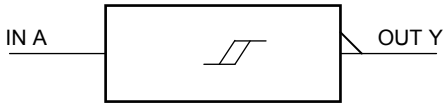
## IEC Logic Symbol




## Truth Table

| A | Y |
|---|---|
| L | H |
| H | L |

## Operating Ranges

| Characteristics | Symbol | Rating | Unit |
|---|---|---|---|
| Supply voltage | $V_{CC}$ | 2.0 to 5.5 | V |
| Input voltage | $V_{IN}$ | 0 to 5.5 | V |
| Output voltage | $V_{OUT}$ | 0 to $V_{CC}$ | V |
| Operating temperature | $T_{opr}$ | −40 to 85 | °C |

## Electrical Characteristics

## DC Characteristics

| Characteristics | | Symbol | Test Condition | | Ta = 25°C | | | | Ta = −40 to 85°C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $V_{CC}$ (V) | Min | Typ. | Max | Min | Max | |
| Input voltage | Positive threshold voltage | $V_P$ | — | | 3.0 | — | — | 2.20 | — | 2.20 | V |
| | | | | | 4.5 | — | — | 3.15 | — | 3.15 | |
| | | | | | 5.5 | — | — | 3.85 | — | 3.85 | |
| | Negative threshold voltage | $V_N$ | — | | 3.0 | 0.90 | — | — | 0.90 | — | |
| | | | | | 4.5 | 1.35 | — | — | 1.35 | — | |
| | | | | | 5.5 | 1.65 | — | — | 1.65 | — | |
| Hysteresis Voltage | | $V_H$ | — | | 3.0 | 0.30 | — | 1.20 | 0.30 | 1.20 | V |
| | | | | | 4.5 | 0.40 | — | 1.40 | 0.40 | 1.40 | |
| | | | | | 5.5 | 0.50 | — | 1.60 | 0.50 | 1.60 | |
| Output voltage | High level | $V_{OH}$ | $V_{IN} = V_{IL}$ | $I_{OH}$ = −50 μA | 2.0 | 1.9 | 2.0 | — | 1.9 | — | V |
| | | | | | 3.0 | 2.9 | 3.0 | — | 2.9 | — | |
| | | | | | 4.5 | 4.4 | 4.5 | — | 4.4 | — | |
| | | | | $I_{OH}$ = −4 mA | 3.0 | 2.58 | — | — | 2.48 | — | |
| | | | | $I_{OH}$ = −8 mA | 4.5 | 3.94 | — | — | 3.80 | — | |
| | Low level | $V_{OL}$ | $V_{IN} = V_{IH}$ | $I_{OL}$ = 50 μA | 2.0 | — | 0 | 0.1 | — | 0.1 | |
| | | | | | 3.0 | — | 0 | 0.1 | — | 0.1 | |
| | | | | | 4.5 | — | 0 | 0.1 | — | 0.1 | |
| | | | | $I_{OL}$ = 4 mA | 3.0 | — | — | 0.36 | — | 0.44 | |
| | | | | $I_{OL}$ = 8 mA | 4.5 | — | — | 0.36 | — | 0.44 | |
| Input leakage current | | $I_{IN}$ | $V_{IN}$ = 5.5 V or GND | | 0 to 5.5 | — | — | ±0.1 | — | ±1.0 | μA |
| Quiescent supply current | | $I_{CC}$ | $V_{IN} = V_{CC}$ or GND | | 5.5 | — | — | 2.0 | — | 20.0 | μA |

## AC Characteristics (unless otherwise specified, Input: $t_r = t_f = 3$ ns)

| Characteristics | Symbol | Test Condition | | | Ta = 25°C | | | Ta = −40 to 85°C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | $V_{CC}$ (V) | $C_L$ (pF) | Min | Typ. | Max | Min | Max | |
| Propagation delay time | $t_{PLH}$ $t_{PHL}$ | | 3.3 ± 0.3 | 15 | — | 8.3 | 12.8 | 1.0 | 15.0 | ns |
| | | | | 50 | — | 10.8 | 16.3 | 1.0 | 18.5 | |
| | | | 5.0 ± 0.5 | 15 | — | 5.5 | 8.6 | 1.0 | 10.0 | |
| | | | | 50 | — | 7.0 | 10.6 | 1.0 | 12.0 | |
| Input capacitance | $C_{IN}$ | — | | | — | 4 | 10 | — | 10 | pF |
| Power dissipation capacitance | $C_{PD}$ | (Note 2) | | | — | 14 | — | — | — | pF |

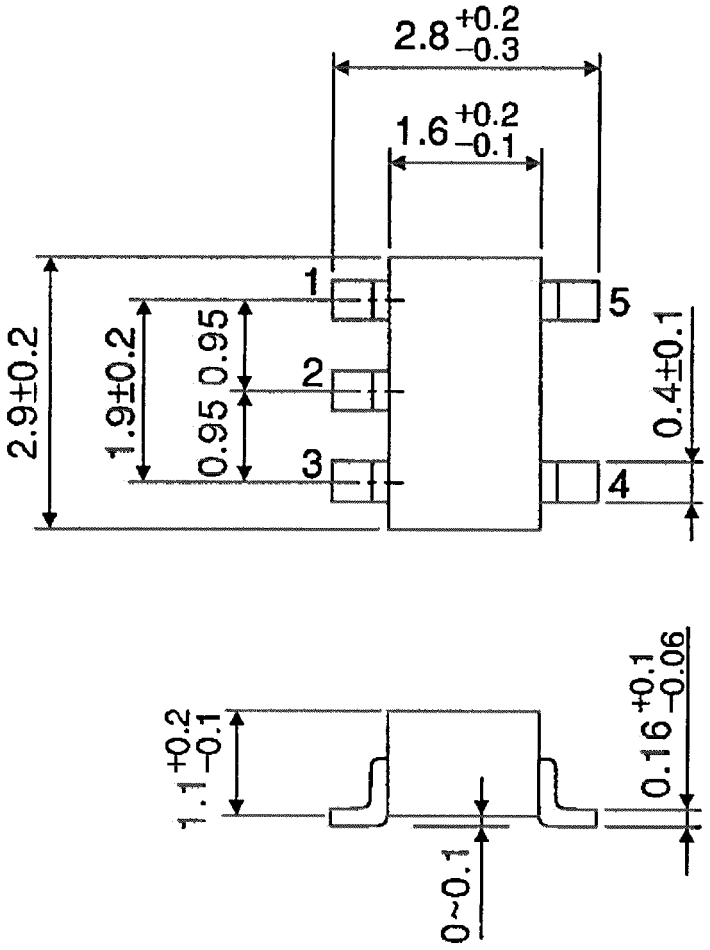
Note 2: $C_{PD}$ is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load.

Average operating current can be obtained by the equation.

$$I_{CC\ (opr.)} = C_{PD} \cdot V_{CC} \cdot f_{IN} + I_{CC}$$

## Package Dimensions

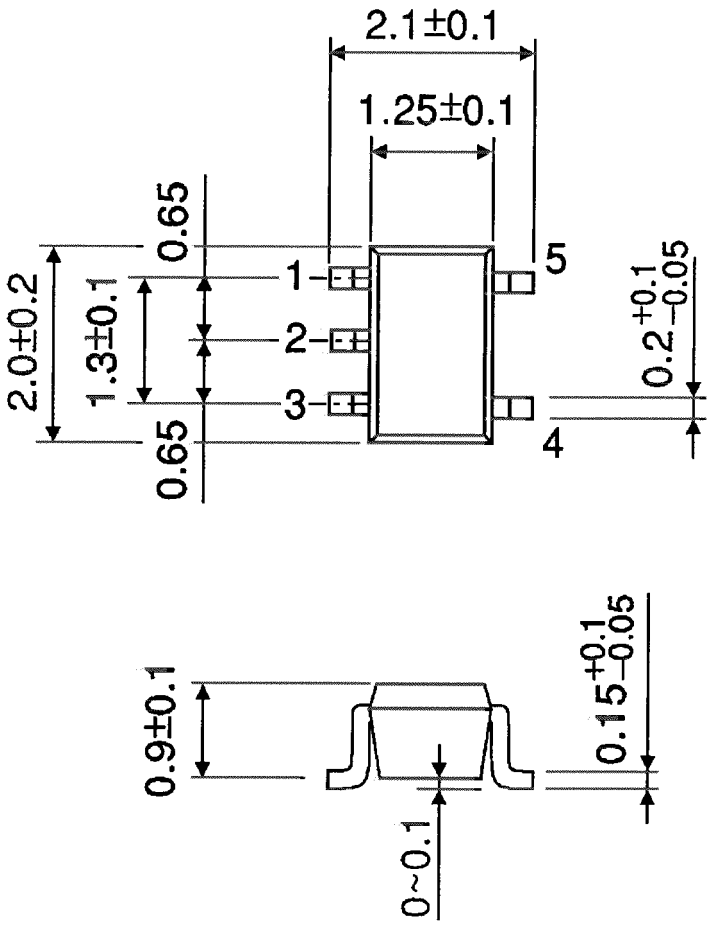
SSOP5-P-0.95 Unit : mm




Weight: 0.016 g (typ.)

## Package Dimensions

SSOP5-P-0.65A Unit : mm




Weight: 0.006 g (typ.)

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