

# 74LVC1G175

Single D-type flip-flop with reset; positive-edge trigger

Rev. 7 — 2 December 2016

Product data sheet

## 1. General description

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The 74LVC1G175 is a low-power, low-voltage single positive edge triggered D-type flip-flop with individual data (D) input, clock (CP) input, master reset ( $\overline{\text{MR}}$ ) input, and Q output.

The master reset ( $\overline{\text{MR}}$ ) is an asynchronous active LOW input and operates independently of the clock input. Information on the data input is transferred to the Q output on the LOW-to-HIGH transition of the clock pulse. The D input must be stable one set-up time prior to the LOW-to-HIGH clock transition for predictable operation.

The inputs can be driven from either 3.3 V or 5 V devices. This feature allows the use of this device in a mixed 3.3 V and 5 V environment.

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

Schmitt trigger action at all inputs makes the circuit highly tolerant of slower input rise and fall times.

## 2. Features and benefits

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- Wide supply voltage range from 1.65 V to 5.5 V
- 5 V tolerant inputs for interfacing with 5 V logic
- High noise immunity
- Complies with JEDEC standard:
  - ◆ JESD8-7 (1.65 V to 1.95 V)
  - ◆ JESD8-5 (2.3 V to 2.7 V)
  - ◆ JESD8B/JESD36 (2.7 V to 3.6 V).
- ESD protection:
  - ◆ HBM JESD22-A114F exceeds 2000 V
  - ◆ MM JESD22-A115-A exceeds 200 V.
- $\pm 24$  mA output drive ( $V_{\text{CC}} = 3.0$  V)
- CMOS low power consumption
- Latch-up performance exceeds 250 mA
- Direct interface with TTL levels
- Inputs accept voltages up to 5 V
- 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
74LVC1G175GW	-40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363
74LVC1G175GV	-40 °C to +125 °C	SC-74	plastic surface-mounted package (TSOP6); 6 leads	SOT457
74LVC1G175GM	-40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1.45 × 0.5 mm	SOT886
74LVC1G175GF	-40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1 × 0.5 mm	SOT891
74LVC1G175GN	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body 0.9 × 1.0 × 0.35 mm	SOT1115
74LVC1G175GS	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body 1.0 × 1.0 × 0.35 mm	SOT1202

### 4. Marking

Table 2. Marking

Type number	Marking code <sup>[1]</sup>
74LVC1G175GW	YT
74LVC1G175GV	V75
74LVC1G175GM	YT
74LVC1G175GF	YT
74LVC1G175GN	YT
74LVC1G175GS	YT

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

### 5. Functional diagram

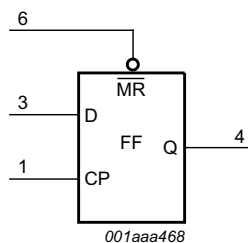


Fig 1. Logic symbol.

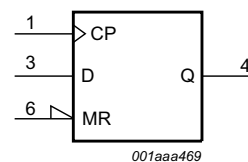


Fig 2. IEC logic symbol.

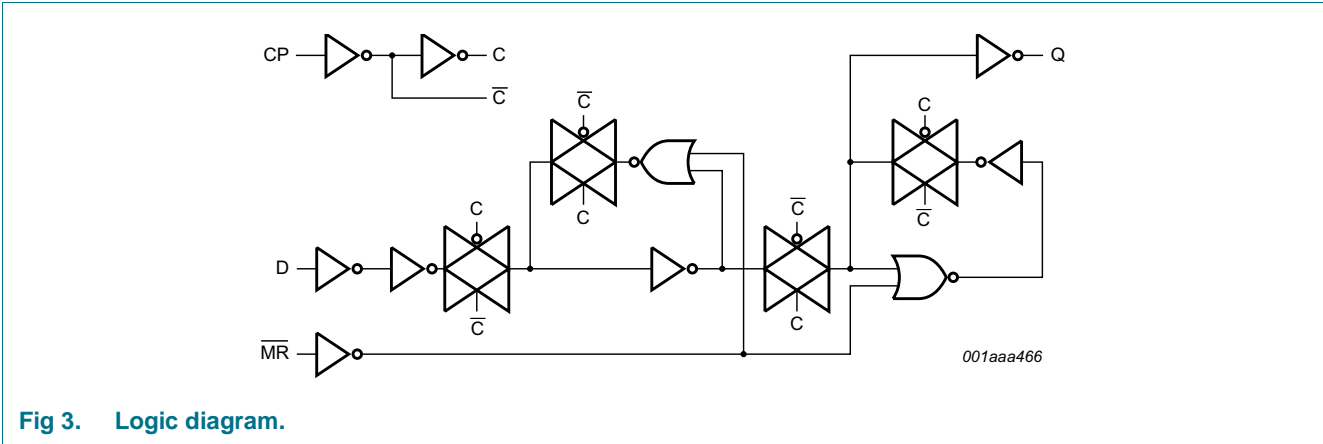


Fig 3. Logic diagram.

## 6. Pinning information

### 6.1 Pinning

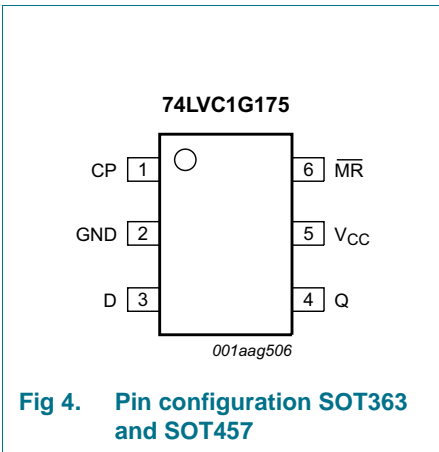


Fig 4. Pin configuration SOT363 and SOT457

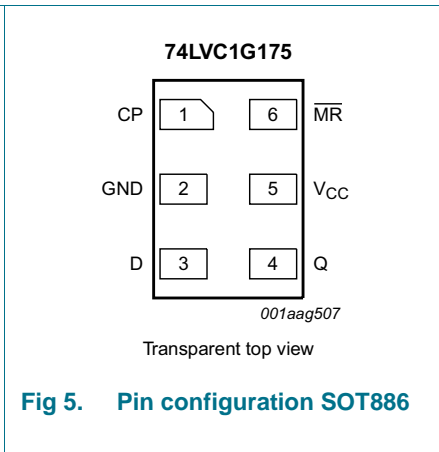


Fig 5. Pin configuration SOT886

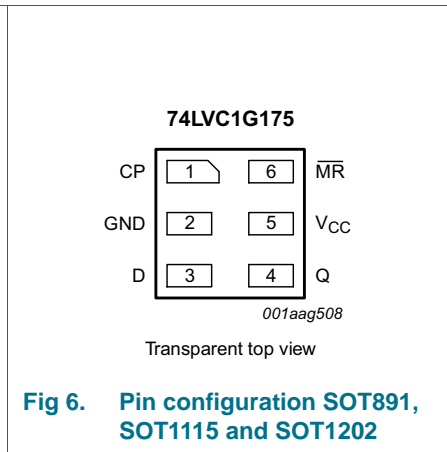


Fig 6. Pin configuration SOT891, SOT1115 and SOT1202

### 6.2 Pin description

Table 3. Pin description

Symbol	Pin	Description
CP	1	clock input (LOW-to-HIGH, edge-triggered)
GND	2	ground (0 V)
D	3	data input
Q	4	output Q
V <sub>CC</sub>	5	supply voltage
$\overline{\text{MR}}$	6	master reset input (active LOW)

## 7. Functional description

Table 4. Function table<sup>[1]</sup>

Operating mode	Input			Output
	$\overline{\text{MR}}$	CP	D	Q
Reset (clear)	L	X	X	L
Load '1'	H	↑	h	H
Load '0'	H	↑	l	L

- [1] H = HIGH voltage level;  
 h = HIGH voltage level one set-up time prior to the LOW-to-HIGH CP transition;  
 L = LOW voltage level;  
 l = LOW voltage level one set-up time prior to the LOW-to-HIGH CP transition;  
 ↑ = LOW-to-HIGH CP transition;  
 X = don't care.

## 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	+6.5	V
$I_{IK}$	input clamping current	$V_I < 0$ V	-50	-	mA
$V_I$	input voltage		-0.5	+6.5	V
$I_{OK}$	output clamping current	$V_O > V_{CC}$ or $V_O < 0$ V	-	±50	mA
$V_O$	output voltage	Active mode	-0.5	$V_{CC} + 0.5$	V
		Power-down mode	-0.5	+6.5	V
$I_O$	output current	$V_O = 0$ V to $V_{CC}$	-	±50	mA
$I_{CC}$	supply current		-	100	mA
$I_{GND}$	ground current		-100	-	mA
$P_{tot}$	total power dissipation	$T_{amb} = -40$ °C to +125 °C	-	250	mW
$T_{stg}$	storage temperature		-65	+150	°C

- [1] The input and output voltage ratings may be exceeded if the input and output current ratings are observed.  
 [2] When  $V_{CC} = 0$  V (Power-down mode), the output voltage can be 5.5 V in normal operation.  
 [3] For SC-88 and SC-74A packages: above 87.5 °C the value of  $P_{tot}$  derates linearly with 4.0 mW/K.  
 For XSON6 package: 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	Typ	Max	Unit
$V_{CC}$	supply voltage		1.65	-	5.5	V
$V_I$	input voltage		0	-	5.5	V
$V_O$	output voltage	Active mode	0	-	$V_{CC}$	V
		Power-down mode; $V_{CC} = 0$ V	0	-	5.5	V
$T_{amb}$	ambient temperature		-40	-	+125	°C
$\Delta t/\Delta V$	input transition rise and fall rate	$V_{CC} = 1.65$ V to 2.7 V	-	-	20	ns/V
		$V_{CC} = 2.7$ V to 5.5 V	-	-	10	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 <sup>[1]</sup>	Max	Unit
<b><math>T_{amb} = -40</math> °C to <math>+85</math> °C</b>						
$V_{IH}$	HIGH-level input voltage	$V_{CC} = 1.65$ V to 1.95 V	$0.65 \times V_{CC}$	-	-	V
		$V_{CC} = 2.3$ V to 2.7 V	1.7	-	-	V
		$V_{CC} = 2.7$ V to 3.6 V	2.0	-	-	V
		$V_{CC} = 4.5$ V to 5.5 V	$0.7 \times V_{CC}$	-	-	V
$V_{IL}$	LOW-level input voltage	$V_{CC} = 1.65$ V to 1.95 V	-	-	$0.35 \times V_{CC}$	V
		$V_{CC} = 2.3$ V to 2.7 V	-	-	0.7	V
		$V_{CC} = 2.7$ V to 3.6 V	-	-	0.8	V
		$V_{CC} = 4.5$ V to 5.5 V	-	-	$0.3 \times V_{CC}$	V
$V_{OH}$	HIGH-level output voltage	$V_I = V_{IH}$ or $V_{IL}$				
		$I_O = -100$ $\mu$ A; $V_{CC} = 1.65$ V to 5.5 V	$V_{CC} - 0.1$	-	-	V
		$I_O = -4$ mA; $V_{CC} = 1.65$ V	1.2	1.54	-	V
		$I_O = -8$ mA; $V_{CC} = 2.3$ V	1.9	2.15	-	V
		$I_O = -12$ mA; $V_{CC} = 2.7$ V	2.2	2.50	-	V
		$I_O = -24$ mA; $V_{CC} = 3.0$ V	2.3	2.62	-	V
$V_{OL}$	LOW-level output voltage	$V_I = V_{IH}$ or $V_{IL}$				
		$I_O = 100$ $\mu$ A; $V_{CC} = 1.65$ V to 5.5 V	-	-	0.10	V
		$I_O = 4$ mA; $V_{CC} = 1.65$ V	-	0.07	0.45	V
		$I_O = 8$ mA; $V_{CC} = 2.3$ V	-	0.12	0.30	V
		$I_O = 12$ mA; $V_{CC} = 2.7$ V	-	0.17	0.40	V
		$I_O = 24$ mA; $V_{CC} = 3.0$ V	-	0.33	0.55	V
$I_I$	input leakage current	$V_{CC} = 0$ V to 5.5 V; $V_I = 5.5$ V or GND <sup>[2]</sup>	-	$\pm 0.1$	$\pm 1$	$\mu$ A
		$V_{CC} = 0$ V; $V_I$ or $V_O = 5.5$ V	-	$\pm 0.1$	$\pm 2$	$\mu$ A
$I_{OFF}$	power-off leakage current	$V_{CC} = 0$ V; $V_I$ or $V_O = 5.5$ V	-	$\pm 0.1$	$\pm 2$	$\mu$ A

**Table 7. Static characteristics ...continued**

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

Symbol	Parameter	Conditions	Min	Typ <sup>[1]</sup>	Max	Unit
$I_{CC}$	supply current	$V_{CC} = 1.65\text{ V to }5.5\text{ V}; I_O = 0\text{ A}; V_I = 5.5\text{ V or GND}$	-	0.1	4	$\mu\text{A}$
$\Delta I_{CC}$	additional supply current	$V_{CC} = 2.3\text{ V to }5.5\text{ V}; V_I = V_{CC} - 0.6\text{ V}; I_O = 0\text{ A}$ <sup>[2]</sup>	-	5	500	$\mu\text{A}$
$C_I$	input capacitance	$V_{CC} = 3.3\text{ V}; V_I = \text{GND to }V_{CC}$	-	2.5	-	pF
<b><math>T_{amb} = -40\text{ }^\circ\text{C to }+125\text{ }^\circ\text{C}</math></b>						
$V_{IH}$	HIGH-level input voltage	$V_{CC} = 1.65\text{ V to }1.95\text{ V}$	$0.65 \times V_{CC}$	-	-	V
		$V_{CC} = 2.3\text{ V to }2.7\text{ V}$	1.7	-	-	V
		$V_{CC} = 2.7\text{ V to }3.6\text{ V}$	2.0	-	-	V
		$V_{CC} = 4.5\text{ V to }5.5\text{ V}$	$0.7 \times V_{CC}$	-	-	V
$V_{IL}$	LOW-level input voltage	$V_{CC} = 1.65\text{ V to }1.95\text{ V}$	-	-	$0.35 \times V_{CC}$	V
		$V_{CC} = 2.3\text{ V to }2.7\text{ V}$	-	-	0.7	V
		$V_{CC} = 2.7\text{ V to }3.6\text{ V}$	-	-	0.8	V
		$V_{CC} = 4.5\text{ V to }5.5\text{ V}$	-	-	$0.3 \times V_{CC}$	V
$V_{OH}$	HIGH-level output voltage	$V_I = V_{IH}\text{ or }V_{IL}$				
		$I_O = -100\text{ }\mu\text{A}; V_{CC} = 1.65\text{ V to }5.5\text{ V}$	$V_{CC} - 0.1$	-	-	V
		$I_O = -4\text{ mA}; V_{CC} = 1.65\text{ V}$	0.95	-	-	V
		$I_O = -8\text{ mA}; V_{CC} = 2.3\text{ V}$	1.7	-	-	V
		$I_O = -12\text{ mA}; V_{CC} = 2.7\text{ V}$	1.9	-	-	V
		$I_O = -24\text{ mA}; V_{CC} = 3.0\text{ V}$	2.0	-	-	V
		$I_O = -32\text{ mA}; V_{CC} = 4.5\text{ V}$	3.4	-	-	V
$V_{OL}$	LOW-level output voltage	$V_I = V_{IH}\text{ or }V_{IL}$				
		$I_O = 100\text{ }\mu\text{A}; V_{CC} = 1.65\text{ V to }5.5\text{ V}$	-	-	0.10	V
		$I_O = 4\text{ mA}; V_{CC} = 1.65\text{ V}$	-	-	0.70	V
		$I_O = 8\text{ mA}; V_{CC} = 2.3\text{ V}$	-	-	0.45	V
		$I_O = 12\text{ mA}; V_{CC} = 2.7\text{ V}$	-	-	0.60	V
		$I_O = 24\text{ mA}; V_{CC} = 3.0\text{ V}$	-	-	0.80	V
		$I_O = 32\text{ mA}; V_{CC} = 4.5\text{ V}$	-	-	0.80	V
$I_I$	input leakage current	$V_{CC} = 0\text{ V to }5.5\text{ V}; V_I = 5.5\text{ V or GND}$	-	-	$\pm 1$	$\mu\text{A}$
$I_{OFF}$	power-off leakage current	$V_{CC} = 0\text{ V}; V_I\text{ or }V_O = 5.5\text{ V}$	-	-	$\pm 2$	$\mu\text{A}$
$I_{CC}$	supply current	$V_{CC} = 1.65\text{ V to }5.5\text{ V}; I_O = 0\text{ A}; V_I = 5.5\text{ V or GND}$	-	-	4	$\mu\text{A}$
$\Delta I_{CC}$	additional supply current	$V_{CC} = 2.3\text{ V to }5.5\text{ V}; V_I = V_{CC} - 0.6\text{ V}; I_O = 0\text{ A}$	-	-	500	$\mu\text{A}$

[1] All typical values are measured at  $T_{amb} = 25\text{ }^\circ\text{C}$ .[2] These typical values are measured at  $V_{CC} = 3.3\text{ V}$ .

## 11. Dynamic characteristics

**Table 8. Dynamic characteristics**

Voltages are referenced to GND (ground = 0 V); for test circuit see [Figure 9](#).

Symbol	Parameter	Conditions	-40 °C to +85 °C			-40 °C to +125 °C		Unit
			Min	Typ <sup>[1]</sup>	Max	Min	Max	
t <sub>pd</sub>	propagation delay	CP to Q; see <a href="#">Figure 7</a> <sup>[2]</sup>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.5	4.9	13.4	1.5	17	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.0	3.1	7.1	1.0	9.0	ns
		V <sub>CC</sub> = 2.7 V	1.0	3.2	7.1	1.0	9.0	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.0	3.1	5.7	0.5	7.5	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	1.0	2.2	4.0	0.5	5.5	ns
		MR to Q; see <a href="#">Figure 8</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.5	4.3	12.9	1.5	17	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.0	2.8	7.0	1.0	9.0	ns
		V <sub>CC</sub> = 2.7 V	1.0	3.0	7.0	1.0	9.0	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.0	2.5	5.8	0.5	7.5	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	1.0	2.0	4.1	0.5	5.5	ns		
t <sub>w</sub>	pulse width	CP HIGH or LOW; see <a href="#">Figure 7</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	6.2	-	-	6.2	-	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	2.7	-	-	2.7	-	ns
		V <sub>CC</sub> = 2.7 V	2.7	-	-	2.7	-	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	2.7	1.3	-	2.7	-	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	2.0	-	-	2.0	-	ns
		MR LOW; see <a href="#">Figure 8</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	6.2	-	-	6.2	-	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	2.7	-	-	2.7	-	ns
		V <sub>CC</sub> = 2.7 V	2.7	-	-	2.7	-	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	2.7	1.6	-	2.7	-	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	2.0	-	-	2.0	-	ns		
t <sub>rec</sub>	recovery time	MR; see <a href="#">Figure 8</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.9	-	-	1.9	-	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.4	-	-	1.4	-	ns
		V <sub>CC</sub> = 2.7 V	1.3	-	-	1.3	-	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.2	0.4	-	1.2	-	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	1.0	-	-	1.0	-	ns		
t <sub>su</sub>	set-up time	D to CP; see <a href="#">Figure 7</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	2.9	-	-	2.9	-	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.7	-	-	1.7	-	ns
		V <sub>CC</sub> = 2.7 V	1.7	-	-	1.7	-	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.3	0.5	-	1.3	-	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	1.1	-	-	1.1	-	ns		

**Table 8. Dynamic characteristics ...continued**

Voltages are referenced to GND (ground = 0 V); for test circuit see [Figure 9](#).

Symbol	Parameter	Conditions	-40 °C to +85 °C			-40 °C to +125 °C		Unit
			Min	Typ <sup>[1]</sup>	Max	Min	Max	
t <sub>h</sub>	hold time	D to CP; see <a href="#">Figure 7</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	0.0	-	-	0.0	-	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.3	-	-	0.3	-	ns
		V <sub>CC</sub> = 2.7 V	0.5	-	-	0.5	-	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.2	0.2	-	1.2	-	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	-	-	0.5	-	ns
f <sub>max</sub>	maximum frequency	CP; see <a href="#">Figure 7</a>						
		V <sub>CC</sub> = 1.65 V to 1.95 V	80	125	-	80	-	MHz
		V <sub>CC</sub> = 2.3 V to 2.7 V	175	-	-	175	-	MHz
		V <sub>CC</sub> = 2.7 V	175	-	-	175	-	MHz
		V <sub>CC</sub> = 3.0 V to 3.6 V	175	300	-	175	-	MHz
		V <sub>CC</sub> = 4.5 V to 5.5 V	200	-	-	200	-	MHz
C <sub>PD</sub>	power dissipation capacitance	V <sub>I</sub> = GND to V <sub>CC</sub> ; V <sub>CC</sub> = 3.3 V <a href="#">[3]</a>	-	14	-	-	-	pF

[1] Typical values are measured at T<sub>amb</sub> = 25 °C and V<sub>CC</sub> = 1.8 V, 2.5 V, 2.7 V, 3.3 V and 5.0 V respectively.

[2] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>.

[3] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> in μW).

$$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o) \text{ where:}$$

f<sub>i</sub> = input frequency in MHz;

f<sub>o</sub> = output frequency in MHz;

C<sub>L</sub> = output load capacitance in pF;

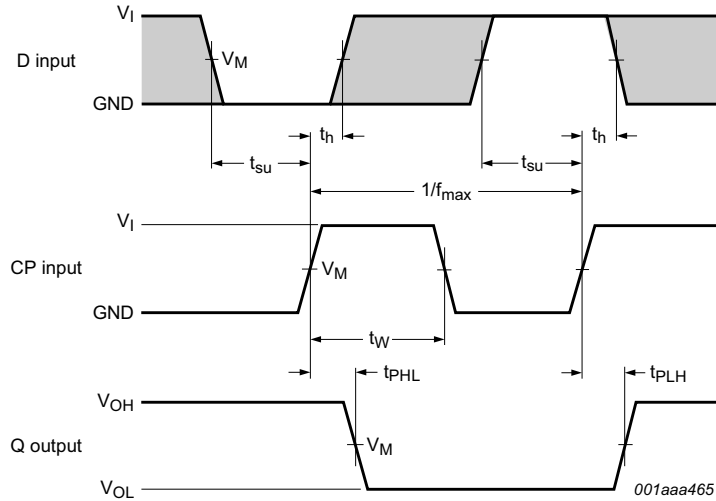
V<sub>CC</sub> = supply voltage in Volts;

N = number of inputs switching;

Σ(C<sub>L</sub> × V<sub>CC</sub><sup>2</sup> × f<sub>o</sub>) = sum of the outputs.

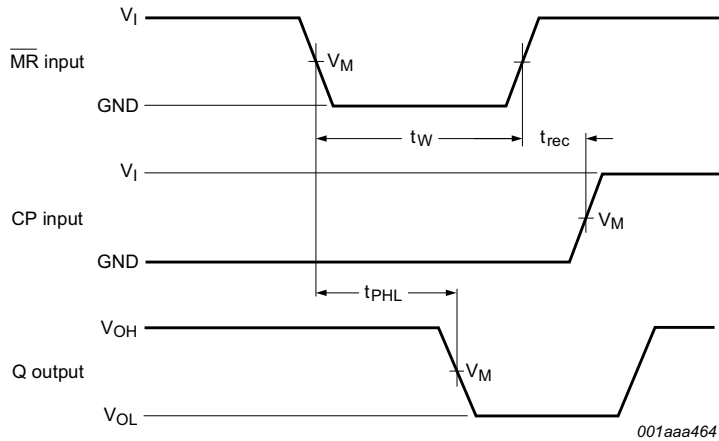


12. Waveforms



Measurement points are given in [Table 9](#).  
 The shaded areas indicate when the input is permitted to change for predictable output performance.  
 $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

**Fig 7. The clock input (CP) to output (Q) propagation delays, the clock pulse width, the D to CP set-up, the CP to D hold times, and the maximum clock pulse frequency**

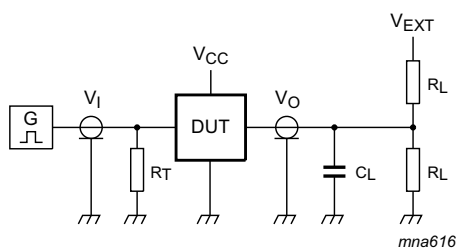


Measurement points are given in [Table 9](#).  
 $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

**Fig 8. The master reset ( $\overline{MR}$ ) input to output (Q) propagation delays, the master reset pulse width, and the  $\overline{MR}$  to CP recovery time**

Table 9. Measurement points

Supply voltage	Input	Output
$V_{CC}$	$V_M$	$V_M$
1.65 V to 1.95 V	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$
2.3 V to 2.7 V	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$
2.7 V	1.5 V	1.5 V
3.0 V to 3.6 V	1.5 V	1.5 V
4.5 V to 5.5 V	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$



Test data is given in [Table 10](#).

Definitions for test circuit:

$R_L$  = Load resistance.

$C_L$  = Load capacitance including jig and probe capacitance.

$R_T$  = Termination resistance should be equal to the output impedance  $Z_o$  of the pulse generator.

$V_{EXT}$  = External voltage for measuring switching times.

Fig 9. Test circuit for measuring switching times

Table 10. Test data

Supply voltage	Input		Load		$V_{EXT}$
	$V_I$	$t_r = t_f$	$C_L$	$R_L$	$t_{PLH}, t_{PHL}$
1.65 V to 1.95 V	$V_{CC}$	$\leq 2.0$ ns	30 pF	1 k $\Omega$	open
2.3 V to 2.7 V	$V_{CC}$	$\leq 2.0$ ns	30 pF	500 $\Omega$	open
2.7 V	2.7 V	$\leq 2.5$ ns	50 pF	500 $\Omega$	open
3.0 V to 3.6 V	2.7 V	$\leq 2.5$ ns	50 pF	500 $\Omega$	open
4.5 V to 5.5 V	$V_{CC}$	$\leq 2.5$ ns	50 pF	500 $\Omega$	open

13. Package outline

Plastic surface-mounted package; 6 leads

SOT363

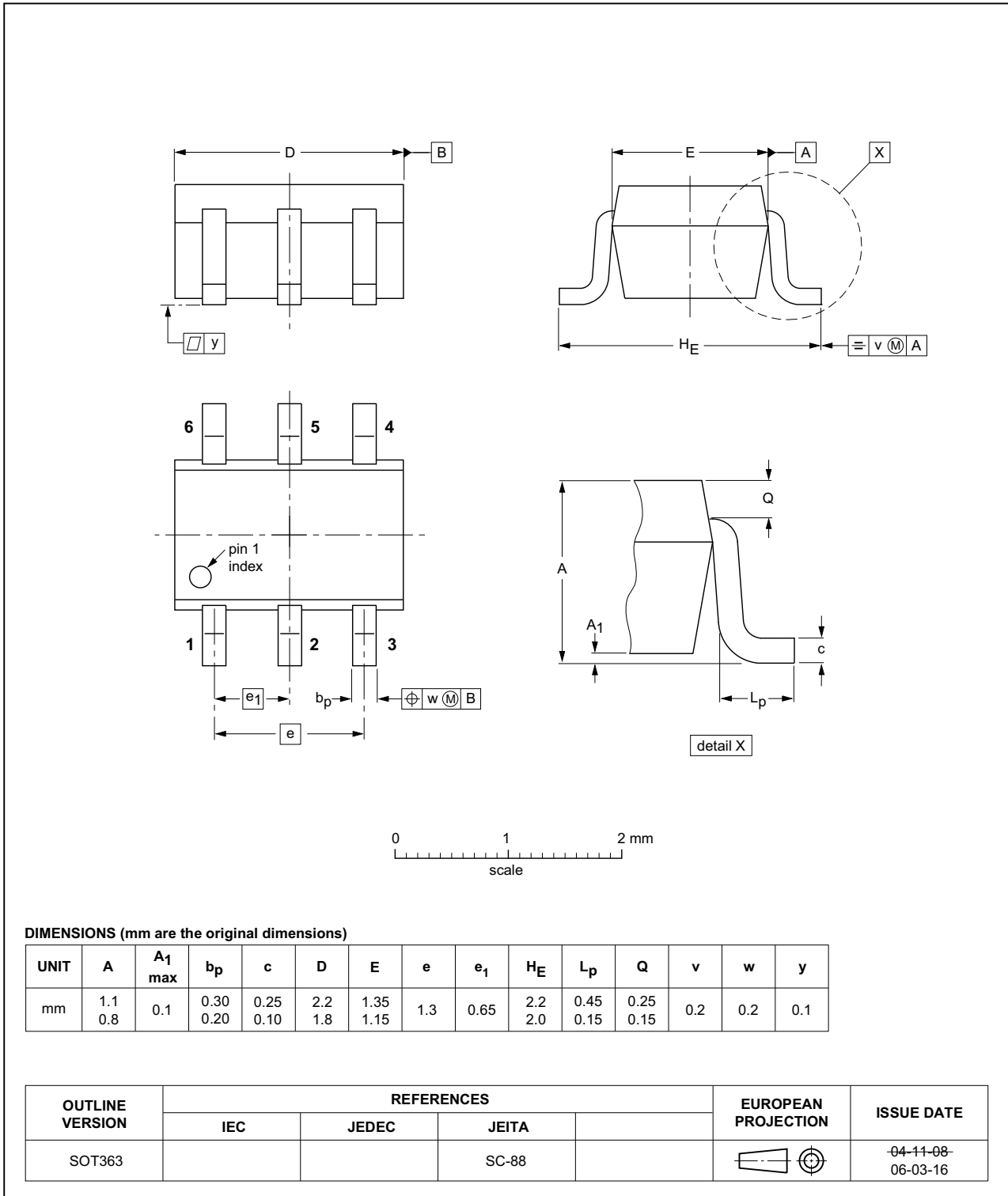


Fig 10. Package outline SOT363 (SC-88)

Plastic surface-mounted package (TSOP6); 6 leads

SOT457

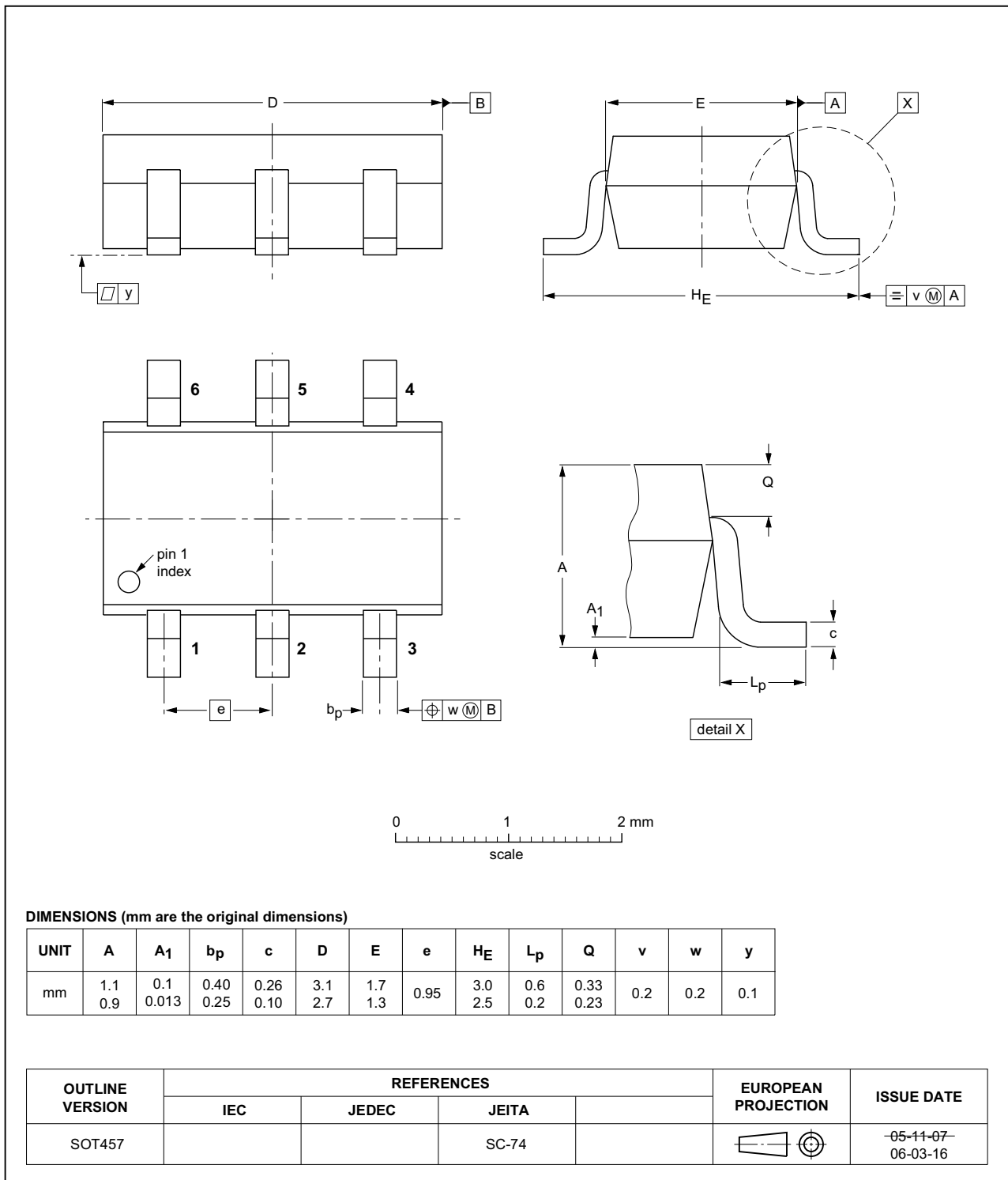


Fig 11. Package outline SOT457 (SC-74)

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

SOT886

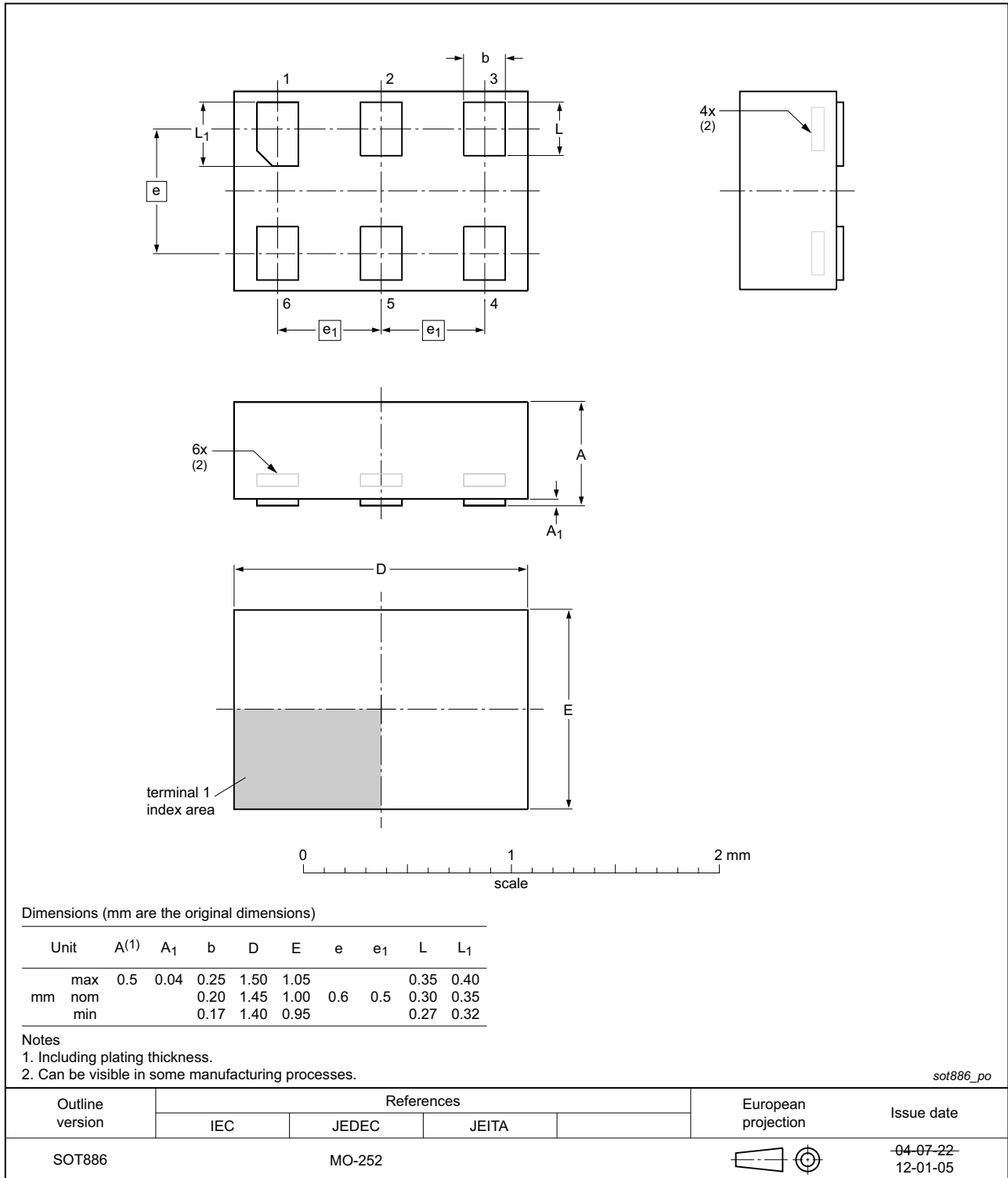


Fig 12. Package outline SOT886 (XSON6)

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

SOT891

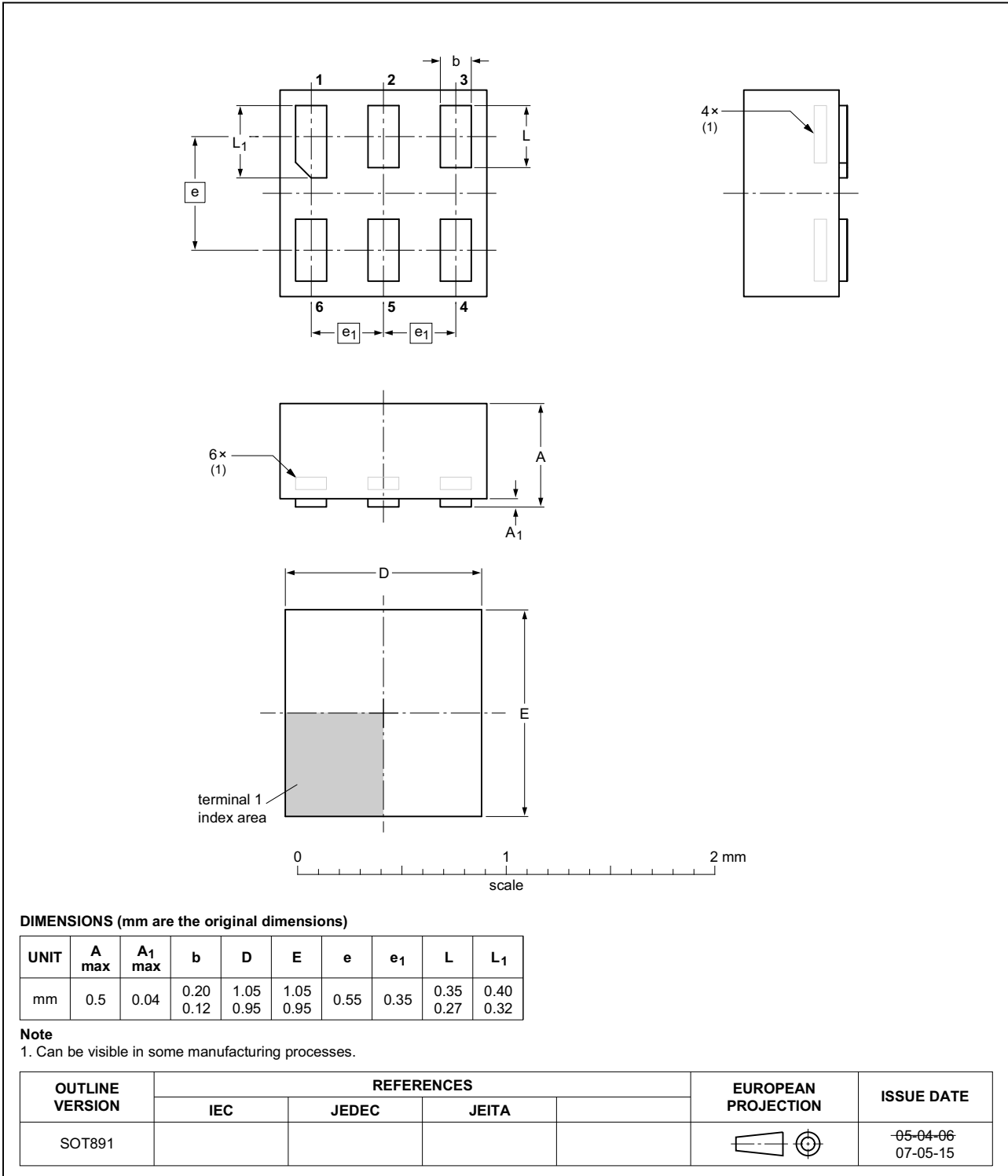


Fig 13. Package outline SOT891 (XSON6)

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

SOT1115



Fig 14. 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



Fig 15. Package outline SOT1202 (XSON6)



## 14. Abbreviations

Table 11. Abbreviations

Acronym	Description
CMOS	Complementary Metal Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
MM	Machine Model
TTL	Transistor-Transistor Logic

## 15. Revision history

Table 12. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74LVC1G175 v.7	20161202	Product data sheet	-	74LVC1G175 v.6
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Table 7</a>: The maximum limits for leakage current and supply current have changed.</li> </ul>			
74LVC1G175 v.6	20131011	Product data sheet	-	74LVC1G175 v.5
Modifications:	<ul style="list-style-type: none"> <li>Package outline drawing of SOT886 (<a href="#">Figure 12</a>) modified.</li> </ul>			
74LVC1G175 v.5	20111206	Product data sheet	-	74LVC1G175 v.4
Modifications:	<ul style="list-style-type: none"> <li>Legal pages updated.</li> </ul>			
74LVC1G175 v.4	20101004	Product data sheet	-	74LVC1G175 v.3
74LVC1G175 v.3	20070521	Product data sheet	-	74LVC1G175 v.2
74LVC1G175 v.2	20041018	Product specification	-	74LVC1G175 v.1
74LVC1G175 v.1	20040318	Product specification	-	-

## 16. Legal information

### 16.1 Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	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 URL <http://www.nexperia.com>.

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