## Maximum Ratings

(Above which the useful life may be impaired. For user guidelines, not tested.)

| | |
|---|---|
| Storage Temperature | –65°C to +150°C |
| Ambient Temperature with Power Applied | –40°C to +85°C |
| Supply Voltage to Ground Potential | –0.5V to +4.6V |
| DC Input Voltage | –0.5V to +4.6V |
| DC Output Current | 120mA |
| Power Dissipation | 0.5W |

**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.

## DC Electrical Characteristics (Over the Operating Range, $T_A$ = –40°C to +85°C, $V_{CC}$ =3.3V ±10%)

| Parameters | Description | Test Conditions[1] | Min. | Typ[2] | Max. | Units |
|---|---|---|---|---|---|---|
| $V_{IH}$ | Input HIGH Voltage | Guaranteed Logic HIGH Level | 2.0 | | | V |
| $V_{IL}$ | Input LOW Voltage | Guaranteed Logic LOW Level | –0.5 | | 0.8 | |
| $I_{IH}$ | Input HIGH Current | $V_{CC}$ = Max., $V_{IN}$ = $V_{CC}$ | | | ±1 | µA |
| $I_{IL}$ | Input LOW Current | $V_{CC}$ = Max., $V_{IN}$ = GND | | | ±1 | |
| $I_{OZH}$ | High Impedance Output Current | 0 ≤ $I_N$, Y ≤ $V_{CC}$ | | | ±1 | |
| $V_{IK}$ | Clamp Diode Voltage | $V_{CC}$ = Min., $I_{IN}$ = –18mA | | | –1.2 | V |
| $R_{ON}$ | Switch On-Resistance[3] | $V_{CC}$ = Min., $V_{IN}$ = 0.0V, $I_{ON}$ = 48mA or 64mA | | 5 | 8 | Ω |
| | | $V_{CC}$ = Min., $V_{IN}$ = 2.4V, $I_{ON}$ = 15mA | | 10 | 17 | |

**Notes:**
1. For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device type.
2. Typical values are at $V_{CC}$ = 3.3V, $T_A$ = 25°C ambient and maximum loading.
3. Measured by the voltage drop between I and Y pin at indicated current through the switch. On-Resistance is determined by the lower of the voltages on the two (I,Y) pins.

## Capacitance ($T_A$ = 25°C, f = 1 MHz)

| Parameters[1] | Description | Test Conditions | Typ. | Units |
|---|---|---|---|---|
| $C_{IN}$ | Input Capacitance | $V_{IN}$ = 0V | 3.0 | pF |
| $C_{I(OFF)}$ | $I_0$ - $I_7$ Capacitance, Switch Off | | 8.0 | |
| $C_{Y(OFF)}$ | Y Capacitance, Switch Off | | 64.0 | |
| $C_{I(ON)}$ | $I_0$ - $I_7$ Capacitance, Switch On | | 72.0 | |

**Note:**
1. This parameter is determined by device characterization but is not production tested.

## Power Supply Characteristics

| Parameters | Description | Test Conditions[1] | | Min. | Typ.[2] | Max. | Units |
|---|---|---|---|---|---|---|---|
| $I_{CC}$ | Quiescent Power Supply Current | $V_{CC}$ = Max. | $V_{IN}$ = GND or $V_{CC}$ | | 0.1 | 3 | µA |
| $\Delta I_{CC}$ | Supply Current per Input @ TTL HIGH | $V_{CC}$ = Max. | $V_{IN}$ = 3.0V[3] | | | 750 | |

**Notes:**
1. For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device.
2. Typical values are at $V_{CC}$ = 3.3V, +25°C ambient.
3. Per TTL driven input (control input only); I and Y pins do not contribute to $I_{CC}$.

## Switching Characteristics over Operating Range

| Parameters | Description | Conditions | Com. | | Units |
|---|---|---|---|---|---|
| | | | Min. | Max. | |
| $t_{PD}$ | Propagation Delay[1,2], In to Y | $C_L$ = 50pF<br>$R_L$ = 500Ω | | 0.25 | ns |
| $t_{SY}$ | Bus Enable Time, Sn to Y | | 1 | 4.5 | |
| $t_{PZH}$<br>$t_{PZL}$ | Bus Enable Time, $\overline{E}$ to Y | | 1 | 3.5 | |
| $t_{PHZ}$<br>$t_{PLZ}$ | Bus Disable Time, $\overline{E}$ to Y | | 1 | 5.5 | |

**Notes:**
1. This parameter is guaranteed but not tested on Propagation Delays.
2. The bus switch contributes no propagational delay other than the RC delay of the On-Resistance of the switch and the load capacitance. The time constant for the switch alone is of the order of 0.25ns for 50pF load. Since this time constant is much smaller than the rise/fall times of typical driving signals, it adds very little propagational delay to the system. Propagational delay of the bus switch when used in a system is determined by the driving circuit on the driving side of the switch and its interaction with the load on the driven side.

## Applications Information

### Logic Inputs

The logic control inputs can be driven up to +3.6V regardless of the supply voltage. For example, given a + 3.3V supply, IN may be driven low to 0V and high to 3.6V. Driving IN Rail-to-Rail® minimizes power consumption.

### Power-Supply Sequencing and Hot-Plug Information

Proper power-supply sequencing is recommended for all CMOS devices. Always apply $V_{CC}$ and GND before applying signals to input/output or control pins.

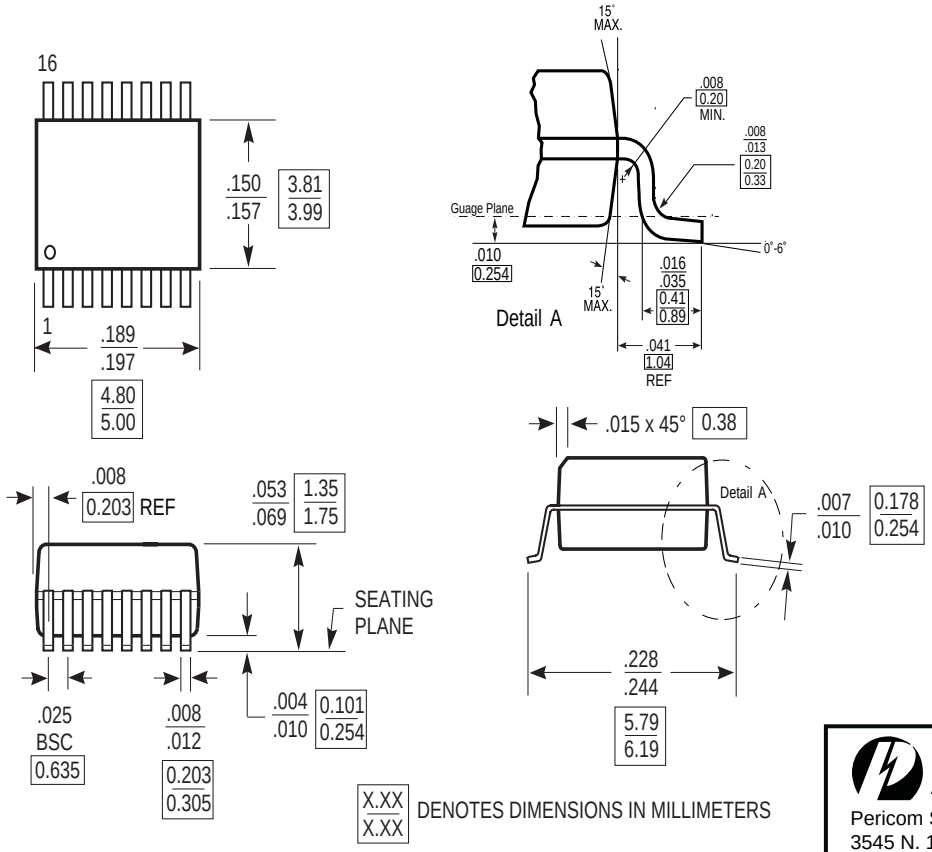
*Rail-to-Rail is a registered trademark of Nippon Motorola, Ltd.*

## Packaging Mechanical: 16-pin QSOP (Q)

DOCUMENT CONTROL NO.
PD - 1201

REVISION: G

DATE: 11/07/07




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

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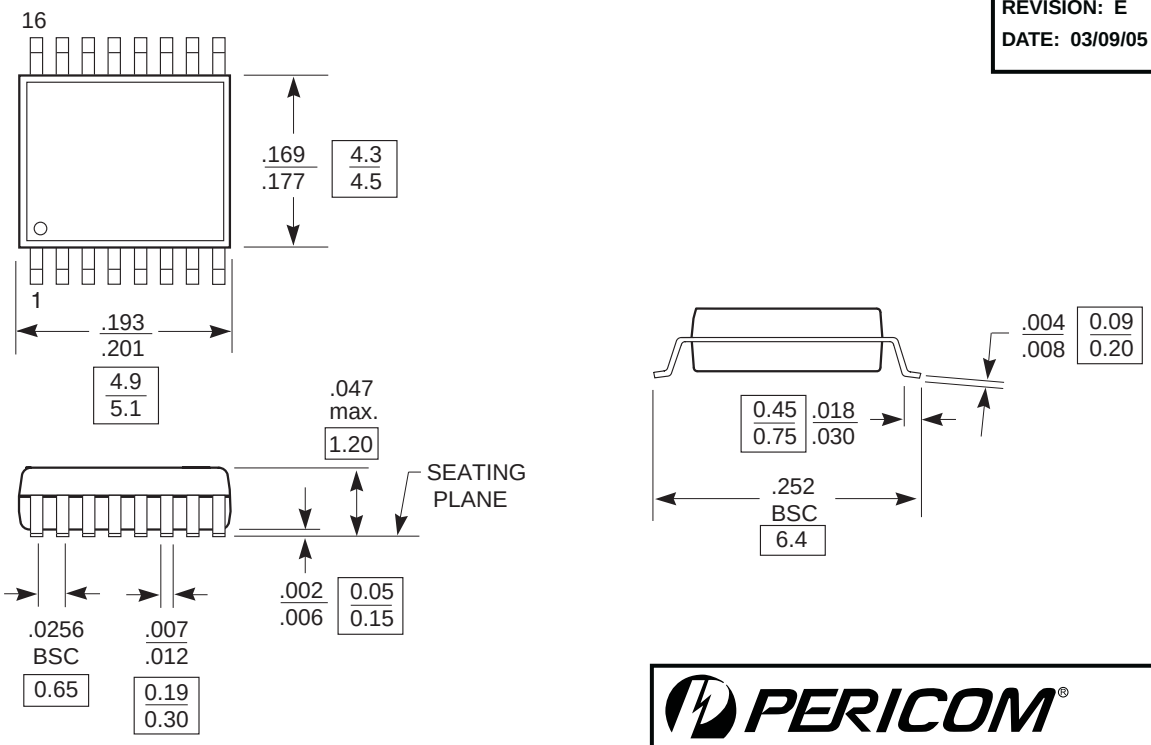
3545 N. 1st Street, San Jose, CA 95134
1-800-435-2335 • www.pericom.com

DESCRIPTION: 16-Pin 150-Mil Wide QSOP

PACKAGE CODE: Q

## Packaging Mechanical: 16-pin TSSOP (L)

| DOCUMENT CONTROL NO. PD - 1310 |
|---|
| REVISION: E<br>DATE: 03/09/05 |




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

PERICOM®

**Pericom Semiconductor Corporation**
**3545 N. 1st Street, San Jose, CA 95134**
**1-800-435-2335 • www.pericom.com**

**DESCRIPTION: 16-Pin, 173-Mil Wide, TSSOP**

**PACKAGE CODE: L**

## Ordering Information

| Ordering Code | Package Code | Package Description |
|---|---|---|
| PI3B3251QE | Q | Pb-free & Green, 16-pin QSOP |
| PI3B3251LE | L | Pb-free & Green, 16-Pin TSSOP |

**Notes:**
- Thermal characteristics can be found on the company web site at www.pericom.com/packaging/
- "E" denotes Pb-free and Green
- Adding an "X" at the end of the ordering code denotes tape and reel packaging