## Ordering Information

**74 AUP1G 57 XXX -7**

| **Logic Device** | **Function** | **Package** | **Packing** |
|---|---|---|---|
| 74 : Logic Prefix<br>AUP : 0.8 to 3.6 V Logic Family<br>1G : One Gate | **57 :** 3-Input Configuable Multiple-Funtion Gate | W6 : SOT26<br>DW : SOT363<br>FW3 : DFN0910**<br>FW4 : DFN1010<br>FZ4 : DFN1410 | **-7 : 7" Tape & Reel** |

| Device | Package Code | Package (Notes 4 & 5) | Package Size | 7" Tape and Reel | |
|---|---|---|---|---|---|
| | | | | Quantity | Part Number Suffix |
| 74AUP1G57W6-7 | W6 | SOT26 | 3.0mm x 2.8mm x 1.2mm<br>0.95 mm lead pitch | 3,000/Tape & Reel | -7 |
| 74AUP1G57DW-7 | DW | SOT363 | 2.0mm x 2.0mm x 1.1mm<br>0.65 mm lead pitch | 3,000/Tape & Reel | -7 |
| 74AUP1G57FW3-7** | FW3 | X2-DFN0910-6 | 0.9mm x 1.0mm x 0.35mm<br>0.3 mm lead pitch | 5,000/Tape & Reel | -7 |
| 74AUP1G57FW4-7 | FW4 | X2-DFN1010-6 | 1.0mm x 1.0mm x 0.4mm<br>0.35 mm lead pitch | 5,000/Tape & Reel | -7 |
| 74AUP1G57FZ4-7 | FZ4 | X2-DFN1410-6 | 1.4mm x 1.0mm x 0.4mm<br>0.5 mm lead pitch | 5,000/Tape & Reel | -7 |

Notes: 4. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
5. The taping orientation is located on our website at http://www.diodes.com/datasheets/ap02007.pdf.
** The X2-DFN0910-6 is a future product.

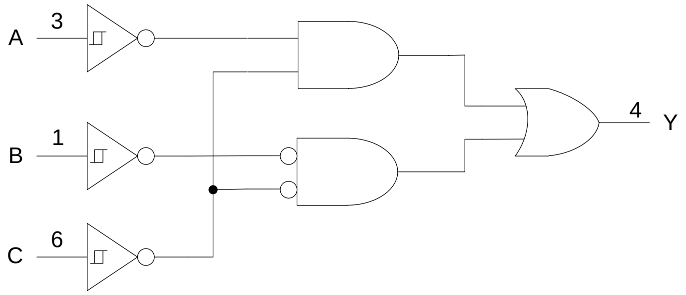
## Pin Descriptions

| Pin Name | Function |
|---|---|
| B | Data Input |
| GND | Ground |
| A | Data Input |
| Y | Data Output |
| $V_{CC}$ | Supply Voltage |
| C | Data Input |

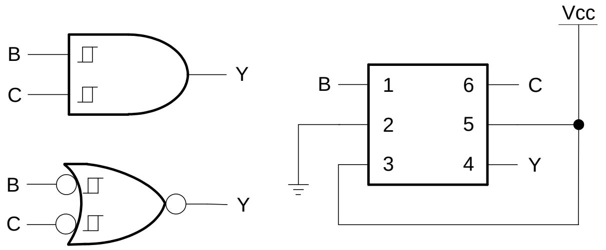
## Function Table

| Inputs | | | Output |
|---|---|---|---|
| **C** | **B** | **A** | **Y** |
| L | L | L | H |
| L | L | H | L |
| L | H | L | H |
| L | H | H | L |
| H | L | L | L |
| H | L | H | L |
| H | H | L | H |
| H | H | H | H |

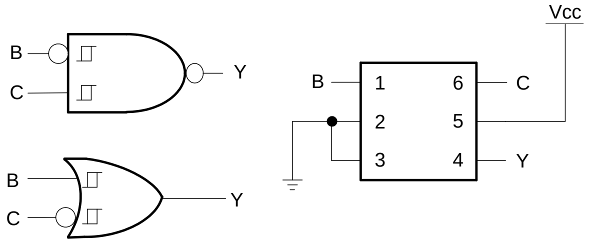
## Logic Diagram



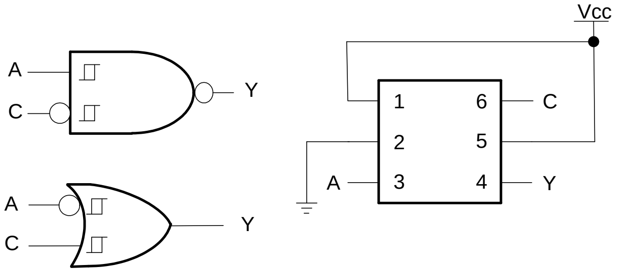
## Logic Configurations



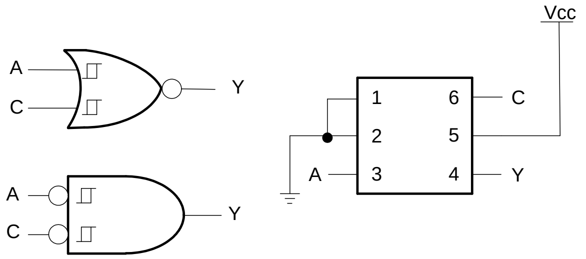
Configuration 1
2-Input AND Gate
2-Input NOR Gate with Both Inputs Inverted



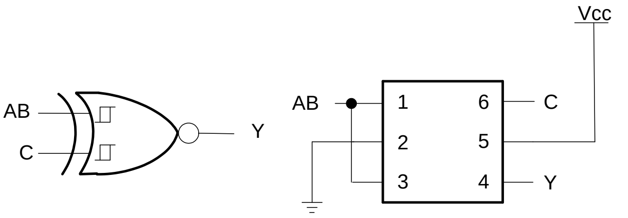
Configuration 2
2-Input NAND Gate with B Input Inverted
2-Input OR Gate with C input Inverted



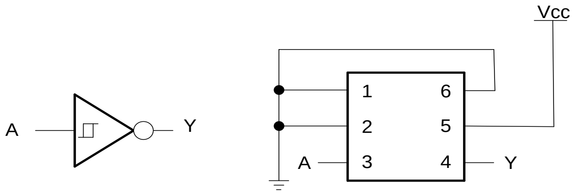
Configuration 3
2-Input NAND Gate with C Input Inverted
2-Input OR Gate with A Input Inverted



Configuration 4
2-Input NOR Gate
2-Input AND Gate with Both Inputs Inverted



Configuration 5
2-Input XNOR Gate



Configuration 6
Inverter

| Function Selection Table | |
|---|---|
| **Logic Function** | **Configuration** |
| 2-Input AND | 1 |
| 2-Input AND with both inputs inverted | 4 |
| 2-Input NAND with inverted input | 2, 3 |
| 2-Input OR with inverted input | 2, 3 |
| 2-Input NOR | 4 |
| 2-Input NOR with both inputs inverted | 1 |
| 2-Input XNOR | 5 |
| 1-Input INVERTER | 6 |

## Absolute Maximum Ratings (Notes 6 & 7)

| Symbol | Description | Rating | Unit |
|---|---|---|---|
| ESD HBM | Human Body Model ESD Protection | 2 | kV |
| ESD CDM | Charged Device Model ESD Protection | 1 | kV |
| ESD MM | Machine Model ESD Protection | 200 | V |
| $V_{CC}$ | Supply Voltage Range | -0.5 to +4.6 | V |
| $V_I$ | Input Voltage Range | -0.5 to +4.6 | V |
| $V_o$ | Voltage applied to output in high or low state | -0.5 to $V_{CC}$ +0.5 | V |
| $I_{IK}$ | Input Clamp Current $V_I$<0 | -50 | mA |
| $I_{OK}$ | Output Clamp Current ($V_O$ < 0 ) | -50 | mA |
| $I_O$ | Continuous Output Current ($V_O$ = 0 to $V_{CC}$) | ±20 | mA |
| $I_{CC}$ | Continuous Current through $V_{CC}$ | 50 | mA |
| $I_{GND}$ | Continuous Current through GND | -50 | mA |
| $T_J$ | Operating Junction Temperature | -40 to +150 | °C |
| $T_{STG}$ | Storage Temperature | -65 to +150 | °C |

Notes: 6. Stresses beyond the absolute maximum may result in immediate failure or reduced reliability. These are stress values and device operation should be within recommend values.
7. Forcing the maximum allowed voltage could cause a condition exceeding the maximum current or conversely forcing the maximum current could cause a condition exceeding the maximum voltage. The ratings of both current and voltage must be maintained within the controlled range.

## Recommended Operating Conditions (Note 8)

| Symbol | Parameter | | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{CC}$ | Operating Voltage | - | 0.8 | 3.6 | V |
| $V_I$ | Input Voltage | | 0 | 3.6 | V |
| $V_O$ | Output Voltage | Active Mode | 0 | $V_{CC}$ | V |
| | | Power Down Mode | 0 | 3.6 | V |
| $I_{OH}$ | High-Level Output Current | $V_{CC}$ = 0.8 V | - | -20 | µA |
| | | $V_{CC}$ = 1.1 V | - | -1.1 | mA |
| | | $V_{CC}$ = 1.4 V | - | -1.7 | |
| | | $V_{CC}$ = 1.65 V | - | -1.9 | |
| | | $V_{CC}$ = 2.3 V | - | -3.1 | |
| | | $V_{CC}$ = 3.0 V | - | -4 | |
| $I_{OL}$ | Low-Level Output Current | $V_{CC}$ = 0.8 V | - | 20 | uA |
| | | $V_{CC}$ = 1.1 V | - | 1.1 | mA |
| | | $V_{CC}$ = 1.4 V | - | 1.7 | |
| | | $V_{CC}$ = 1.65 V | - | 1.9 | |
| | | $V_{CC}$ = 2.3 V | - | 3.1 | |
| | | $V_{CC}$ = 3.0 V | - | 4 | |
| $T_A$ | Operating Free-Air Temperature | - | -40 | +125 | °C |

Note: 8. Unused inputs should be held at Vcc or Ground.

NEW PRODUCT

## Electrical Characteristics

| Symbol | Parameter | Test Conditions | Vcc | $T_A$ = +25°C | | $T_A$ =-40 to +85°C | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | | Min | Max | Min | Max | |
| $V_{T+}$ | Positive-Going Input Threshold Voltage | - | 0.8V | 0.3 | 0.65 | 0.3 | 0.7 | V |
| | | - | 1.1V | 0.53 | 0.9 | 0.53 | 0.9 | |
| | | - | 1.4V | 0.74 | 1.11 | 0.74 | 1.11 | |
| | | - | 1.65V | 0.91 | 1.29 | 0.91 | 1.29 | |
| | | - | 2.3V | 1.37 | 1.77 | 1.37 | 1.77 | |
| | | - | 3.0V | 1.88 | 2.29 | 1.88 | 2.29 | |
| $V_{T-}$ | Negative-Going Input Threshold Voltage | - | 0.8V | 0.1 | 0.6 | 0.1 | 0.6 | V |
| | | - | 1.1V | 0.26 | 0.65 | 0.26 | 0.65 | |
| | | - | 1.4V | 0.39 | 0.75 | 0.39 | 0.75 | |
| | | - | 1.65V | 0.47 | 0.84 | 0.47 | 0.84 | |
| | | - | 2.3V | 0.69 | 1.04 | 0.69 | 1.04 | |
| | | - | 3.0V | 0.88 | 1.24 | 0.88 | 1.24 | |
| $\Delta V_T$ | Hysteresis ($V_{T+}$ - $V_{T-}$) | - | 0.8V | 0.07 | 0.5 | 0.07 | 0.5 | V |
| | | - | 1.1V | 0.08 | 0.46 | 0.08 | 0.46 | |
| | | - | 1.4V | 0.18 | 0.56 | 0.18 | 0.56 | |
| | | - | 1.65V | 0.27 | 0.66 | 0.27 | 0.66 | |
| | | - | 2.3V | 0.53 | 0.92 | 0.53 | 0.92 | |
| | | - | 3.0V | 0.79 | 1.31 | 0.79 | 1.31 | |
| $V_{OH}$ | High-Level Output Voltage | $I_{OH}$ = -20μA | 0.8V to 3.6V | $V_{CC}$ – 0.1 | - | $V_{CC}$ – 0.1 | - | V |
| | | $I_{OH}$ = -1.1mA | 1.1V | 0.75 x $V_{CC}$ | - | 0.7 x $V_{CC}$ | - | |
| | | $I_{OH}$ = -1.7mA | 1.4V | 1.11 | - | 1.03 | - | |
| | | $I_{OH}$ = -1.9mA | 1.65V | 1.32 | - | 1.3 | - | |
| | | $I_{OH}$ = -2.3mA | 2.3V | 2.05 | - | 1.97 | - | |
| | | $I_{OH}$ = -3.1mA | | 1.9 | - | 1.85 | - | |
| | | $I_{OH}$ = -2.7mA | 3V | 2.72 | - | 2.67 | - | |
| | | $I_{OH}$ = -4mA | | 2.6 | - | 2.55 | - | |
| $V_{OL}$ | Low-Level Input Voltage | $I_{OL}$ = 20μA | 0.8V to 3.6V | - | 0.1 | - | 0.1 | V |
| | | $I_{OL}$ = 1.1mA | 1.1V | - | 0.3 x $V_{CC}$ | - | 0.3 x $V_{CC}$ | |
| | | $I_{OL}$ = 1.7mA | 1.4V | - | 0.31 | - | 0.37 | |
| | | $I_{OL}$ = 1.9mA | 1.65 V | - | 0.31 | - | 0.35 | |
| | | $I_{OL}$ = 2.3mA | 2.3V | - | 0.31 | - | 0.33 | |
| | | $I_{OL}$ = 3.1mA | | - | 0.44 | - | 0.45 | |
| | | $I_{OL}$ = 2.7mA | 3V | - | 0.31 | - | 0.33 | |
| | | $I_{OL}$ = 4mA | | - | 0.44 | - | 0.45 | |
| $I_I$ | Input Current | A or B Input<br>$V_I$ =GND to 3.6 V | 0V to 3.6V | - | ± 0.1 | - | ± 0.5 | μA |
| $I_{OFF}$ | Power Down Leakage Current | $V_I$ or $V_O$ = 0V to 3.6V | 0 | - | ± 0.2 | - | ± 0.6 | μA |
| $\Delta I_{OFF}$ | Delta Power Down Leakage Current | $V_I$ or $V_O$ = 0V to 3.6V | 0V to 0.2 V | - | ± 0.2 | - | ± 0.6 | μA |
| $I_{CC}$ | Supply Current | $V_I$ = GND or $V_{CC}$<br>$I_O$=0 | 0.8V to 3.6V | - | 0.5 | - | 0.9 | μA |
| $\Delta I_{CC}$ | Additional Supply Current | One input at $V_{CC}$ – 0.6 V Other inputs at $V_{CC}$ or GND | 3.3V | - | 40 | - | 50 | μA |

## Electrical Characteristics (continued)

| Symbol | Parameter | Test Conditions | Vcc | $T_A$ =-40 to +125°C | | Unit |
|---|---|---|---|---|---|---|
| | | | | Min | Max | |
| $V_{T+}$ | Positive-Going Input Threshold Voltage | - | 0.8V | 0.3 | 0.7 | V |
| | | - | 1.1V | 0.53 | 0.92 | |
| | | - | 1.4V | 0.74 | 1.13 | |
| | | - | 1.65V | 0.91 | 1.31 | |
| | | - | 2.3V | 1.37 | 1.8 | |
| | | - | 3.0V | 1.88 | 2.32 | |
| $V_{T-}$ | Negative-Going Input Threshold Voltage | - | 0.8V | 0.1 | 0.6 | V |
| | | - | 1.1V | 0.26 | 0.65 | |
| | | - | 1.4V | 0.39 | 0.75 | |
| | | - | 1.65V | 0.47 | 0.84 | |
| | | - | 2.3V | 0.69 | 1.04 | |
| | | - | 3.0V | 0.88 | 1.24 | |
| $\Delta V_T$ | Hysteresis ($V_{T+}$ - $V_{T-}$) | - | 0.8V | 0.07 | 0.5 | V |
| | | - | 1.1V | 0.08 | 0.46 | |
| | | - | 1.4V | 0.18 | 0.56 | |
| | | - | 1.65V | 0.27 | 0.66 | |
| | | - | 2.3V | 0.53 | 0.92 | |
| | | - | 3.0V | 0.79 | 1.31 | |
| $V_{OH}$ | High-Level Output Voltage | $I_{OH}$ = -20μA | 0.8V to 3.6V | $V_{CC}$ – 0.11 | - | V |
| | | $I_{OH}$ = -1.1mA | 1.1V | 0.6 x $V_{CC}$ | - | |
| | | $I_{OH}$ = -1.7mA | 1.4V | 0.93 | - | |
| | | $I_{OH}$ = -1.9mA | 1.65V | 1.17 | - | |
| | | $I_{OH}$ = -2.3mA | 2.3V | 1.77 | - | |
| | | $I_{OH}$ = -3.1mA | | 1.67 | - | |
| | | $I_{OH}$ = -2.7mA | 3V | 2.40 | - | |
| | | $I_{OH}$ = -4mA | | 2.30 | - | |
| $V_{OL}$ | Low-Level Input Voltage | $I_{OL}$ = 20μA | 0.8V to 3.6V | - | 0.11 | V |
| | | $I_{OL}$ = 1.1mA | 1.1V | - | 0.33 x $V_{CC}$ | |
| | | $I_{OL}$ = 1.7mA | 1.4V | - | 0.41 | |
| | | $I_{OL}$ = 1.9mA | 1.65 V | - | 0.39 | |
| | | $I_{OL}$ = 2.3mA | 2.3V | - | 0.36 | |
| | | $I_{OL}$ = 3.1mA | | - | 0.50 | |
| | | $I_{OL}$ = 2.7mA | 3V | - | 0.36 | |
| | | $I_{OL}$ = 4mA | | - | 0.50 | |
| $I_I$ | Input Current | A or B Input<br>$V_I$ =GND to 3.6 V | 0V to 3.6V | - | ± 0.75 | μA |
| $I_{OFF}$ | Power Down Leakage Current | $V_I$ or $V_O$ = 0V to 3.6V | 0 | - | ± 1.0 | μA |
| $\Delta I_{OFF}$ | Delta Power Down Leakage Current | $V_I$ or $V_O$ = 0V to 3.6V | 0V to 0.2 V | - | ± 2.5 | μA |
| $I_{CC}$ | Supply Current | $V_I$ = GND or $V_{CC}$<br>$I_O$=0 | 0.8V to 3.6V | - | 1.4 | μA |
| $\Delta I_{CC}$ | Additional Supply Current | One input at $V_{CC}$ – 0.6 V Other inputs at $V_{CC}$ or GND | 3.3V | - | 75 | μA |

## Package Characteristics

| Symbol | Parameter | Package | Test Conditions | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|---|
| $\theta_{JA}$ | Thermal Resistance Junction-to-Ambient | SOT26 | (Note 9) | - | 166 | - | °C/W |
| | | SOT363 | | - | 371 | - | |
| | | X2-DFN0910-6 | | - | 450 | - | |
| | | X2-DFN1010-6 | | - | 445 | - | |
| | | X2-DFN1410-6 | | - | 430 | - | |
| $\theta_{JC}$ | Thermal Resistance Junction-to-Case | SOT26 | (Note 9) | - | 46 | - | °C/W |
| | | SOT363 | | - | 143 | - | |
| | | X2-DFN0910-6 | | - | 255 | - | |
| | | X2-DFN1010-6 | | - | 250 | - | |
| | | X2-DFN1410-6 | | - | 190 | - | |

Note: 9. Test condition for each of the 8 package types: Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

## Operating Characteristics (@$T_A$ = +25°C, unless otherwise specified.)

| Parameter | | Test Conditions | Vcc | TYP | Unit |
|---|---|---|---|---|---|
| $C_{pd}$ | Power Dissipation Capacitance | f = 1MHz<br>No Load | 0.8 V | 4 | pF |
| | | | 1.2V ± 0.1V | 4 | |
| | | | 1.5V ± 0.1V | 4 | |
| | | | 1.8V ± 0.15V | 4 | |
| | | | 2.5V ± 0.2V | 4.4 | |
| | | | 3.3 ± 0.3V | 4.8 | |
| $C_I$ | Input Capacitance | $V_i = V_{CC}$ or GND | 0 V or 3.3V | 1.1 | pF |
| $C_O$ | Output Capacitance | $V_0 = V_{CC}$ or GND | 0 V | 2.0 | pF |

## Switching Characteristics

$C_L$=5pF, See Figure 1

| Parameter | From Input | TO OUTPUT | $V_{CC}$ | $T_A$ = +25°C | | | $T_A$ = -40°C to +85ºC | | $T_A$ = -40ºC to +125°C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | TYP | Max | Min | Max | Min | Max | |
| $t_{pd}$ | A,<br>B,<br>or<br>C | Y | 0.8 V | - | 28 | - | - | - | - | - | ns |
| | | | 1.2 V ± 0.1 V | 2.6 | 7.4 | 14.4 | 2.1 | 14.8 | 2.1 | 15.1 | |
| | | | 1.5 V ± 0.1 V | 1.9 | 4.6 | 7.6 | 1.4 | 8.2 | 1.4 | 8.6 | |
| | | | 1.8 V ± 0.15 V | 1.4 | 3.9 | 6.2 | 0.9 | 6.8 | 0.9 | 7.2 | |
| | | | 2.5 V ± 0.2 V | 1.1 | 3.1 | 4.5 | 0.6 | 5.1 | 0.6 | 5.3 | |
| | | | 3.3 V ± 0.3 V | 1 | 2.8 | 3.9 | 0.5 | 4.1 | 0.5 | 4.3 | |

## Switching Characteristics (continued)

$C_L$=10pF, See Figure 1

| Parameter | From Input | TO OUTPUT | $V_{CC}$ | $T_A$ = +25°C | | | $T_A$ = -40°C to +85°C | | $T_A$ = -40°C to +125ºC | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | TYP | Max | Min | Max | Min | Max | |
| $t_{pd}$ | A,<br>B,<br>or<br>C | Y | 0.8 V | - | 32 | - | - | - | - | - | ns |
| | | | 1.2 V ± 0.1 V | 2.6 | 8.3 | 16.4 | 2.1 | 17 | 2.1 | 17.3 | |
| | | | 1.5 V ± 0.1 V | 1.9 | 5.2 | 8.7 | 1.4 | 9.4 | 1.4 | 9.8 | |
| | | | 1.8 V ± 0.15 V | 1.4 | 4.5 | 7 | 0.9 | 7.8 | 0.9 | 8.2 | |
| | | | 2.5 V ± 0.2 V | 1.1 | 3.7 | 5.2 | 0.6 | 5.9 | 0.6 | 6.2 | |
| | | | 3.3 V ± 0.3 V | 1 | 3.4 | 4.6 | 0.5 | 4.9 | 0.5 | 5.1 | |

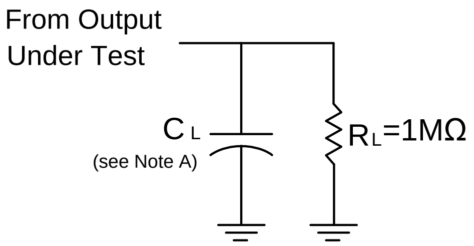
$C_L$=15pF, See Figure 1

| Parameter | From Input | TO OUTPUT | $V_{CC}$ | $T_A$ = +25°C | | | $T_A$ = -40°C to +85°C | | $T_A$ = -40°C to +125°C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | TYP | Max | Min | Max | Min | Max | |
| $t_{pd}$ | A,<br>B,<br>or<br>C | Y | 0.8 V | - | 38 | - | - | - | - | - | ns |
| | | | 1.2 V ± 0.1 V | 3.4 | 9.1 | 17.9 | 3.1 | 19.8 | 3.1 | 20 | |
| | | | 1.5 V ± 0.1 V | 2.8 | 5.7 | 9.6 | 2.3 | 10.4 | 2.3 | 10.9 | |
| | | | 1.8 V ± 0.15 V | 2.1 | 4.9 | 7.8 | 1.6 | 8.7 | 1.6 | 9.2 | |
| | | | 2.5 V ± 0.2 V | 1.7 | 4.1 | 5.8 | 1.2 | 6.5 | 1.2 | 6.9 | |
| | | | 3.3 V ± 0.3 V | 1.5 | 3.8 | 5.1 | 1 | 5.5 | 1 | 5.7 | |

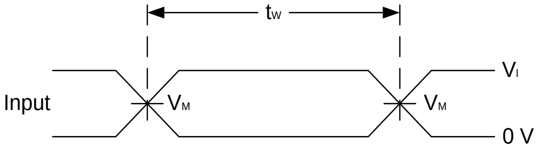
$C_L$=30pF, See Figure 1

| Parameter | From Input | TO OUTPUT | $V_{CC}$ | $T_A$ = +25°C | | | $T_A$ = -40°C to +85°C | | $T_A$ = -40°C to +125°C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | TYP | Max | Min | Max | Min | Max | |
| $t_{pd}$ | A,<br>B,<br>or<br>C | Y | 0.8 V | - | 46 | - | - | - | - | - | ns |
| | | | 1.2 V ± 0.1 V | 4.6 | 11.9 | 23.8 | 3.9 | 24.9 | 3.9 | 25.4 | |
| | | | 1.5 V ± 0.1 V | 3.6 | 7.4 | 12.2 | 3.4 | 13.3 | 3.4 | 14.1 | |
| | | | 1.8 V ± 0.15 V | 3.1 | 6.2 | 9.9 | 2.6 | 11.1 | 2.6 | 11.8 | |
| | | | 2.5 V ± 0.2 V | 2.6 | 5.2 | 7.4 | 2.1 | 8.3 | 2.1 | 8.8 | |
| | | | 3.3 V ± 0.3 V | 2.3 | 4.9 | 6.6 | 1.8 | 7 | 1 | 7.4 | |

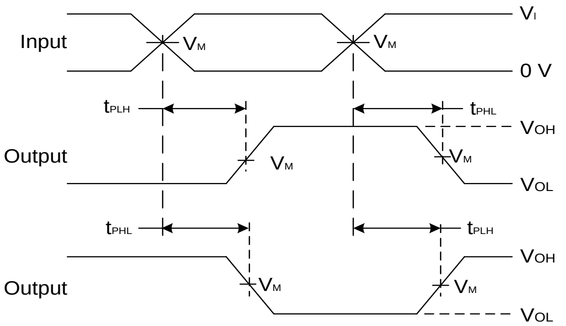
## Parameter Measurement Information



| $V_{CC}$ | Inputs | | $V_M$ | $C_L$ |
|---|---|---|---|---|
| | $V_I$ | $t_r/t_f$ | | |
| 0.8 V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |
| 1.2V±0.1V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |
| 1.5V±0.1V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |
| 1.8V±0.15V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |
| 2.5V±0.2V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |
| 3.3V±0.3V | $V_{CC}$ | ≤3ns | $V_{CC}/2$ | 5, 10, 15, 30 pF |



Voltage Waveform Pulse Duration



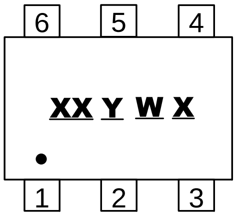
Voltage Waveform Propagation Delay Times
Inverting and Non Inverting Outputs

Figure 1. Load Circuit and Voltage Waveforms

Notes: A. Includes test lead and test apparatus capacitance.
B. All pulses are supplied at pulse repetition rate ≤ 10 MHz.
C. Inputs are measured separately one transition per measurement.
D. $t_{PLH}$ and $t_{PHL}$ are the same as $t_{PD}$.

## Marking Information

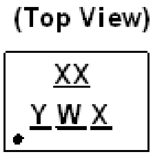
**(1) SOT26, SOT363**



XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Internal Code

| Part Number | Package | Identification Code |
|---|---|---|
| 74AUP1G57W6 | SOT26 | AP |
| 74AUP1G57DW | SOT363 | BV |

**(2) X2-DFN0910-6, X2-DFN1010-6, X2-DFN1410-6**

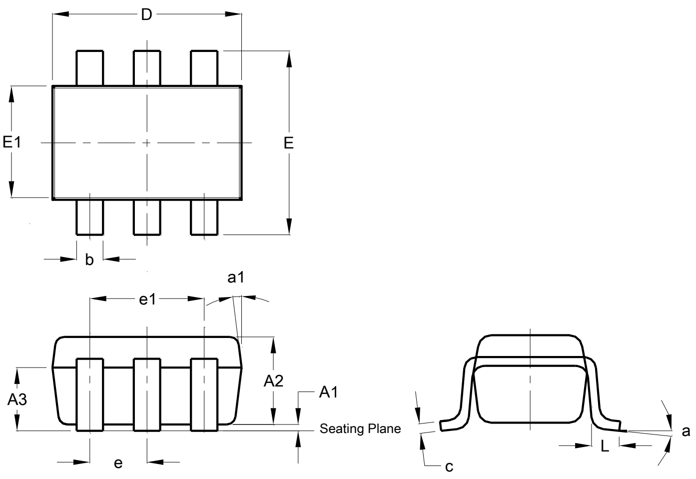


XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Internal code

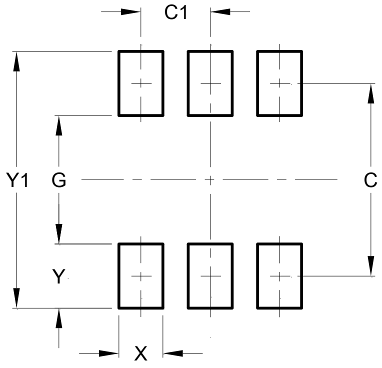
| Part Number | Package | Identification Code |
|---|---|---|
| 74AUP1G57FW3 | X2-DFN0910-6 | AP |
| 74AUP1G57FW4 | X2-DFN1010-6 | BV |
| 74AUP1G57FZ4 | X2-DFN1410-6 | NG |

## SOT26 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



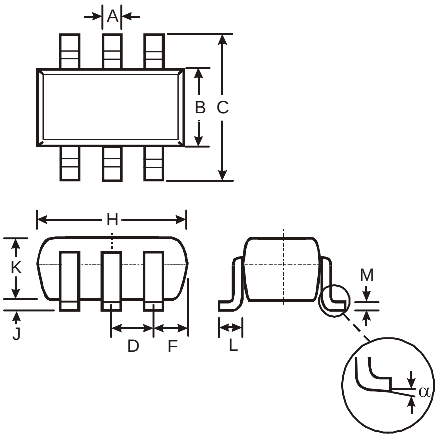
| SOT26 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A1** | 0.013 | 0.10 | 0.05 |
| **A2** | 1.00 | 1.30 | 1.10 |
| **A3** | 0.70 | 0.80 | 0.75 |
| **b** | 0.35 | 0.50 | 0.38 |
| **c** | 0.10 | 0.20 | 0.15 |
| **D** | 2.90 | 3.10 | 3.00 |
| **e** | - | - | 0.95 |
| **e1** | - | - | 1.90 |
| **E** | 2.70 | 3.00 | 2.80 |
| **E1** | 1.50 | 1.70 | 1.60 |
| **L** | 0.35 | 0.55 | 0.40 |
| **a** | - | - | 8° |
| **a1** | - | - | 7° |
| **All Dimensions in mm** | | | |



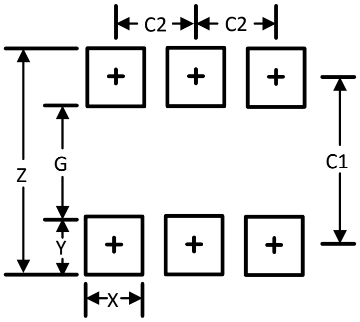
| Dimensions | Value (in mm) |
|---|---|
| **C** | 2.40 |
| **C1** | 0.95 |
| **G** | 1.60 |
| **X** | 0.55 |
| **Y** | 0.80 |
| **Y1** | 3.20 |

## SOT363 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



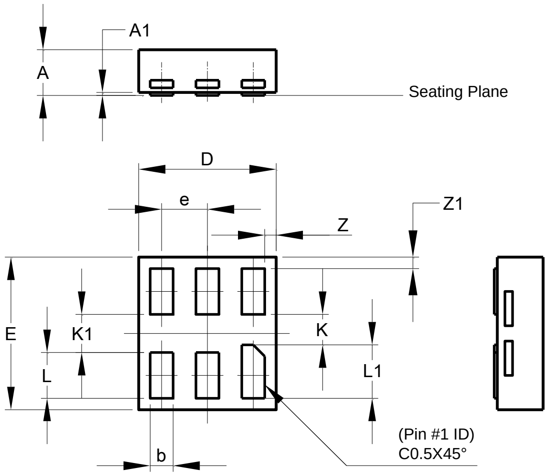
| SOT363 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 0.10 | 0.30 | 0.25 |
| **B** | 1.15 | 1.35 | 1.30 |
| **C** | 2.00 | 2.20 | 2.10 |
| **D** | 0.65 Typ | | |
| **F** | 0.40 | 0.45 | 0.425 |
| **H** | 1.80 | 2.20 | 2.15 |
| **J** | 0 | 0.10 | 0.05 |
| **K** | 0.90 | 1.00 | 1.00 |
| **L** | 0.25 | 0.40 | 0.30 |
| **M** | 0.10 | 0.22 | 0.11 |
| **α** | 0° | 8° | - |
| **All Dimensions in mm** | | | |



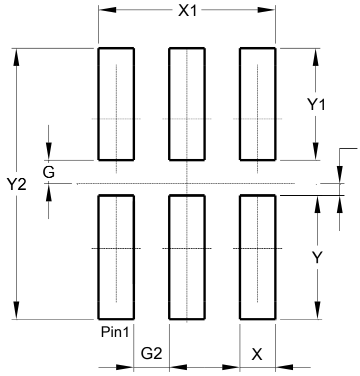
| Dimensions | Value (in mm) |
|---|---|
| **Z** | 2.5 |
| **G** | 1.3 |
| **X** | 0.42 |
| **Y** | 0.6 |
| **C1** | 1.9 |
| **C2** | 0.65 |

## X2-DFN0910-6 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



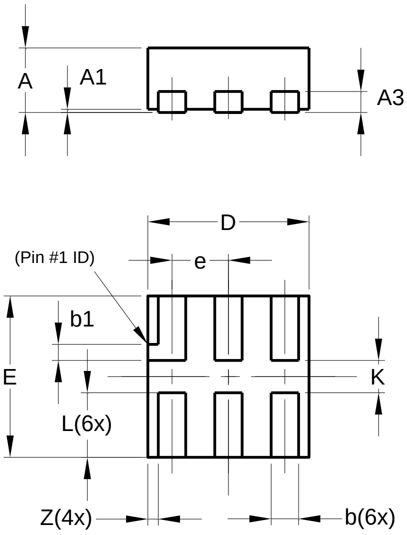
| X2-DFN0910-6 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | - | 0.35 | 0.30 |
| **A1** | 0 | 0.03 | 0.02 |
| **b** | 0.10 | 0.20 | 0.15 |
| **D** | 0.85 | 0.95 | 0.90 |
| **E** | 0.95 | 1.05 | 1.00 |
| **e** | - | - | 0.30 |
| **K** | 0.20 | - | - |
| **K1** | 0.25 | - | - |
| **L** | 0.25 | 0.35 | 0.30 |
| **L1** | 0.30 | 0.40 | 0.35 |
| **Z** | - | - | 0.075 |
| **Z1** | - | - | 0.075 |
| **All Dimensions in mm** | | | |



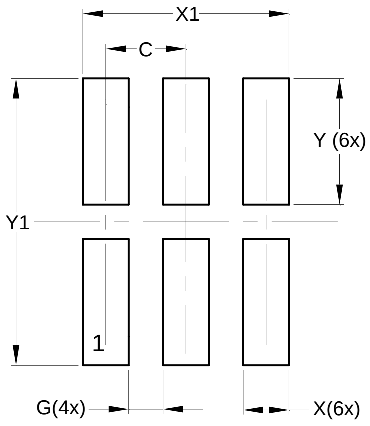
| Dimensions | Value (in mm) |
|---|---|
| **G** | 0.100 |
| **G1** | 0.050 |
| **G2** | 0.150 |
| **X** | 0.150 |
| **X1** | 0.750 |
| **Y** | 0.525 |
| **Y1** | 0.475 |
| **Y2** | 1.150 |

## X2-DFN1010-6 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



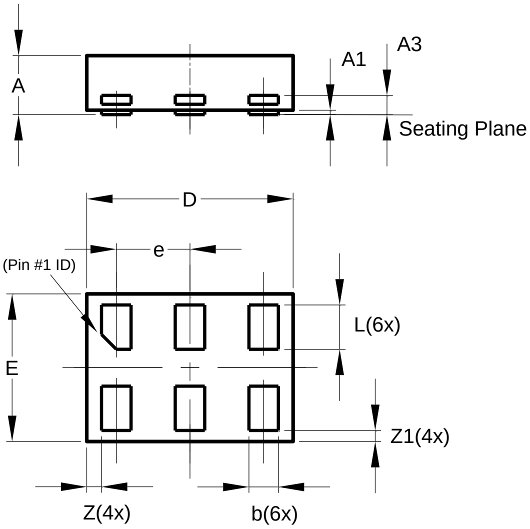
| X2-DFN1010-6 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | — | 0.40 | 0.39 |
| **A1** | 0.00 | 0.05 | 0.02 |
| **A3** | — | — | 0.13 |
| **b** | 0.14 | 0.20 | 0.17 |
| **b1** | 0.05 | 0.15 | 0.10 |
| **D** | 0.95 | 1.05 | 1.00 |
| **E** | 0.95 | 1.05 | 1.00 |
| **e** | — | — | 0.35 |
| **L** | 0.35 | 0.45 | 0.40 |
| **K** | 0.15 | — | — |
| **Z** | — | — | 0.065 |
| **All Dimensions in mm** | | | |



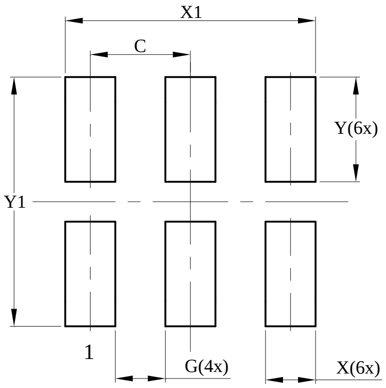
| Dimensions | Value (in mm) |
|---|---|
| **C** | 0.350 |
| **G** | 0.150 |
| **X** | 0.200 |
| **X1** | 0.900 |
| **Y** | 0.550 |
| **Y1** | 1.250 |

## X2-DFN1410-6 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



| X2-DFN1410-6 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | — | 0.40 | 0.39 |
| **A1** | 0.00 | 0.05 | 0.02 |
| **A3** | — | — | 0.13 |
| **b** | 0.15 | 0.25 | 0.20 |
| **D** | 1.35 | 1.45 | 1.40 |
| **E** | 0.95 | 1.05 | 1.00 |
| **e** | — | — | 0.50 |
| **L** | 0.25 | 0.35 | 0.30 |
| **Z** | — | — | 0.10 |
| **Z1** | 0.045 | 0.105 | 0.075 |
| **All Dimensions in mm** | | | |



| Dimensions | Value (in mm) |
|---|---|
| **C** | 0.500 |
| **G** | 0.250 |
| **X** | 0.250 |
| **X1** | 1.250 |
| **Y** | 0.525 |
| **Y1** | 1.250 |

## IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel.
Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

## LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

**www.diodes.com**