E.G., EXTERNAL HEATSINK OR CHIP CAPACITORS. AN INTEGRAL HEATSLUG IS NOT CONSIDERED AN ATTACHED FEATURE.
  4. DIMENSION IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C.
  5. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
  6. ALL DIMENSIONS ARE IN MILLIMETERS.

SYMBOL	MILLIMETER			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.57	1.76	1.95	.062	.069	.076
A1	0.4	0.5	0.6	.016	.020	.024
A2		0.56			.022	
A3		0.70			.028	
b	0.5	0.6	0.7	.020	.024	.028
D	12.90	13.00	13.10	.508	.512	.516
D1		11.00 BSC			.433 BSC	
E	12.90	13.00	13.10	.508	.512	.516
E1		11.00 BSC			.433 BSC	
e		1.00 BSC			.039 BSC	

<b>Microsemi Corp</b>		DWG. NO.		REV.	
TITLE		COCOA 22-0017		4	
144L BGA PACKAGE OUTLINE		S4-06-125-225		SIZE	
BODY SIZE :13 X 13 X1.76MM MAX		PITCH :10MM		1 OF 1	
				S4	



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