

**Features**

- High-speed, low-noise, non-inverting split 1-10 buffer
- Maximum Frequency up to 250 MHz
- Low output skew < 60ps (Bank A, 2.5V)
- Low duty cycle distortion < 200ps
- Low propagation delay < 2.0ns (2.5V)
- Choice of 1.2V, 1.5V, 1.8V or 2.5V supply voltage on Bank A, Bank B, Bank C
- Industrial temperature range: -40°C to 85°C
- Packages (Pb-free & Green): 20-pin, TSSOP (L20)  
20-pin, SSOP (H20)  
20-pin, QSOP (Q20)

**Description**

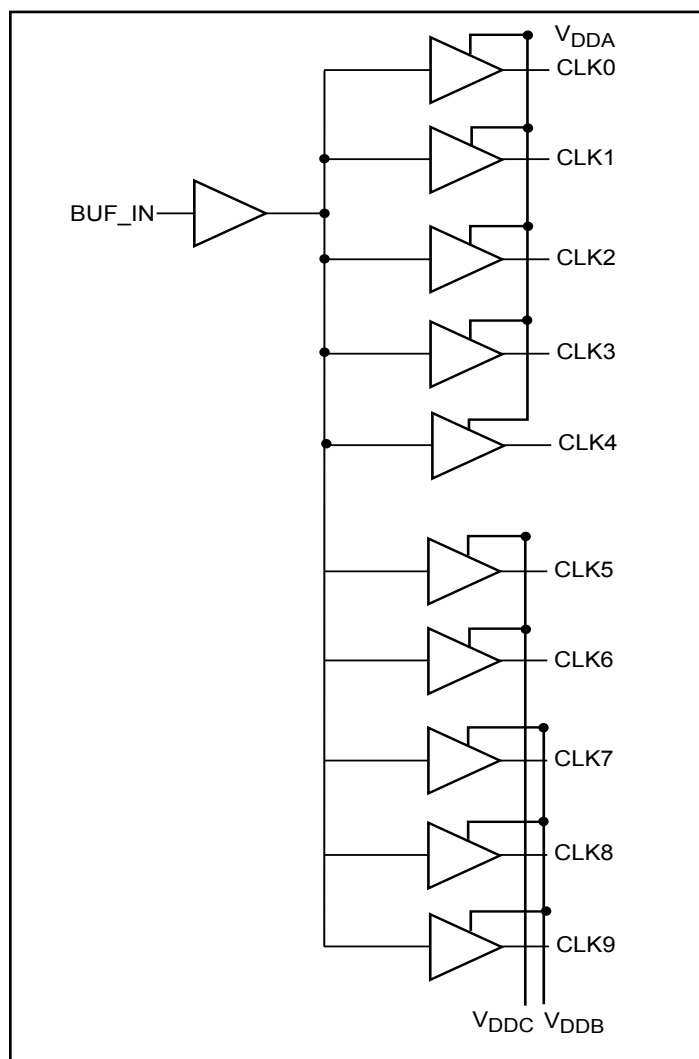
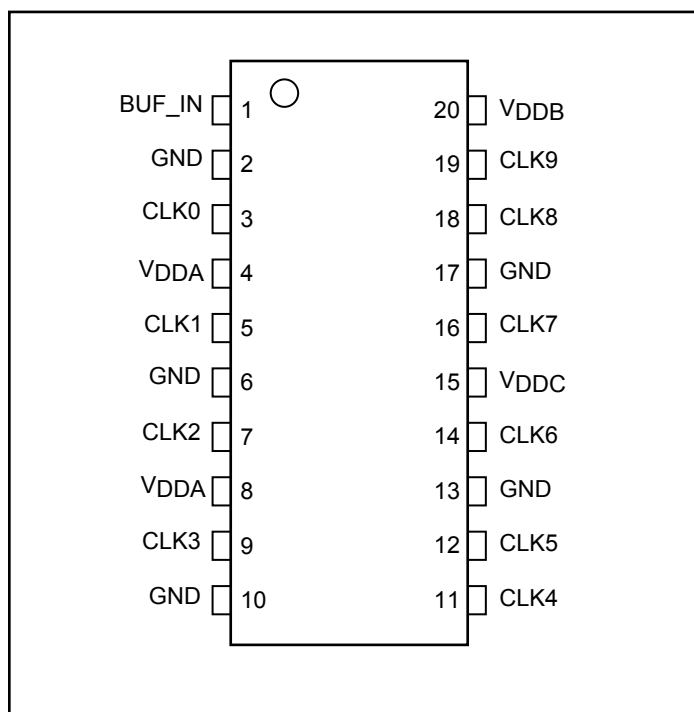
The PI6C10810 is a 1.2V to 2.5V high-speed, low-noise 1-10 non-inverting clock buffer. The key goal in designing the PI6C10810 is to target networking applications that require low-skew, low-jitter, and high-frequency clock distribution.

Providing output-to-output skew as low as 60ps, the PI6C10810 is an ideal clock distribution device for synchronous systems. Designing synchronous networking systems requires a tight level of skew from a large number of outputs.

CLK0-4 operate from  $V_{DDA}$  supply.

CLK5-6 operate from  $V_{DDC}$  supply.

CLK7-9 operate from  $V_{DDB}$  supply.

**Block Diagram**

**Pin Configuration**

**Pin Description**

| Pin Name         | Description                    |
|------------------|--------------------------------|
| BUF_IN           | Input                          |
| CLK [0:9]        | Outputs                        |
| GND              | Ground                         |
| VDDA, VDDB, VDDC | Power (1.2V, 1.5V, 1.8V, 2.5V) |

**2.5V Absolute Maximum Ratings** (Above which the useful life may be impaired. For user guidelines only, not tested.)

|                                  |                                |
|----------------------------------|--------------------------------|
| Storage Temperature.....         | -65°C to +150°C                |
| V <sub>DD</sub> Voltage .....    | -0.5V to +3.6V                 |
| Output Voltage (max. 3.6V) ..... | -0.5V to V <sub>DD</sub> +0.5V |
| Input Voltage (max 3.6V).....    | -0.5V to V <sub>DD</sub> +0.5V |

**Note:** Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

**2.5V DC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 2.5V ± 0.2V, T<sub>A</sub> = -40° to 85°C)

| Parameters      | Description         | Test Conditions <sup>(1)</sup>   |                        | Min. | Typ. <sup>(2)</sup> | Max. | Units |
|-----------------|---------------------|--|------------------------|------|---------------------|------|-------|
| V <sub>DD</sub> | Supply Voltage      |  |                        | 2.3  | 2.5                 | 2.7  |       |
| V <sub>IH</sub> | Input HIGH Voltage  | Logic HIGH level   |                        | 1.7  |                     | 3.6  | V     |
| V <sub>IL</sub> | Input LOW Voltage   | Logic LOW level  |                        | -0.3 |                     | 0.7  |       |
| I <sub>I</sub>  | Input Current       | V <sub>DD</sub> = Max, V <sub>in</sub> = V <sub>DD</sub> or GND              | I pin                  |      |                     | 15   | μA    |
| V <sub>OH</sub> | Output High Voltage | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OH</sub> = -1mA | 2.0  |                     |      | V     |
|                 |                     |  | I <sub>OH</sub> = -2mA | 1.7  |                     |      |       |
|                 |                     |  | I <sub>OH</sub> = -8mA | 1.7  |                     |      |       |
| V <sub>OL</sub> | Output LOW Voltage  | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OL</sub> = 1mA  |      |                     | 0.1  | V     |
|                 |                     |  | I <sub>OL</sub> = 2mA  |      |                     | 0.2  |       |
|                 |                     |  | I <sub>OL</sub> = 8mA  |      |                     | 0.2  |       |

**Notes:**

- For Max. or Min. conditions, use appropriate operating range values.
- Typical values are at V<sub>DD</sub> = 2.5V, +25°C ambient and maximum loading.

**2.5V AC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 2.5V ± 0.2V, T<sub>A</sub> = -40° to 85°C)

| Parameters   | Description   | Test Conditions <sup>(1)</sup>  | Min.                 | Typ  | Max. | Units |     |
|--|---|---|----------------------|------|------|-------|-----|
| F <sub>IN</sub>                                    | Input Frequency   |   | 0                    |      | 250  | MHz   |     |
| t <sub>PLH</sub> , t <sub>PHL</sub> <sup>(2)</sup> | Propagation Delay BUF_IN to CLK <sub>n</sub>  | R <sub>L</sub> = 500-Ohm, C <sub>L</sub> = 3pF, 125 MHz Outputs are measured @ V <sub>DD</sub> /2 | 1.0                  | 1.5  | 2.0  | ps    |     |
| t <sub>SK(O)</sub> <sup>(3)</sup>                  | Output to Output Skew between any two outputs of the same device @ same transition                  |   | Bank A (CLK0 - CLK4) | -60  |      |       | 60  |
|  |   |   | Bank C (CLK5 - CLK6) | -30  |      |       | 30  |
|  |   |   | Bank B (CLK7 - CLK9) | -150 |      |       | 150 |
| t <sub>SK(P)</sub> <sup>(3)</sup>                  | Pulse Skew between opposite transitions (t <sub>PHL</sub> -t <sub>PLH</sub> ) of the same output    |   |                      | 100  | 200  |       |     |
| t <sub>SK(T)</sub> <sup>(3)(5)</sup>               | Part to Part Skew between two identical outputs of different parts on the same board <sup>(4)</sup> |   |                      |      | 300  |       |     |
| t <sub>dc_in</sub>                                 | Duty Cycle In @ Ins edge rate   |   |                      | 45   |      | 55    | %   |
| t <sub>dc_out</sub>                                | Duty Cycle Out  |   | 40                   |      | 57.5 |       |     |
| t <sub>j</sub> <sup>(5)</sup>                      | Additive Jitter   |   |                      |      | 50   | ps    |     |
| t <sub>R(O)</sub>                                  | Output Rise Time 20%-80% CLK <sub>n</sub>   | R <sub>L</sub> = 500-Ohm, C <sub>L</sub> = 3pF  |                      | 0.5  | 0.7  | ns    |     |
| t <sub>F(O)</sub>                                  | Output Fall Time 80%-20% CLK <sub>n</sub>   |   |                      | 0.5  | 0.7  |       |     |

**Notes:**

- See test circuit and waveforms.
- Minimum limits are guaranteed but not tested on Propagation Delays.
- Skew measured at worst case temperature (max. temp).
- Identical conditions: loading, transitions, supply voltage, temperature, package type and speed grade.
- Guaranteed by design.

**1.8V Absolute Maximum Ratings** (Above which the useful life may be impaired. For user guidelines only, not tested.)

|                                 |                                |
|---------------------------------|--------------------------------|
| Storage Temperature.....        | -65°C to +150°C                |
| V <sub>DD</sub> Voltage .....   | -0.5V to +2.5V                 |
| Output Voltage (max 2.5V) ..... | -0.5V to V <sub>DD</sub> +0.5V |
| Input Voltage (max 2.5V) .....  | -0.5V to V <sub>DD</sub> +0.5V |

**Note:** Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

**1.8V DC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.8V ± 0.15V, T<sub>A</sub> = -40° to 85°C)

| Parameters      | Description                  | Test Conditions <sup>(1)</sup>   | Min.                   | Typ. <sup>(2)</sup> | Max.                 | Units |
|-----------------|------------------------------|--|------------------------|---------------------|----------------------|-------|
| V <sub>DD</sub> | Supply Voltage               |  | 1.65                   | 1.8                 | 1.95                 |       |
| V <sub>IH</sub> | Input HIGH Voltage           | Logic HIGH level   | 1.1                    |                     | 2.7                  | V     |
| V <sub>IL</sub> | Input LOW Voltage            | Logic LOW level  | -0.3                   |                     | 0.35*V <sub>DD</sub> |       |
| I <sub>I</sub>  | Input Current <sup>(3)</sup> | V <sub>DD</sub> = Max,<br>V <sub>in</sub> = V <sub>DD</sub> or GND           |                        |                     | 15                   | μA    |
| V <sub>OH</sub> | Output High Voltage          | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OH</sub> = -2mA | 1.35                |                      | V     |
|                 |                              |  | I <sub>OH</sub> = -8mA | 1.2                 |                      |       |
| V <sub>OL</sub> | Output LOW Voltage           | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OL</sub> = 2mA  |                     | 0.1                  | V     |
|                 |                              |  | I <sub>OL</sub> = 8mA  |                     | 0.2                  |       |

**Notes:**

- For Max. or Min. conditions, use appropriate operating V<sub>DD</sub> and T<sub>A</sub> values.
- Typical values are at V<sub>DD</sub> = 1.8V, +25°C ambient and maximum loading.
- This parameter is determined by device characterization but is not production tested.

**1.8V AC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.8V ± 0.15V, T<sub>A</sub> = -40° to 85°C)

| Parameters   | Description   | Test Conditions <sup>(1)</sup>   | Min. | Typ | Max. | Units |
|--|---|--|------|-----|------|-------|
| F <sub>IN</sub>                                    | Input Frequency   |  | 0    |     | 200  | MHz   |
| t <sub>PLH</sub> , t <sub>PHL</sub> <sup>(2)</sup> | Propagation Delay BUF_IN to CLK <sub>n</sub>  |  | 1.0  | 2.3 | 2.8  |       |
| t <sub>SK(O)</sub> <sup>(3)</sup>                  | Output to Output Skew between any two outputs of the same device @ same transition                  | Bank A (CLK0 - CLK4)   | -60  |     | 60   | ps    |
|  |   | Bank C (CLK5 - CLK6)   | 30   |     | 30   |       |
|  |   | Bank B (CLK7 - CLK9)   | -200 |     | 200  |       |
| t <sub>SK(P)</sub> <sup>(3)</sup>                  | Pulse Skew between opposite transitions (t <sub>PHL</sub> -t <sub>PLH</sub> ) of the same output    | C <sub>L</sub> = 3pF, R <sub>L</sub> = 500-Ohm, 125 MHz<br>Outputs are measured @ V <sub>DD</sub> /2 |      | 100 | 200  |       |
| t <sub>SK(T)</sub> <sup>(3)(5)</sup>               | Part to Part Skew between two identical outputs of different parts on the same board <sup>(4)</sup> |  |      |     | 300  |       |
| t <sub>dc_in</sub>                                 | Duty Cycle In @ 1 ns edge rate  |  | 45   |     | 55   | %     |
| t <sub>dc_out</sub>                                | Duty Cycle Out  |  | 40   |     | 57.5 |       |
| t <sub>j</sub> <sup>(5)</sup>                      | Additive Jitter   |  |      |     | 50   | ps    |
| t <sub>R(o)</sub>                                  | Output Rise Time 20% - 80% CLK <sub>n</sub>   |  |      | 0.5 | 0.8  | ns    |
| t <sub>F(o)</sub>                                  | Output Fall Time 80% - 20% CLK <sub>n</sub>   |  |      | 0.5 | 0.8  |       |

**Notes:**

- See test circuit and waveforms.
- Minimum limits are guaranteed but not tested on Propagation Delays.
- Skew measured at worst case temperature (max. temp).
- Identical conditions: loading, transitions, supply voltage, temperature, package type and speed grade.
- Guaranteed by design.

**1.5V Absolute Maximum Ratings** (Above which the useful life may be impaired. For user guidelines only, not tested.)

|                                  |                                |
|----------------------------------|--------------------------------|
| Storage Temperature.....         | -65°C to +150°C                |
| V <sub>DD</sub> Voltage .....    | -0.5V to +3.6V                 |
| Output Voltage (max. 3.6V) ..... | -0.5V to V <sub>DD</sub> +0.5V |
| Input Voltage (max 3.6V).....    | -0.5V to V <sub>DD</sub> +0.5V |

**Note:** Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

**1.5V DC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.5V ± 0.1V, T<sub>A</sub> = -40° to 85°C)

| Parameters      | Description         | Test Conditions <sup>(1)</sup>   |                        | Min.                 | Typ. <sup>(2)</sup> | Max.                 | Units |
|-----------------|---------------------|--|------------------------|----------------------|---------------------|----------------------|-------|
| V <sub>DD</sub> | Supply Voltage      |  |                        | 1.4                  | 1.5                 | 1.6                  |       |
| V <sub>IH</sub> | Input HIGH Voltage  | Logic HIGH level   |                        | 0.65×V <sub>DD</sub> |                     | V <sub>DD</sub>      | V     |
| V <sub>IL</sub> | Input LOW Voltage   | Logic LOW level  |                        | -0.3                 |                     | 0.35×V <sub>DD</sub> |       |
| I <sub>I</sub>  | Input Current       | V <sub>DD</sub> = Max, V <sub>in</sub> = V <sub>DD</sub> or GND              | I pin                  |                      |                     | 15                   | μA    |
| V <sub>OH</sub> | Output High Voltage | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OH</sub> = -2mA | 1.05                 |                     |                      | V     |
|                 |                     |  | I <sub>OH</sub> = -8mA | 1.75                 |                     |                      |       |
| V <sub>OL</sub> | Output LOW Voltage  | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OL</sub> = 2mA  |                      |                     | 0.35                 |       |
|                 |                     |  | I <sub>OL</sub> = 8mA  |                      |                     | 0.65                 |       |

**Notes:**

- For Max. or Min. conditions, use appropriate operating range values.
- Typical values are at V<sub>DD</sub> = 1.5V, +25°C ambient and maximum loading.

**1.5V AC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.5V ± 0.1V, T<sub>A</sub> = -40° to 85°C)

| Parameters   | Description   | Test Conditions <sup>(1)</sup>  | Min.                 | Typ  | Max. | Units |    |
|--|---|---|----------------------|------|------|-------|----|
| F <sub>IN</sub>                                    | Input Frequency   |   | 0                    |      | 200  | MHz   |    |
| t <sub>R</sub> /t <sub>F</sub>                     | CLKn Rise/Fall Time   | 20% to 80%  |                      |      | 1.0  | ns    |    |
| t <sub>PLH</sub> , t <sub>PHL</sub> <sup>(2)</sup> | Propagation Delay BUF_IN to CLKn  | C <sub>L</sub> = 3pF,<br>R <sub>L</sub> = 500-Ohms, 125<br>MHz Outputs are<br>measured @ V <sub>DD</sub> /2 | 2.0                  | 2.8  | 3.5  | ns    |    |
| t <sub>SK(O)</sub> <sup>(3)</sup>                  | Output to Output Skew between any two outputs of the same device @ same transition                  |   | Bank A (CLK0 - CLK4) | -100 |      | 100   | ps |
|  |   |   | Bank C (CLK5 - CLK6) | -50  |      | 50    |    |
|  |   |   | Bank B (CLK7 - CLK9) | -200 |      | 200   |    |
| t <sub>SK(P)</sub> <sup>(3)</sup>                  | Pulse Skew between opposite transitions (t <sub>PHL</sub> -t <sub>PLH</sub> ) of the same output    |   |                      | 100  | 200  |       |    |
| t <sub>SK(T)</sub> <sup>(3)(5)</sup>               | Part to Part Skew between two identical outputs of different parts on the same board <sup>(4)</sup> |   |                      |      | 300  |       |    |
| t <sub>dc_in</sub>                                 | Duty Cycle In @ Ins edge rate   |   |                      | 45   |      | 55    | %  |
| t <sub>dc_out</sub> <sup>(5)</sup>                 | Duty Cycle Out  |   | 40                   |      | 60   | %     |    |
| t <sub>j</sub>                                     | Additive Jitter   |   |                      |      | 50   | ps    |    |
| t <sub>R(o)</sub>                                  | Output Rise Time 20% - 80% CLKn   |   |                      | 0.6  | 0.9  | ns    |    |
| t <sub>F(o)</sub>                                  | Output Fall Time 80% - 20% CLKn   |   |                      | 0.6  | 0.9  |       |    |

**Notes:**

- See test circuit and waveforms.
- Minimum limits are guaranteed but not tested on Propagation Delays.
- Skew measured at worst case temperature (max. temp).
- Identical conditions: loading, transitions, supply voltage, temperature, package type and speed grade.
- Guaranteed by design.

**1.2V Absolute Maximum Ratings** (Above which the useful life may be impaired. For user guidelines only, not tested.)

|                                  |                                |
|----------------------------------|--------------------------------|
| Storage Temperature.....         | -65°C to +150°C                |
| V <sub>DD</sub> Voltage .....    | -0.5V to +3.6V                 |
| Output Voltage (max. 3.6V) ..... | -0.5V to V <sub>DD</sub> +0.5V |
| Input Voltage (max 3.6V).....    | -0.5V to V <sub>DD</sub> +0.5V |

**Note:** Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

**1.2V DC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.2V ± 0.1V, T<sub>A</sub> = -40° to 85°C)

| Parameters      | Description         | Test Conditions <sup>(1)</sup>   |                        | Min.                 | Typ. <sup>(2)</sup> | Max.                 | Units |
|-----------------|---------------------|--|------------------------|----------------------|---------------------|----------------------|-------|
| V <sub>DD</sub> | Supply Voltage      |  |                        | 1.1                  | 1.2                 | 1.3                  |       |
| V <sub>IH</sub> | Input HIGH Voltage  | Logic HIGH level   |                        | 0.65×V <sub>DD</sub> |                     | V <sub>DD</sub> +0.3 | V     |
| V <sub>IL</sub> | Input LOW Voltage   | Logic LOW level  |                        | -0.3                 |                     | 0.35×V <sub>DD</sub> |       |
| I <sub>I</sub>  | Input Current       | V <sub>DD</sub> = Max, V <sub>in</sub> = V <sub>DD</sub> or GND              | I pin                  |                      |                     | 15                   | μA    |
| V <sub>OH</sub> | Output High Voltage | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OH</sub> = -2mA | 1.05                 |                     |                      | V     |
|                 |                     |  | I <sub>OH</sub> = -8mA | 1.75                 |                     |                      |       |
| V <sub>OL</sub> | Output LOW Voltage  | V <sub>DD</sub> = Min., V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | I <sub>OL</sub> = 2mA  |                      |                     | 0.35                 |       |
|                 |                     |  | I <sub>OL</sub> = 8mA  |                      |                     | 0.65                 |       |

**Notes:**

- For Max. or Min. conditions, use appropriate operating range values.
- Typical values are at V<sub>DD</sub> = 1.2V, +25°C ambient and maximum loading.

**1.2V AC Characteristics** (Over Operating Range: V<sub>DDA</sub>, V<sub>DDB</sub>, V<sub>DDC</sub> = 1.2V ± 0.1V, T<sub>A</sub> = -40° to 85°C)

| Parameters   | Description   | Test Conditions <sup>(1)</sup> | Min. | Typ | Max. | Units |
|--|---|--------------------------------|------|-----|------|-------|
| F <sub>IN</sub>                                    | Input Frequency   |                                | 0    |     | 150  | MHz   |
| t <sub>PLH</sub> , t <sub>PHL</sub> <sup>(2)</sup> | Propagation Delay BUF_IN to CLKn  |                                | 4    | 5   | 6    | ns    |
| t <sub>SK(O)</sub> <sup>(3)</sup>                  | Output to Output Skew between any two outputs of the same device @ same transition                  | Bank A (CLK0 - CLK4)           | -150 |     | 150  | ps    |
|  |   | Bank C (CLK5 - CLK6)           | -50  |     | 50   |       |
|  |   | Bank B (CLK7 - CLK9)           | -300 |     | 300  |       |
| t <sub>SK(P)</sub> <sup>(3)</sup>                  | Pulse Skew between opposite transitions (t <sub>PHL</sub> -t <sub>PLH</sub> ) of the same output    |                                |      | 200 | 300  |       |
| t <sub>SK(T)</sub> <sup>(3)(5)</sup>               | Part to Part Skew between two identical outputs of different parts on the same board <sup>(4)</sup> |                                |      |     | 300  |       |
| t <sub>DC_IN</sub>                                 | Duty Cycle In @ 1ns edge rate   |                                | 45   |     | 55   | %     |
| t <sub>DC_OUT</sub>                                | Duty Cycle Out  |                                | 40   |     | 60   |       |
| t <sub>j</sub> <sup>(5)</sup>                      | Additive Jitter   |                                |      |     | 50   | ps    |
| t <sub>R(o)</sub>                                  | Output Rise Time 20% - 80% CLKn   |                                |      | 0.9 | 1    | ns    |
| t <sub>F(o)</sub>                                  | Output Fall Time 80% - 20% CLKn   |                                |      | 0.9 | 1    |       |

**Notes:**

- See test circuit and waveforms.
- Minimum limits are guaranteed but not tested on Propagation Delays.
- Skew measured at worst case temperature (max. temp).
- Identical conditions: loading, transitions, supply voltage, temperature, package type and speed grade.
- Guaranteed by design.

### Power Supply Characteristics

| Parameters       | Description                    | Test Conditions <sup>(1)</sup>        |  | Min. | Typ. <sup>(2)</sup> | Max. | Units |
|------------------|--------------------------------|---------------------------------------|--|------|---------------------|------|-------|
| I <sub>DDQ</sub> | Quiescent Power Supply Current | $V_{DDA} = V_{DDB} = V_{DDC} = 2.7V$  | No Load. $F_{IN} = 40MHz$<br>(Bank A, Bank B, Bank C included) |      | 16                  |      | mA    |
|                  |                                | $V_{DDA} = V_{DDB} = V_{DDC} = 1.95V$ |  |      | 12                  |      |       |
|                  |                                | $V_{DDA} = V_{DDB} = V_{DDC} = 1.6V$  |  |      | 8                   |      |       |
|                  |                                | $V_{DDA} = V_{DDB} = V_{DDC} = 1.2V$  |  |      | 8                   |      |       |
| I <sub>OS</sub>  | Short Circuit Current          | $V_{DDA} = V_{DDB} = V_{DDC}$         | 2.7V   |      | ±80                 |      | mA    |
|                  |                                |                                       | 1.95V  |      | ±50                 |      |       |
|                  |                                |                                       | 1.6V   |      | ±35                 |      |       |
|                  |                                |                                       | 1.2V   |      | ±15                 |      |       |

**Notes:**

- For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics.
- Typical values are at  $V_{DD} = 1.2V, 1.5V, 1.8V$  or  $2.5V$ , and  $+25^{\circ}C$  ambient.
- Per TTL driven input ( $V_{IN} = V_{DD} - 0.6V$ ); all other inputs at  $V_{DD}$  or GND.

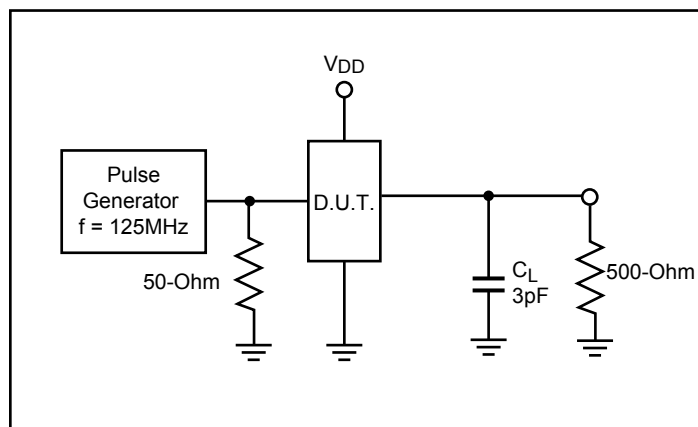
### Capacitance ( $T_A = 25^{\circ}C, f = 1 MHz$ )

| Parameters <sup>(1)</sup> | Description        | Test Conditions | Typ | Max. | Units |
|---------------------------|--------------------|-----------------|-----|------|-------|
| C <sub>IN</sub>           | Input Capacitance  | $V_{IN} = 0V$   | 3.0 | 4    | pF    |
| C <sub>OUT</sub>          | Output Capacitance | $V_{OUT} = 0V$  | —   | 6    |       |

**Note:**

- This parameter is determined by device characterization but is not production tested.

### Test Circuits for All Outputs

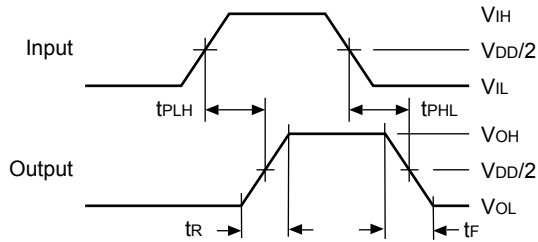


**Definitions:**

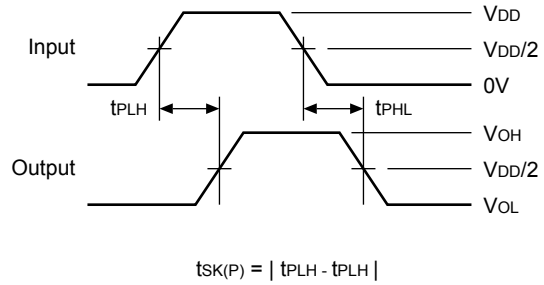
$C_L$  = Load capacitance: includes jig and probe capacitance.

### Switching Waveforms

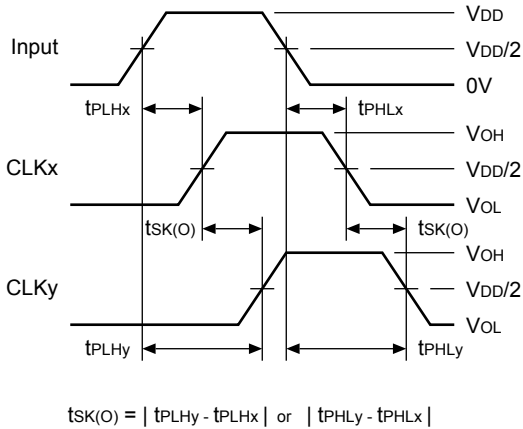
#### Propagation Delay



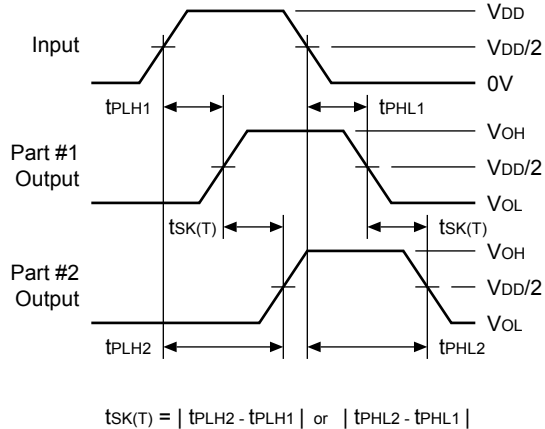
#### Pulse Skew – t<sub>SK(P)</sub>



#### Output Skew – t<sub>SK(O)</sub>

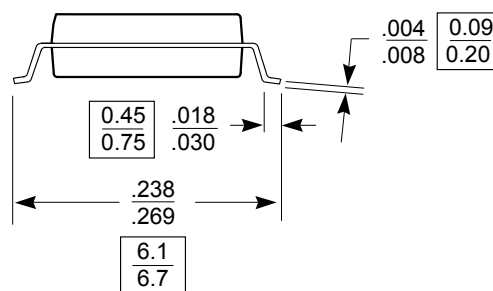
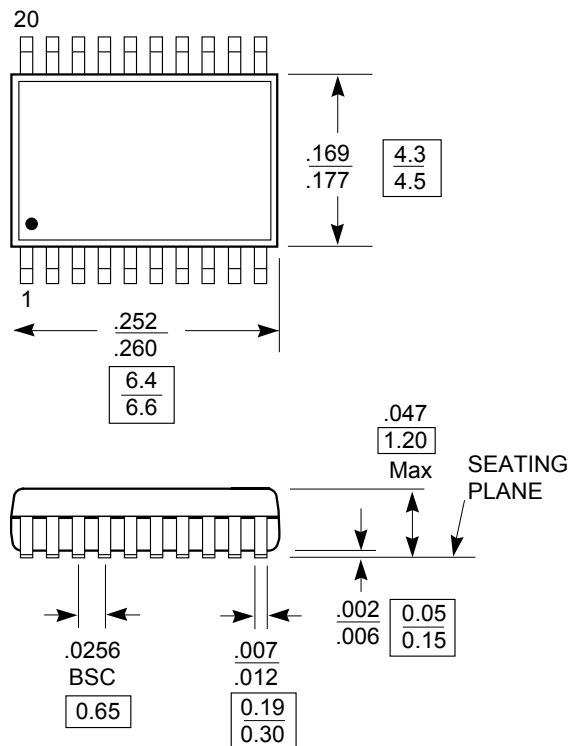


#### Package Skew – t<sub>SK(T)</sub>



DOCUMENT CONTROL NO.  
 PD - 1311

REVISION: E  
 DATE: 03/09/05



- Note:**
1. Package Outline Exclusive of Mold Flash and Metal Burr
  2. Controlling dimensions in millimeters
  3. Ref: JEDEC MO-153F/AC

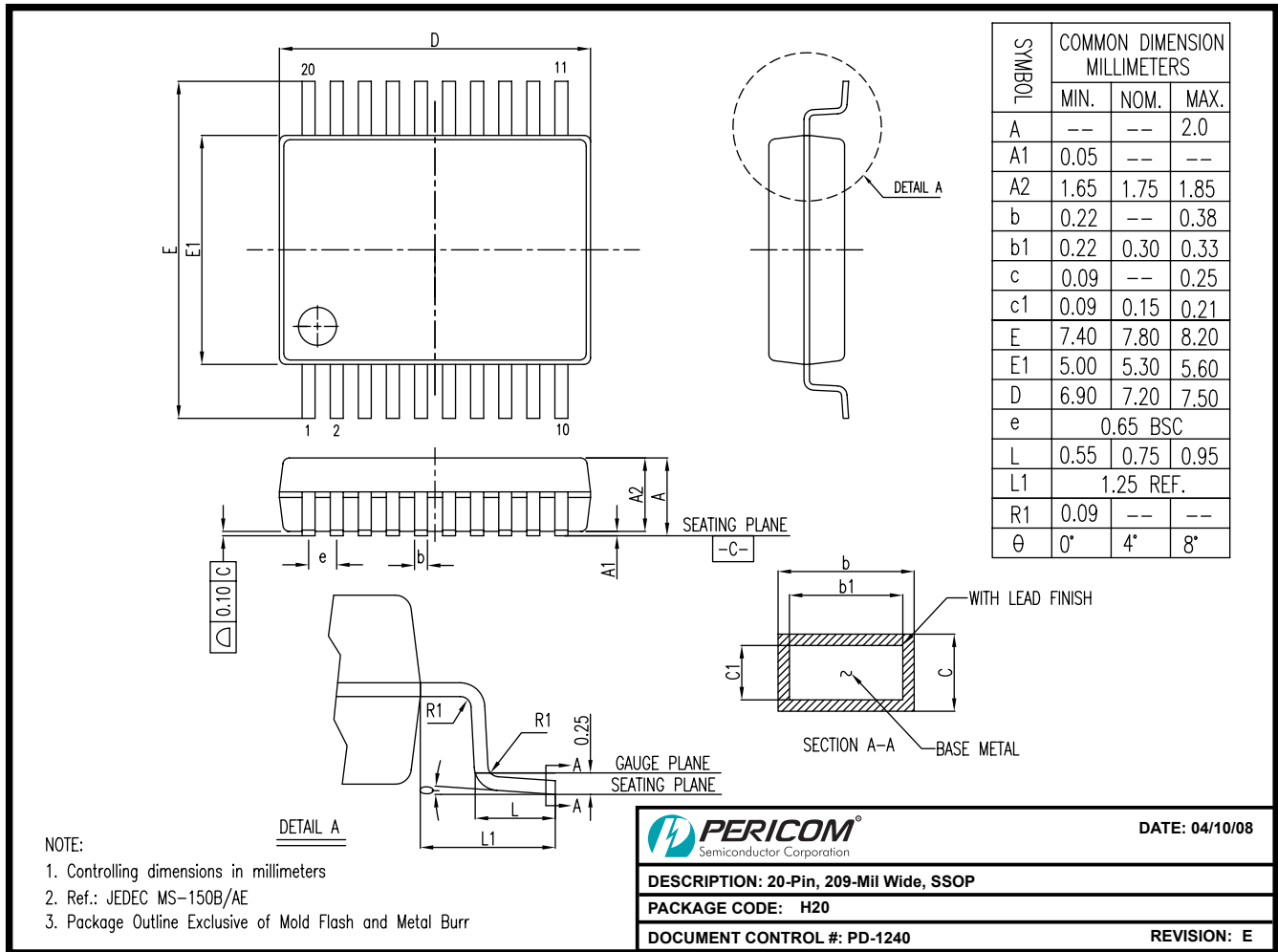


Pericom Semiconductor Corporation  
 3545 N. 1st Street, San Jose, CA 95134  
 1-800-435-2336 • www.pericom.com

DESCRIPTION: 20-Pin, 173-Mil Wide, TSSOP

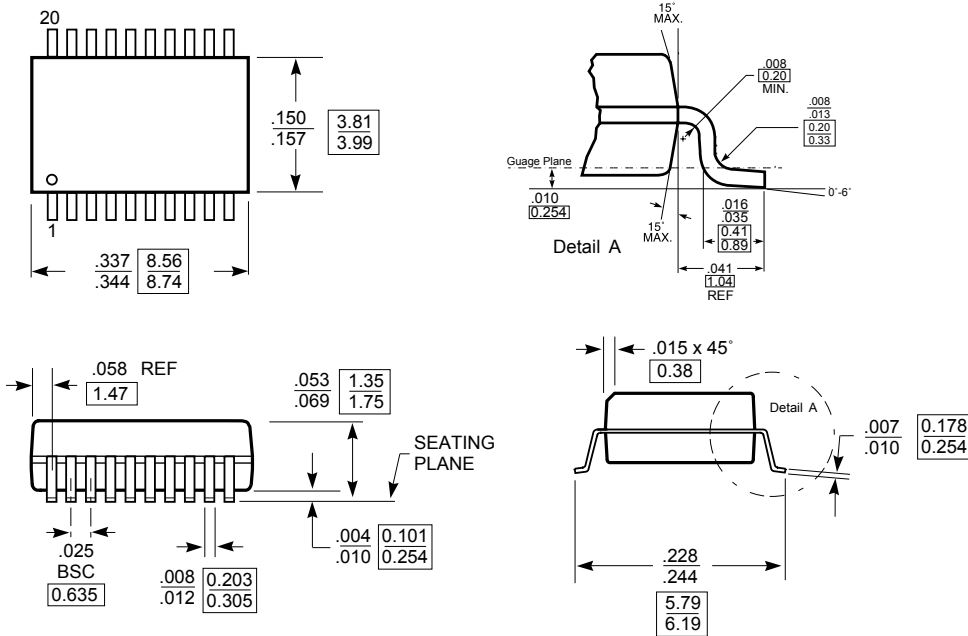
PACKAGE CODE: L





DOCUMENT CONTROL NO.  
PD - 1202

REVISION: H  
DATE: 10/22/07



X.XX DENOTES DIMENSIONS  
IN MILLIMETERS

- Note:
- 1) Controlling dimensions in inches.
  - 2) Ref: JEDEC MO-137B/AD
  - 3) Dimensions do not include mold flash, protrusions or gate burrs



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DESCRIPTION: 20-Pin, 150-Mil Wide, QSOP

PACKAGE CODE: Q

### Ordering Information<sup>(1-3)</sup>

| Ordering Code | Package Code | Package Type                               |
|---------------|--------------|--|
| PI6C10810LE   | L            | Pb-free & Green, 20-pin 173-mil wide TSSOP |
| PI6C10810HE   | H            | Pb-free & Green, 20-pin 209-mil wide SSOP  |
| PI6C10810QE   | Q            | Pb-free & Green, 20-pin 150-mil wide QSOP  |

#### Notes:

1. Thermal Characteristics can be found on the web at [www.pericom.com/packaging/](http://www.pericom.com/packaging/)
2. E = Lead-free and Green
3. Adding an X suffix = Tape/Reel

单击下面可查看定价，库存，交付和生命周期等信息

[>>Diodes Incorporated\(达达科技\(美台\)\)](#)