

Product Preview

PowerPC™ 603/604, Pentium™ Compatible Clock Synthesizer/Driver

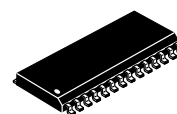
The MPC9159 device is a clock generator/distribution chip designed for personal computer applications using today's latest microprocessors. The device provides processor and PCI bus clocks for a typical PowerPC 603/604 or Pentium based PC motherboard, as well as two system bus clocks, a floppy disk clock and a keyboard clock. The device alleviates the need for several crystal oscillators, as well as fanout buffers, in a typical design.

The CPU clocks are programmable to synthesize 50, 60 or 66MHz frequencies from a 14.31818MHz crystal. The PCI bus clocks are always set at one half of the processor clock frequencies. A test mode can be selected which will allow the output buffers to be driven directly from the input source, thus bypassing the PLL for board level test or debug.

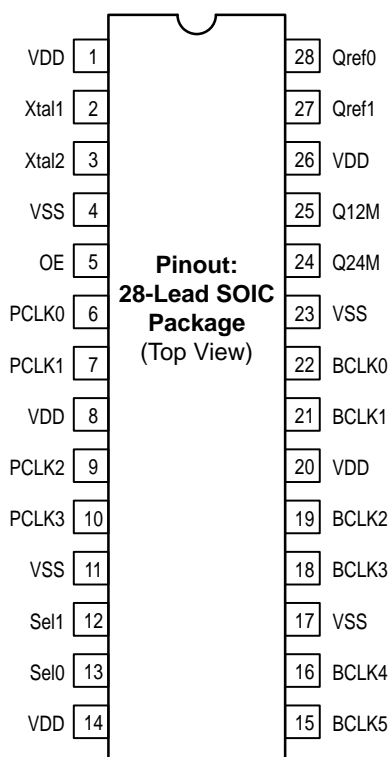
- Four Low Skew CPU Bus (PCLK) Clocks
- Six Low Skew PCI Bus (BCLK) Clocks
- Two 14.31818MHz Clocks
- 24MHz Disk Clock
- 12MHz Keyboard Clock
- Meets Requirements of Triton Chip Set
- Test Mode and Tristate Outputs for Board Level Test or Debug
- Output Duty Cycle 45–55%
- 3.3V V_{CC}
- PCI Clocks Delayed Relative to CPU Clocks (1–5ns)
- ±200ps Cycle-to-Cycle Jitter

MPC9159

**LOW VOLTAGE
PLL CLOCK DRIVER**



DW SUFFIX
SOIC PACKAGE
CASE 751F–04

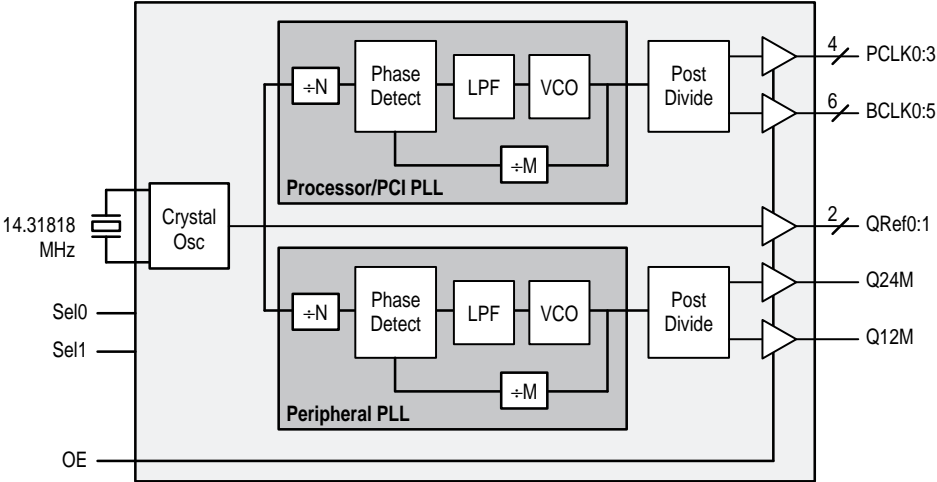


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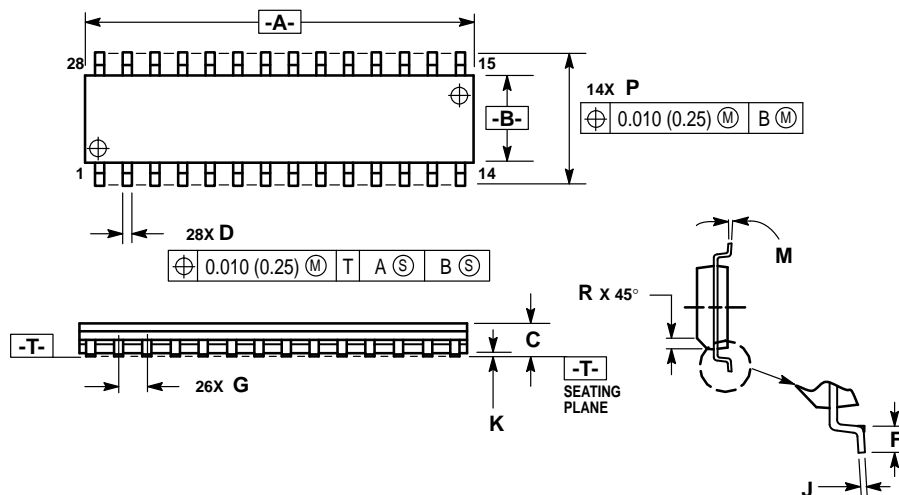
MPC9159 LOGIC DIAGRAM



OE	S0	S1	Xtal (MHz)	PCLK (MHz)	PCI_CLK (MHz)	Q14M (MHz)	Q24M (MHz)	Q12M (MHz)
0	X	X	14.31818	High Z	High Z	High Z	High Z	High Z
1	0	0	14.31818	50	25	14.31818	24	12
1	0	1	14.31818	60	30	14.31818	24	12
1	1	0	14.31818	66	33	14.31818	24	12
1	1	1	TCLK	TCLK/2	TCLK/4	TCLK	TCLK/4	TCLK/8

OUTLINE DIMENSIONS


D SUFFIX
SOIC PACKAGE
CASE 751F-04
ISSUE E



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.13 (0.005) TOTAL IN EXCESS OF D DIMENSION AT MAXIMUM MATERIAL CONDITION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	17.80	18.05	0.701	0.711
B	7.40	7.60	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
F	0.41	0.90	0.016	0.035
G	1.27 BSC		0.050 BSC	
J	0.23	0.32	0.009	0.013
K	0.13	0.29	0.005	0.011
M	0°	8°	0°	8°
P	10.05	10.55	0.395	0.415
R	0.25	0.75	0.010	0.029

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