

74AUP2G06

Low-power dual inverter with open-drain output

Rev. 6 — 15 March 2019

Product data sheet

1. General description

The 74AUP2G06 provides two inverting buffers with open-drain output. The output of the device is an open drain and can be connected to other open-drain outputs to implement active-LOW wired-OR or active-HIGH wired-AND functions.

Schmitt-trigger action at all inputs makes the circuit tolerant to slower input rise and fall times across the entire V_{CC} range from 0.8 V to 3.6 V.

This device ensures a very low static and dynamic power consumption across the entire V_{CC} range from 0.8 V to 3.6 V.

This device is fully specified for partial Power-down applications using I_{OFF} . The I_{OFF} circuitry disables the output, preventing the damaging backflow current through the device when it is powered down.

2. Features and benefits

- Wide supply voltage range from 0.8 V to 3.6 V
- High noise immunity
- Complies with JEDEC standards:
 - JESD8-12 (0.8 V to 1.3 V)
 - JESD8-11 (0.9 V to 1.65 V)
 - JESD8-7 (1.2 V to 1.95 V)
 - JESD8-5 (1.8 V to 2.7 V)
 - JESD8-B (2.7 V to 3.6 V)
- ESD protection:
 - HBM JESD22-A114F Class 3A. Exceeds 5000 V
 - MM JESD22-A115-A exceeds 200 V
 - CDM JESD22-C101E exceeds 1000 V
- Low static power consumption; $I_{CC} = 0.9 \mu\text{A}$ (maximum)
- Latch-up performance exceeds 100 mA per JESD 78B Class II
- Inputs accept voltages up to 3.6 V
- Low noise overshoot and undershoot < 10 % of V_{CC}
- I_{OFF} circuitry provides partial Power-down mode operation
- Multiple package options
- Specified from -40 °C to +85 °C and -40 °C to +125 °C

3. Ordering information

Table 1. Ordering information

| Type number | Package | | | |
|-------------|-------------------|-------|---|---------|
| | Temperature range | Name | Description | Version |
| 74AUP2G06GW | -40 °C to +125 °C | SC-88 | plastic surface-mounted package; 6 leads | SOT363 |
| 74AUP2G06GM | -40 °C to +125 °C | XSON6 | plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1.45 x 0.5 mm | SOT886 |
| 74AUP2G06GF | -40 °C to +125 °C | XSON6 | plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1 x 0.5 mm | SOT891 |
| 74AUP2G06GN | -40 °C to +125 °C | XSON6 | extremely thin small outline package; no leads; 6 terminals; body 0.9 x 1.0 x 0.35 mm | SOT1115 |
| 74AUP2G06GS | -40 °C to +125 °C | XSON6 | extremely thin small outline package; no leads; 6 terminals; body 1.0 x 1.0 x 0.35 mm | SOT1202 |

4. Marking

Table 2. Marking

| Type number | Marking code[1] |
|-------------|-----------------|
| 74AUP2G06GW | p6 |
| 74AUP2G06GM | p6 |
| 74AUP2G06GF | p6 |
| 74AUP2G06GN | p6 |
| 74AUP2G06GS | p6 |

[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

5. Functional diagram

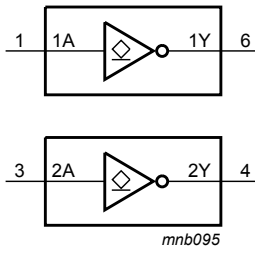


Fig. 1. Logic symbol

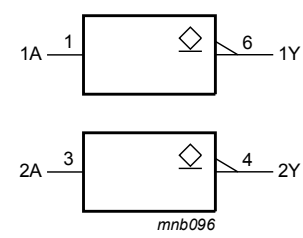


Fig. 2. IEC logic symbol

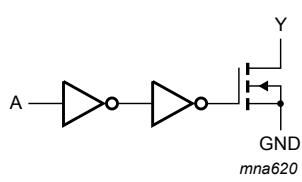
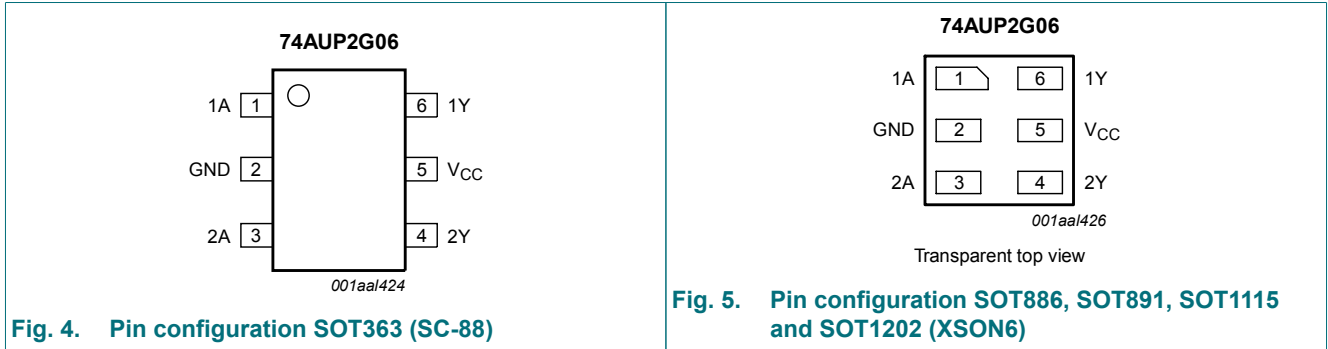


Fig. 3. Logic diagram (one driver)

6. Pinning information

6.1. Pinning



6.2. Pin description

Table 3. Pin description

| Symbol | Pin | Description |
|-----------------|------|----------------|
| 1A, 2A | 1, 3 | data input |
| GND | 2 | ground (0 V) |
| 1Y, 2Y | 6, 4 | data output |
| V _{CC} | 5 | supply voltage |

7. Functional description

Table 4. Function table

H = HIGH voltage level; L = LOW voltage level; Z = high-impedance OFF-state.

| Input nA | Output nY |
|----------|-----------|
| L | Z |
| H | L |

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Max | Unit |
|------------------|-------------------------|---|------|------|------|
| V _{CC} | supply voltage | | -0.5 | +4.6 | V |
| I _{IK} | input clamping current | V _I < 0 V | -50 | - | mA |
| V _I | input voltage | [1] | -0.5 | +4.6 | V |
| I _{OK} | output clamping current | V _O < 0 V | -50 | - | mA |
| V _O | output voltage | Active mode and Power-down mode [1] | -0.5 | +4.6 | V |
| I _O | output current | V _O = 0 V to V _{CC} | - | +20 | mA |
| I _{CC} | supply current | | - | +50 | mA |
| I _{GND} | ground current | | -50 | - | mA |
| T _{stg} | storage temperature | | -65 | +150 | °C |

| Symbol | Parameter | Conditions | Min | Max | Unit |
|-----------|-------------------------|---|-----|-----|------|
| P_{tot} | total power dissipation | $T_{amb} = -40\text{ °C to }+125\text{ °C}$ [2] | - | 250 | mW |

[1] The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

[2] For SC-88 package: above 87.5 °C the value of P_{tot} derates linearly with 4.0 mW/K.
For XSON6 packages: above 118 °C the value of P_{tot} derates linearly with 7.8 mW/K.

9. Recommended operating conditions

Table 6. Recommended operating conditions

| Symbol | Parameter | Conditions | Min | Max | Unit |
|---------------------|-------------------------------------|---|-----|----------|------|
| V_{CC} | supply 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; $V_{CC} = 0\text{ V}$ | 0 | 3.6 | V |
| T_{amb} | ambient temperature | | -40 | +125 | °C |
| $\Delta t/\Delta V$ | input transition rise and fall rate | $V_{CC} = 0.8\text{ V to }3.6\text{ V}$ | 0 | 200 | ns/V |

10. Static characteristics

Table 7. Static characteristics

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--|---|--|----------------------|------|----------------------|---------------|
| $T_{amb} = 25\text{ °C}$ | | | | | | |
| V_{IH} | HIGH-level input voltage | $V_{CC} = 0.8\text{ V}$ | $0.70 \times V_{CC}$ | - | - | V |
| | | $V_{CC} = 0.9\text{ V to }1.95\text{ V}$ | $0.65 \times V_{CC}$ | - | - | V |
| | | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$ | 1.6 | - | - | V |
| | | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$ | 2.0 | - | - | V |
| V_{IL} | LOW-level input voltage | $V_{CC} = 0.8\text{ V}$ | - | - | $0.30 \times V_{CC}$ | V |
| | | $V_{CC} = 0.9\text{ V to }1.95\text{ V}$ | - | - | $0.35 \times V_{CC}$ | V |
| | | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$ | - | - | 0.7 | V |
| | | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$ | - | - | 0.9 | V |
| V_{OL} | LOW-level output voltage | $V_I = V_{IH}$ or V_{IL} | | | | |
| | | $I_O = 20\text{ }\mu\text{A}$; $V_{CC} = 0.8\text{ V to }3.6\text{ V}$ | - | - | 0.1 | V |
| | | $I_O = 1.1\text{ mA}$; $V_{CC} = 1.1\text{ V}$ | - | - | $0.3 \times V_{CC}$ | V |
| | | $I_O = 1.7\text{ mA}$; $V_{CC} = 1.4\text{ V}$ | - | - | 0.31 | V |
| | | $I_O = 1.9\text{ mA}$; $V_{CC} = 1.65\text{ V}$ | - | - | 0.31 | V |
| | | $I_O = 2.3\text{ mA}$; $V_{CC} = 2.3\text{ V}$ | - | - | 0.31 | V |
| | | $I_O = 3.1\text{ mA}$; $V_{CC} = 2.3\text{ V}$ | - | - | 0.44 | V |
| | | $I_O = 2.7\text{ mA}$; $V_{CC} = 3.0\text{ V}$ | - | - | 0.31 | V |
| | $I_O = 4.0\text{ mA}$; $V_{CC} = 3.0\text{ V}$ | - | - | 0.44 | V | |
| I_I | input leakage current | $V_I = \text{GND to }3.6\text{ V}$; $V_{CC} = 0\text{ V to }3.6\text{ V}$ | - | - | ± 0.1 | μA |
| I_{OZ} | OFF-state output current | $V_I = V_{IL}$; $V_O = 0\text{ V to }3.6\text{ V}$; $V_{CC} = 0\text{ V to }3.6\text{ V}$ | - | - | ± 0.1 | μA |
| I_{OFF} | power-off leakage current | V_I or $V_O = 0\text{ V to }3.6\text{ V}$; $V_{CC} = 0\text{ V}$ | - | - | ± 0.2 | μA |
| ΔI_{OFF} | additional power-off leakage current | V_I or $V_O = 0\text{ V to }3.6\text{ V}$; $V_{CC} = 0\text{ V to }0.2\text{ V}$ | - | - | ± 0.2 | μA |

Low-power dual inverter with open-drain output

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--|--|--|----------------------|------|----------------------|---------------|
| I_{CC} | supply current | $V_I = \text{GND or } V_{CC}; I_O = 0 \text{ A};$ $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | - | 0.5 | μA |
| ΔI_{CC} | additional supply current | $V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A}; V_{CC} = 3.3 \text{ V}$ | - | - | 40 | μA |
| C_I | input capacitance | $V_{CC} = 0 \text{ V to } 3.6 \text{ V}; V_I = \text{GND or } V_{CC}$ | - | 0.8 | - | pF |
| C_O | output capacitance | output enabled; $V_O = \text{GND}; V_{CC} = 0 \text{ V}$ | - | 1.7 | - | pF |
| | | output disabled; $V_O = \text{GND}; V_{CC} = 0 \text{ V}$ | - | 1.1 | - | pF |
| $T_{\text{amb}} = -40 \text{ }^\circ\text{C to } +85 \text{ }^\circ\text{C}$ | | | | | | |
| V_{IH} | HIGH-level input voltage | $V_{CC} = 0.8 \text{ V}$ | $0.70 \times V_{CC}$ | - | - | V |
| | | $V_{CC} = 0.9 \text{ V to } 1.95 \text{ V}$ | $0.65 \times V_{CC}$ | - | - | V |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | 1.6 | - | - | V |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | 2.0 | - | - | V |
| V_{IL} | LOW-level input voltage | $V_{CC} = 0.8 \text{ V}$ | - | - | $0.30 \times V_{CC}$ | V |
| | | $V_{CC} = 0.9 \text{ V to } 1.95 \text{ V}$ | - | - | $0.35 \times V_{CC}$ | V |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | - | - | 0.7 | V |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | - | - | 0.9 | V |
| V_{OL} | LOW-level output voltage | $V_I = V_{IH} \text{ or } V_{IL}$ | | | | |
| | | $I_O = 20 \mu\text{A}; V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | - | 0.1 | V |
| | | $I_O = 1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$ | - | - | $0.3 \times V_{CC}$ | V |
| | | $I_O = 1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$ | - | - | 0.37 | V |
| | | $I_O = 1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$ | - | - | 0.35 | V |
| | | $I_O = 2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.33 | V |
| | | $I_O = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.45 | V |
| | | $I_O = 2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.33 | V |
| | $I_O = 4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.45 | V | |
| I_I | input leakage current | $V_I = \text{GND to } 3.6 \text{ V}; V_{CC} = 0 \text{ V to } 3.6 \text{ V}$ | - | - | ± 0.5 | μA |
| I_{OZ} | OFF-state output current | $V_I = V_{IL}; V_O = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 3.6 \text{ V}$ | - | - | ± 0.5 | μA |
| I_{OFF} | power-off leakage current | $V_I \text{ or } V_O = 0 \text{ V to } 3.6 \text{ V}; V_{CC} = 0 \text{ V}$ | - | - | ± 0.5 | μA |
| ΔI_{OFF} | additional power-off leakage current | $V_I \text{ or } V_O = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$ | - | - | ± 0.6 | μA |
| I_{CC} | supply current | $V_I = \text{GND or } V_{CC}; I_O = 0 \text{ A};$ $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | - | 0.9 | μA |
| ΔI_{CC} | additional supply current | $V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A}; V_{CC} = 3.3 \text{ V}$ | - | - | 50 | μA |

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--|--------------------------------------|---|------------------------|-----|------------------------|------|
| T_{amb} = -40 °C to +125 °C | | | | | | |
| V _{IH} | HIGH-level input voltage | V _{CC} = 0.8 V | 0.75 × V _{CC} | - | - | V |
| | | V _{CC} = 0.9 V to 1.95 V | 0.70 × V _{CC} | - | - | V |
| | | V _{CC} = 2.3 V to 2.7 V | 1.6 | - | - | V |
| | | V _{CC} = 3.0 V to 3.6 V | 2.0 | - | - | V |
| V _{IL} | LOW-level input voltage | V _{CC} = 0.8 V | - | - | 0.25 × V _{CC} | V |
| | | V _{CC} = 0.9 V to 1.95 V | - | - | 0.30 × V _{CC} | V |
| | | V _{CC} = 2.3 V to 2.7 V | - | - | 0.7 | V |
| | | V _{CC} = 3.0 V to 3.6 V | - | - | 0.9 | V |
| V _{OL} | LOW-level output voltage | V _I = V _{IH} or V _{IL} | | | | |
| | | I _O = 20 μA; V _{CC} = 0.8 V to 3.6 V | - | - | 0.11 | V |
| | | I _O = 1.1 mA; V _{CC} = 1.1 V | - | - | 0.33 × V _{CC} | V |
| | | I _O = 1.7 mA; V _{CC} = 1.4 V | - | - | 0.41 | V |
| | | I _O = 1.9 mA; V _{CC} = 1.65 V | - | - | 0.39 | V |
| | | I _O = 2.3 mA; V _{CC} = 2.3 V | - | - | 0.36 | V |
| | | I _O = 3.1 mA; V _{CC} = 2.3 V | - | - | 0.50 | V |
| | | I _O = 2.7 mA; V _{CC} = 3.0 V | - | - | 0.36 | V |
| I _O = 4.0 mA; V _{CC} = 3.0 V | - | - | 0.50 | V | | |
| I _I | input leakage current | V _I = GND to 3.6 V; V _{CC} = 0 V to 3.6 V | - | - | ±0.75 | μA |
| I _{OZ} | OFF-state output current | V _I = V _{IL} ; V _O = 0 V to 3.6 V; V _{CC} = 0 V to 3.6 V | - | - | ±0.75 | μA |
| I _{OFF} | power-off leakage current | V _I or V _O = 0 V to 3.6 V; V _{CC} = 0 V | - | - | ±0.75 | μA |
| ΔI _{OFF} | additional power-off leakage current | V _I or V _O = 0 V to 3.6 V; V _{CC} = 0 V to 0.2 V | - | - | ±0.75 | μA |
| I _{CC} | supply current | V _I = GND or V _{CC} ; I _O = 0 A; V _{CC} = 0.8 V to 3.6 V | - | - | 1.4 | μA |
| ΔI _{CC} | additional supply current | V _I = V _{CC} - 0.6 V; I _O = 0 A; V _{CC} = 3.3 V | - | - | 75 | μA |

11. Dynamic characteristics

Table 8. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Fig. 7.

| Symbol | Parameter | Conditions | 25 °C | | | -40 °C to +125 °C | | | Unit |
|-----------------------------|-------------------|------------------------------------|-------|--------|-----|-------------------|-------------|--------------|------|
| | | | Min | Typ[1] | Max | Min | Max (85 °C) | Max (125 °C) | |
| C_L = 5 pF | | | | | | | | | |
| t _{pd} | propagation delay | nA to nY; see Fig. 6 [2] | | | | | | | |
| | | V _{CC} = 0.8 V | - | 12.8 | - | - | - | - | ns |
| | | V _{CC} = 1.1 V to 1.3 V | 2.3 | 4.3 | 9.9 | 2.0 | 10.9 | 12.0 | ns |
| | | V _{CC} = 1.4 V to 1.6 V | 1.8 | 3.1 | 6.1 | 1.5 | 7.1 | 7.8 | ns |
| | | V _{CC} = 1.65 V to 1.95 V | 1.5 | 2.8 | 4.7 | 1.2 | 5.7 | 6.3 | ns |
| | | V _{CC} = 2.3 V to 2.7 V | 1.2 | 2.2 | 3.2 | 1.0 | 3.9 | 4.3 | ns |
| | | V _{CC} = 3.0 V to 3.6 V | 1.1 | 2.2 | 3.3 | 0.8 | 3.6 | 4.0 | ns |

Low-power dual inverter with open-drain output

| Symbol | Parameter | Conditions | 25 °C | | | -40 °C to +125 °C | | | Unit |
|---|-------------------------------|---|-------|--------|------|-------------------|-------------|--------------|------|
| | | | Min | Typ[1] | Max | Min | Max (85 °C) | Max (125 °C) | |
| C_L = 10 pF | | | | | | | | | |
| t _{pd} | propagation delay | nA to nY; see Fig. 6 [2] | | | | | | | |
| | | V _{CC} = 0.8 V | - | 15.8 | - | - | - | - | ns |
| | | V _{CC} = 1.1 V to 1.3 V | 2.7 | 5.4 | 11.2 | 2.5 | 13.2 | 15.0 | ns |
| | | V _{CC} = 1.4 V to 1.6 V | 2.2 | 3.9 | 7.0 | 2.0 | 8.5 | 9.4 | ns |
| | | V _{CC} = 1.65 V to 1.95 V | 1.9 | 3.6 | 5.4 | 1.7 | 6.7 | 7.4 | ns |
| | | V _{CC} = 2.3 V to 2.7 V | 1.7 | 2.9 | 3.8 | 1.4 | 4.5 | 5.0 | ns |
| | | V _{CC} = 3.0 V to 3.6 V | 1.6 | 3.2 | 4.6 | 1.2 | 4.9 | 5.4 | ns |
| C_L = 15 pF | | | | | | | | | |
| t _{pd} | propagation delay | nA to nY; see Fig. 6 [2] | | | | | | | |
| | | V _{CC} = 0.8 V | - | 18.8 | - | - | - | - | ns |
| | | V _{CC} = 1.1 V to 1.3 V | 3.2 | 6.4 | 12.2 | 2.9 | 15.2 | 17.0 | ns |
| | | V _{CC} = 1.4 V to 1.6 V | 2.6 | 4.6 | 7.7 | 2.3 | 9.4 | 10.0 | ns |
| | | V _{CC} = 1.65 V to 1.95 V | 2.3 | 4.5 | 6.6 | 2.1 | 7.3 | 8.1 | ns |
| | | V _{CC} = 2.3 V to 2.7 V | 2.1 | 3.5 | 4.6 | 1.7 | 5.1 | 5.7 | ns |
| | | V _{CC} = 3.0 V to 3.6 V | 2.0 | 4.0 | 6.0 | 1.5 | 6.5 | 7.2 | ns |
| C_L = 30 pF | | | | | | | | | |
| t _{pd} | propagation delay | nA to nY; see Fig. 6 [2] | | | | | | | |
| | | V _{CC} = 0.8 V | - | 27.8 | - | - | - | - | ns |
| | | V _{CC} = 1.1 V to 1.3 V | 4.4 | 9.3 | 16.5 | 3.9 | 19.3 | 21.3 | ns |
| | | V _{CC} = 1.4 V to 1.6 V | 3.6 | 6.8 | 10.1 | 3.2 | 12.0 | 13.2 | ns |
| | | V _{CC} = 1.65 V to 1.95 V | 3.2 | 6.8 | 10.7 | 2.9 | 11.0 | 12.1 | ns |
| | | V _{CC} = 2.3 V to 2.7 V | 2.9 | 5.3 | 7.2 | 2.6 | 7.8 | 8.6 | ns |
| | | V _{CC} = 3.0 V to 3.6 V | 2.9 | 6.5 | 10.5 | 2.5 | 10.8 | 11.9 | ns |
| C_L = 5 pF, 10 pF, 15 pF and 30 pF | | | | | | | | | |
| C _{PD} | power dissipation capacitance | f _i = 1 MHz; V _I = GND to V _{CC} [3] | | | | | | | |
| | | V _{CC} = 0.8 V | - | 0.5 | - | - | - | - | pF |
| | | V _{CC} = 1.1 V to 1.3 V | - | 0.6 | - | - | - | - | pF |
| | | V _{CC} = 1.4 V to 1.6 V | - | 0.7 | - | - | - | - | pF |
| | | V _{CC} = 1.65 V to 1.95 V | - | 0.7 | - | - | - | - | pF |
| | | V _{CC} = 2.3 V to 2.7 V | - | 1.0 | - | - | - | - | pF |
| | | V _{CC} = 3.0 V to 3.6 V | - | 1.2 | - | - | - | - | pF |

[1] All typical values are measured at nominal V_{CC}.

[2] t_{pd} is the same as t_{PZL} and t_{PLZ}.

[3] C_{PD} is used to determine the dynamic power dissipation (P_D in μW).

$$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N \text{ where:}$$

f_i = input frequency in MHz;

V_{CC} = supply voltage in V;

N = number of inputs switching.

11.1. Waveform and test circuit

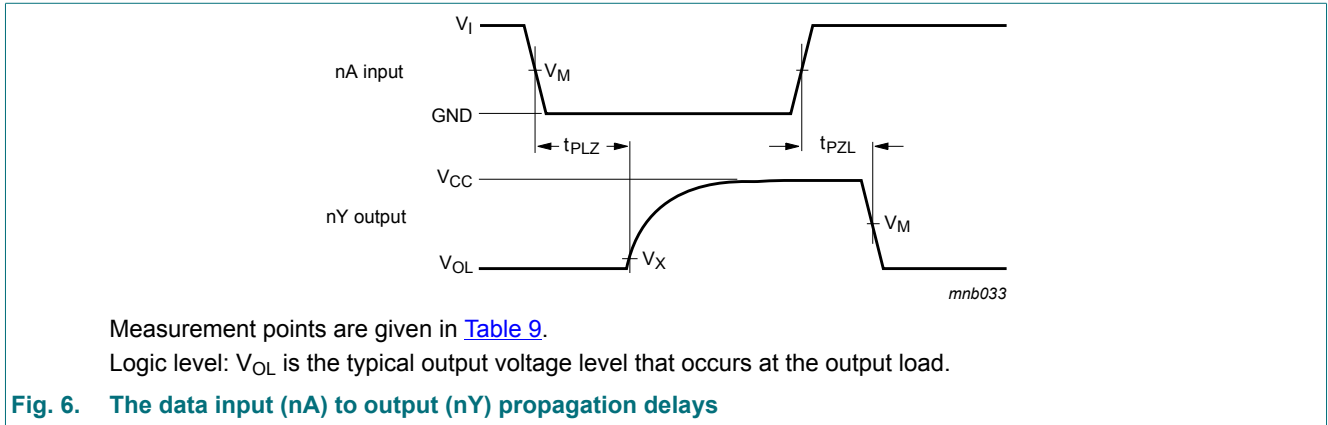


Table 9. Measurement points

| Supply voltage | Input | Output | |
|-----------------|---------------------|---------------------|---------------------------|
| V_{CC} | V_M | V_M | V_X |
| 0.8 V to 1.6 V | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ | $V_{OL} + 0.1 \text{ V}$ |
| 1.65 V to 2.7 V | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ | $V_{OL} + 0.15 \text{ V}$ |
| 3.0 V to 3.6 V | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ | $V_{OL} + 0.3 \text{ V}$ |

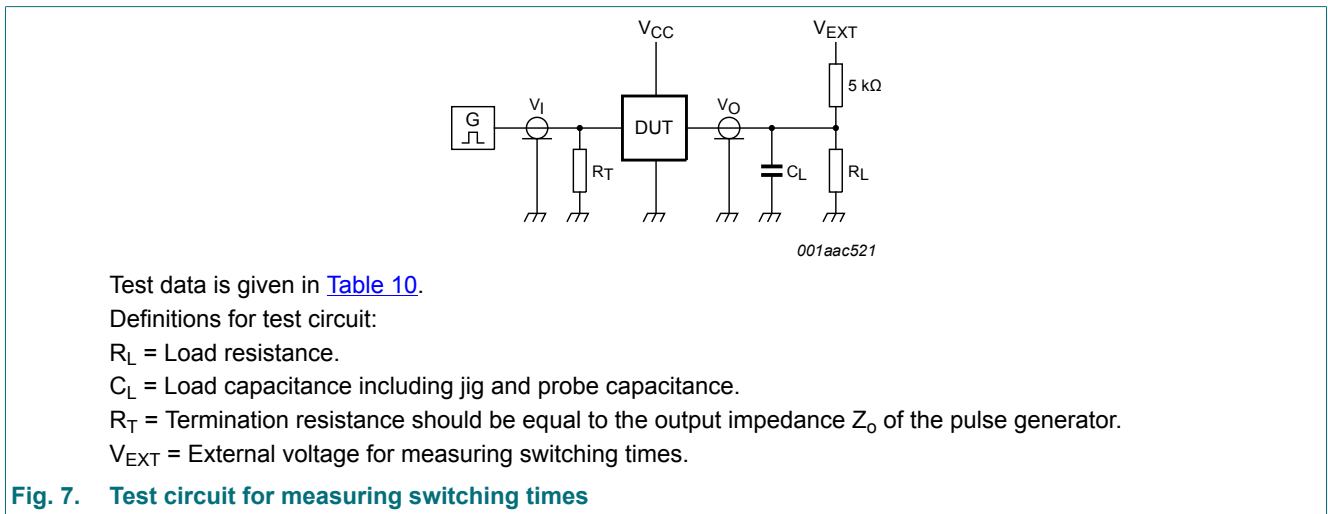


Table 10. Test data

| Supply voltage | Load | | V_{EXT} | | |
|----------------|------------------------------|--------------|-----------------------|-----------------------|-----------------------|
| V_{CC} | C_L | R_L [1] | t_{PLH} , t_{PHL} | t_{PZH} , t_{PHZ} | t_{PZL} , t_{PLZ} |
| 0.8 V to 3.6 V | 5 pF, 10 pF, 15 pF and 30 pF | 5 kΩ or 1 MΩ | open | GND | $2 \times V_{CC}$ |

[1] For measuring enable and disable times $R_L = 5 \text{ k}\Omega$.
 For measuring propagation delays, setup and hold times and pulse width $R_L = 1 \text{ M}\Omega$.

12. Package outline

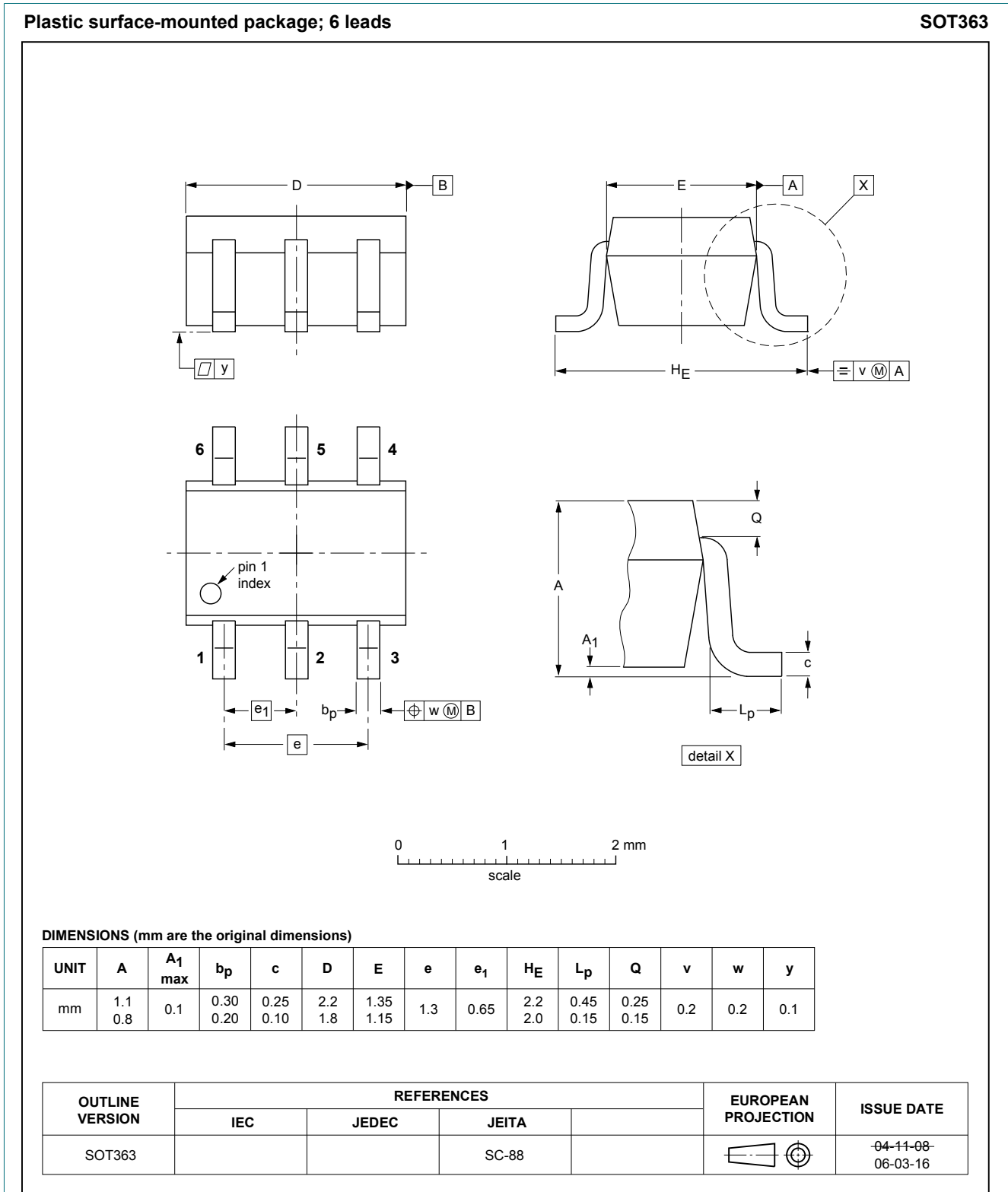
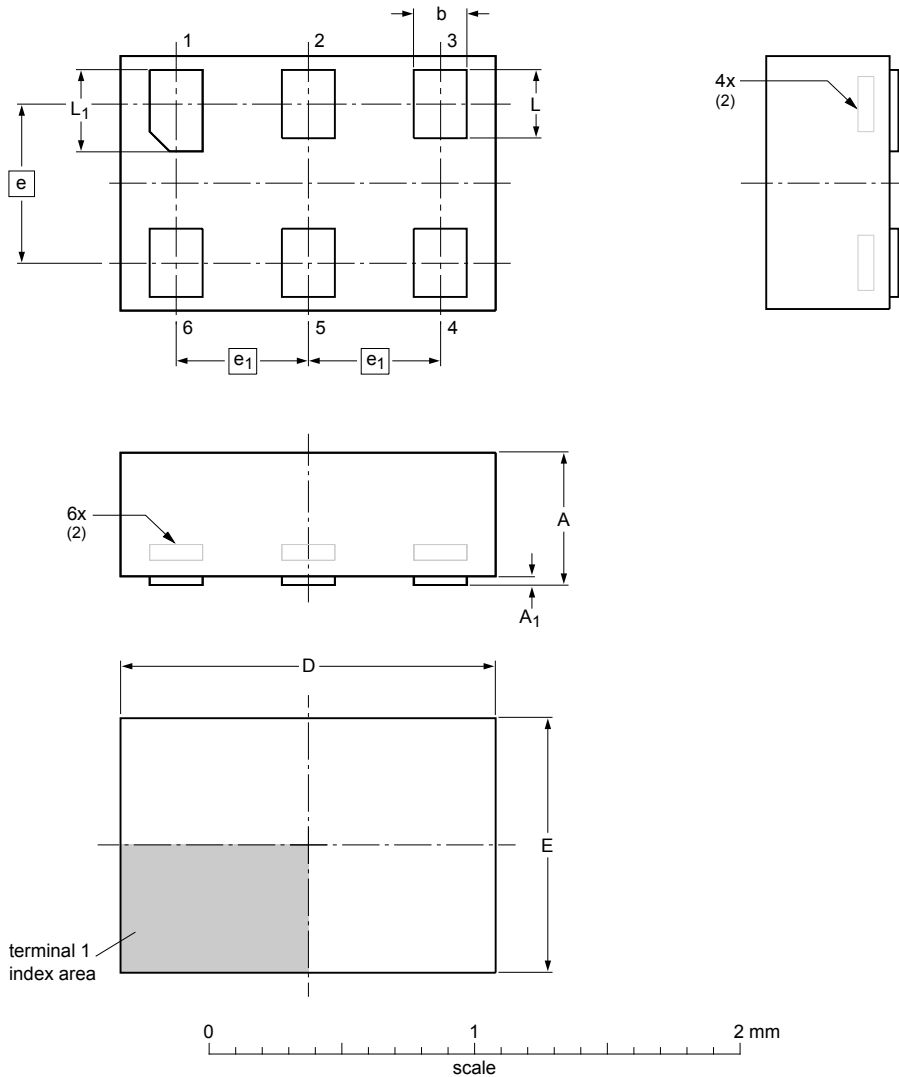


Fig. 8. Package outline SOT363 (SC-88)

XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1.45 x 0.5 mm

SOT886



Dimensions (mm are the original dimensions)

| Unit | A ⁽¹⁾ | A ₁ | b | D | E | e | e ₁ | L | L ₁ |
|------|------------------|----------------|------|------|------|------|----------------|------|----------------|
| mm | max | 0.5 | 0.04 | 0.25 | 1.50 | 1.05 | | 0.35 | 0.40 |
| | nom | | | 0.20 | 1.45 | 1.00 | 0.6 | 0.30 | 0.35 |
| | min | | | 0.17 | 1.40 | 0.95 | | 0.27 | 0.32 |

Notes

- Including plating thickness.
- Can be visible in some manufacturing processes.

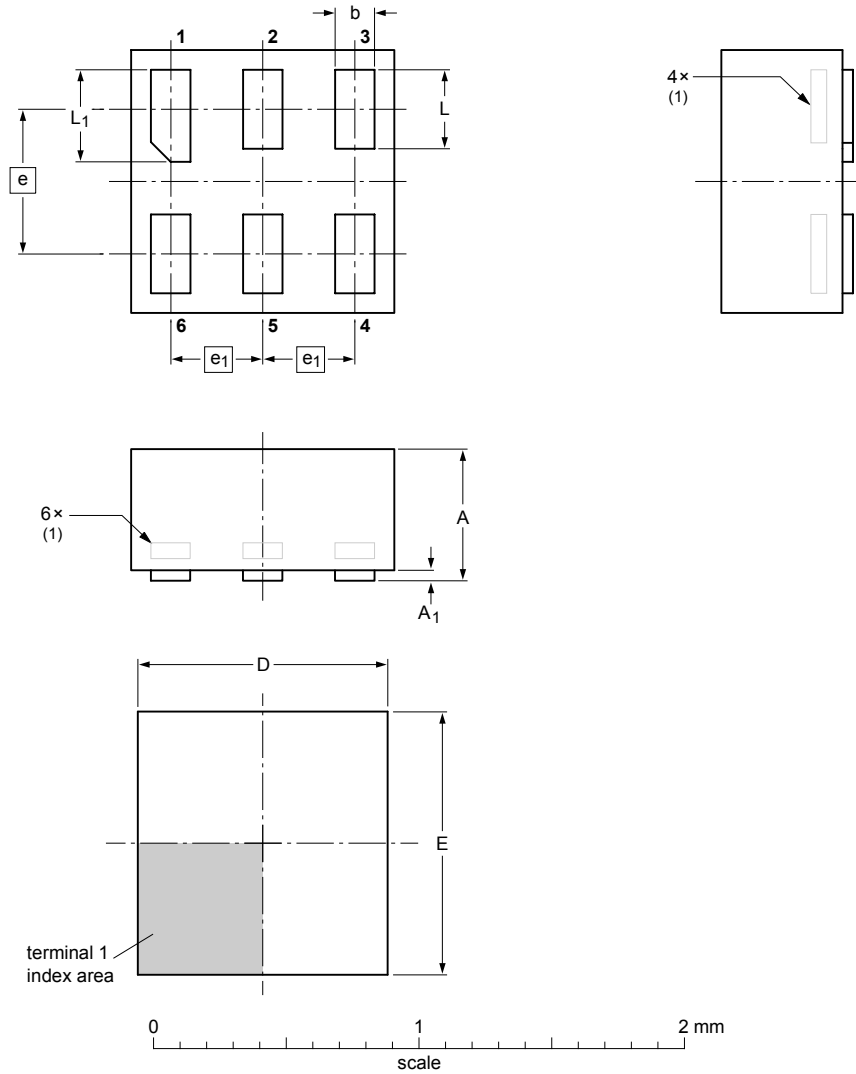
sot886_po

| Outline version | References | | | European projection | Issue date |
|-----------------|------------|--------|-------|---------------------|------------------------|
| | IEC | JEDEC | JEITA | | |
| SOT886 | | MO-252 | | | -04-07-22- 12-01-05 |

Fig. 9. Package outline SOT886 (XSON6)

XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1 x 0.5 mm

SOT891



DIMENSIONS (mm are the original dimensions)

| UNIT | A max | A ₁ max | b | D | E | e | e ₁ | L | L ₁ |
|------|----------|-----------------------|--------------|--------------|--------------|------|----------------|--------------|----------------|
| mm | 0.5 | 0.04 | 0.20 0.12 | 1.05 0.95 | 1.05 0.95 | 0.55 | 0.35 | 0.35 0.27 | 0.40 0.32 |

Note

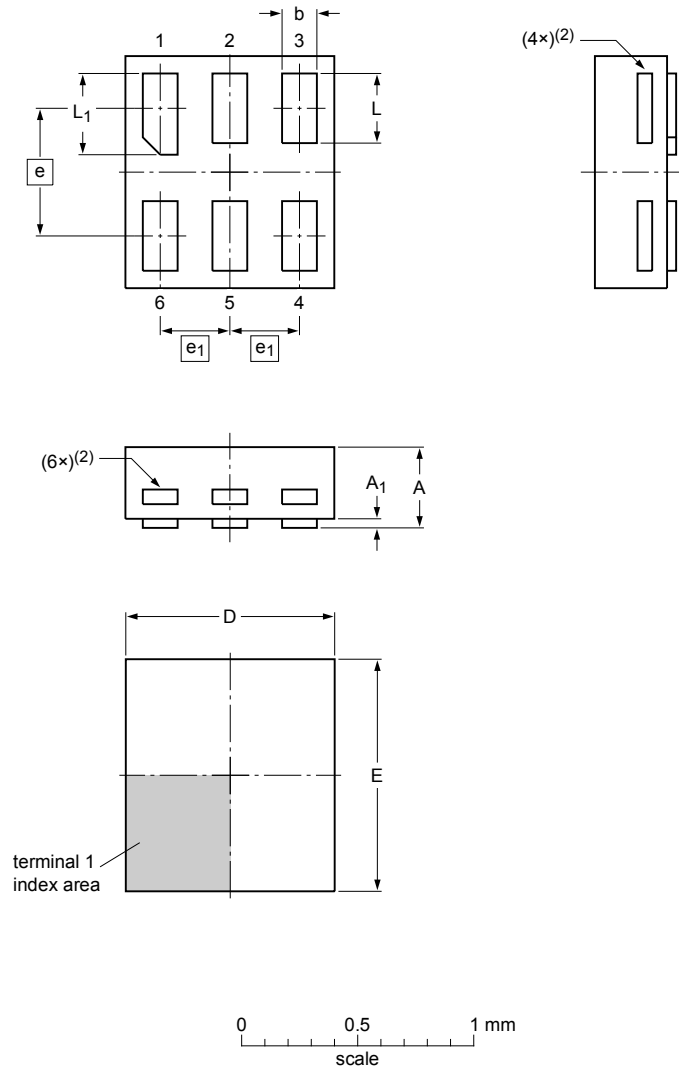
1. Can be visible in some manufacturing processes.

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|--------------------|------------|-------|-------|--|------------------------|-----------------------|
| | IEC | JEDEC | JEITA | | | |
| SOT891 | | | | | | -05-04-06 07-05-15 |

Fig. 10. Package outline SOT891 (XSON6)

XSON6: extremely thin small outline package; no leads;
6 terminals; body 0.9 x 1.0 x 0.35 mm

SOT1115



Dimensions

| Unit | A ⁽¹⁾ | A ₁ | b | D | E | e | e ₁ | L | L ₁ |
|------|------------------|----------------|------|------|------|------|----------------|------|----------------|
| mm | max 0.35 | 0.04 | 0.20 | 0.95 | 1.05 | | | 0.35 | 0.40 |
| | nom | | 0.15 | 0.90 | 1.00 | 0.55 | 0.3 | 0.30 | 0.35 |
| | min | | 0.12 | 0.85 | 0.95 | | | 0.27 | 0.32 |

Note

1. Including plating thickness.
2. Visible depending upon used manufacturing technology.

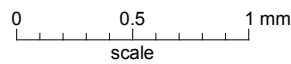
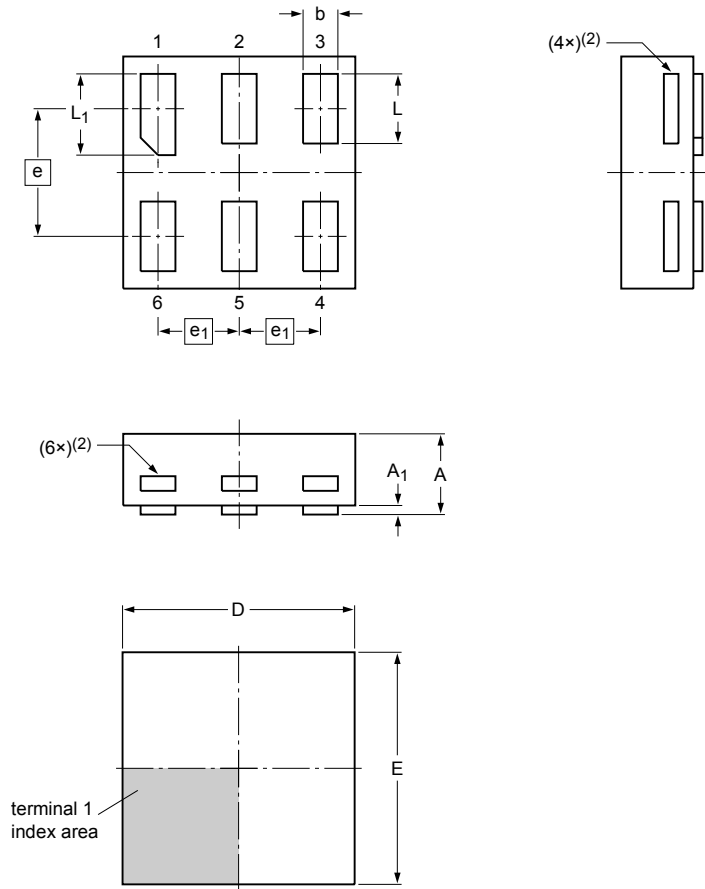
sot1115_po

| Outline version | References | | | European projection | Issue date |
|-----------------|------------|-------|-------|---------------------|----------------------|
| | IEC | JEDEC | JEITA | | |
| SOT1115 | | | | | 10-04-02 10-04-07 |

Fig. 11. Package outline SOT1115 (XSON6)

**XSON6: extremely thin small outline package; no leads;
6 terminals; body 1.0 x 1.0 x 0.35 mm**

SOT1202



Dimensions

| Unit | A ⁽¹⁾ | A ₁ | b | D | E | e | e ₁ | L | L ₁ |
|------|------------------|----------------|------|------|------|------|----------------|------|----------------|
| mm | max | 0.35 | 0.04 | 0.20 | 1.05 | 1.05 | | 0.35 | 0.40 |
| | nom | | 0.15 | 1.00 | 1.00 | 0.55 | 0.35 | 0.30 | 0.35 |
| | min | | 0.12 | 0.95 | 0.95 | | | 0.27 | 0.32 |

Note

- Including plating thickness.
- Visible depending upon used manufacturing technology.

sot1202_po

| Outline version | References | | | | European projection | Issue date |
|-----------------|------------|-------|-------|--|---------------------|----------------------|
| | IEC | JEDEC | JEITA | | | |
| SOT1202 | | | | | | 10-04-02 10-04-06 |

Fig. 12. Package outline SOT1202 (XSON6)

13. Abbreviations

Table 11. Abbreviations

| Acronym | Description |
|---------|-------------------------|
| CDM | Charged Device Model |
| DUT | Device Under Test |
| ESD | ElectroStatic Discharge |
| HBM | Human Body Model |
| MM | Machine Model |

14. Revision history

Table 12. Revision history

| Document ID | Release date | Data sheet status | Change notice | Supersedes |
|----------------|---|--------------------|---------------|---------------|
| 74AUP2G06 v.6 | 20190315 | Product data sheet | - | 74AUP2G06 v.5 |
| Modifications: | <ul style="list-style-type: none"> The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia. Legal texts have been adapted to the new company name where appropriate. | | | |
| 74AUP2G06 v.5 | 20121129 | Product data sheet | - | 74AUP2G06 v.4 |
| Modifications: | <ul style="list-style-type: none"> Package outline drawing of SOT886 (Fig. 9) modified. | | | |
| 74AUP2G06 v.4 | 20111206 | Product data sheet | - | 74AUP2G06 v.3 |
| 74AUP2G06 v.3 | 20101026 | Product data sheet | - | 74AUP2G06 v.2 |
| 74AUP2G06 v.2 | 20100325 | Product data sheet | - | 74AUP2G06 v.1 |
| 74AUP2G06 v.1 | 20100211 | Product data sheet | - | - |

15. Legal information

Data sheet status

| Document status [1][2] | Product status [3] | Definition |
|--------------------------------|--------------------|---|
| Objective [short] data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet | Qualification | This document contains data from the preliminary specification. |
| Product [short] data sheet | Production | This document contains the product specification. |

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
- [3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the internet at <https://www.nexperia.com>.

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Contents

| | |
|--|-----------|
| 1. General description | 1 |
| 2. Features and benefits | 1 |
| 3. Ordering information | 2 |
| 4. Marking | 2 |
| 5. Functional diagram | 2 |
| 6. Pinning information | 3 |
| 6.1. Pinning..... | 3 |
| 6.2. Pin description..... | 3 |
| 7. Functional description | 3 |
| 8. Limiting values | 3 |
| 9. Recommended operating conditions | 4 |
| 10. Static characteristics | 4 |
| 11. Dynamic characteristics | 6 |
| 11.1. Waveform and test circuit..... | 8 |
| 12. Package outline | 9 |
| 13. Abbreviations | 14 |
| 14. Revision history | 14 |
| 15. Legal information | 15 |

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