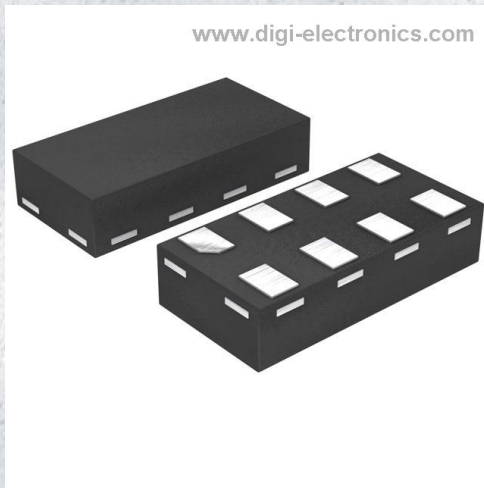


# 74LVC2G241GD,125 Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	74LVC2G241GD,125-DG
Manufacturer	<a href="#">Nexperia USA Inc.</a>
Manufacturer Product Number	74LVC2G241GD,125
Description	IC BUFFER NON-INVERT 5.5V 8XSON
Detailed Description	Buffer, Non-Inverting 2 Element 1 Bit per Element 3- -State Output 8-XSON (2x3)



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## Purchase and inquiry

Manufacturer Product Number:

74LVC2G241GD,125

Series:

74LVC

Logic Type:

Buffer, Non-Inverting

Number of Bits per Element:

1

Output Type:

3-State

Voltage - Supply:

1.65V ~ 5.5V

Mounting Type:

Surface Mount

Supplier Device Package:

8-XSON (2x3)

Manufacturer:

Nexperia USA Inc.

Product Status:

Obsolete

Number of Elements:

2

Input Type:

-

Current - Output High, Low:

32mA, 32mA

Operating Temperature:

-40°C ~ 125°C (TA)

Package / Case:

8-XFDN

Base Product Number:

74LVC2G241

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



# 74LVC2G241

Dual buffer/line driver; 3-state

Rev. 18 — 30 April 2024

Product data sheet

## 1. General description

The 74LVC2G241 is a dual non-inverting buffer/line driver with 3-state outputs. The 3-state outputs are controlled by the output enable inputs  $1\overline{OE}$  and 2OE:

- A HIGH level at pin  $1\overline{OE}$  causes output 1Y to assume a high-impedance OFF-state.
- A LOW level at pin 2OE causes output 2Y to assume a high-impedance OFF-state.

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

Inputs can be driven from either 3.3 V or 5 V devices. This feature allows the use of the 74LVC2G241 as a translator in a mixed 3.3 V and 5 V environment.

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

## 2. Features and benefits

- Wide supply voltage range from 1.65 V to 5.5 V
- 5 V tolerant input/output for interfacing with 5 V logic
- High noise immunity
- $\pm 24$  mA output drive ( $V_{CC} = 3.0$  V)
- CMOS low power consumption
- Latch-up performance exceeds 250 mA
- Direct interface with TTL levels
- Inputs accept voltages up to 5 V
- Complies with JEDEC standard:
  - JESD8-7 (1.65 V to 1.95 V)
  - JESD8-5 (2.3 V to 2.7 V)
  - JESD8-B/JESD36 (2.7 V to 3.6 V)
- ESD protection:
  - HBM: ANSI/ESDA/JEDEC JS-001 class 2 exceeds 2000 V
  - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 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			Version
	Temperature range	Name	Description	
<a href="#">74LVC2G241DP</a>	-40 °C to +125 °C	TSSOP8	plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm	<a href="#">SOT505-2</a>
<a href="#">74LVC2G241DC</a>	-40 °C to +125 °C	VSSOP8	plastic very thin shrink small outline package; 8 leads; body width 2.3 mm	<a href="#">SOT765-1</a>
<a href="#">74LVC2G241GT</a>	-40 °C to +125 °C	XSON8	plastic extremely thin small outline package; no leads; 8 terminals; body 1 × 1.95 × 0.5 mm	<a href="#">SOT833-1</a>
<a href="#">74LVC2G241GN</a>	-40 °C to +125 °C	XSON8	extremely thin small outline package; no leads; 8 terminals; body 1.2 × 1.0 × 0.35 mm	<a href="#">SOT1116</a>
<a href="#">74LVC2G241GS</a>	-40 °C to +125 °C	XSON8	extremely thin small outline package; no leads; 8 terminals; body 1.35 × 1.0 × 0.35 mm	<a href="#">SOT1203</a>

### 4. Marking

Table 2. Marking codes

Type number	Marking code <sup>[1]</sup>
74LVC2G241DP	V241
74LVC2G241DC	V41
74LVC2G241GT	V41
74LVC2G241GN	V1
74LVC2G241GS	V1

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

### 5. Functional diagram

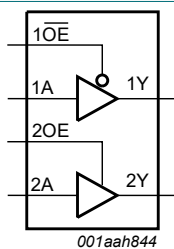


Fig. 1. Logic symbol

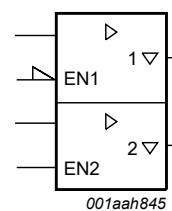
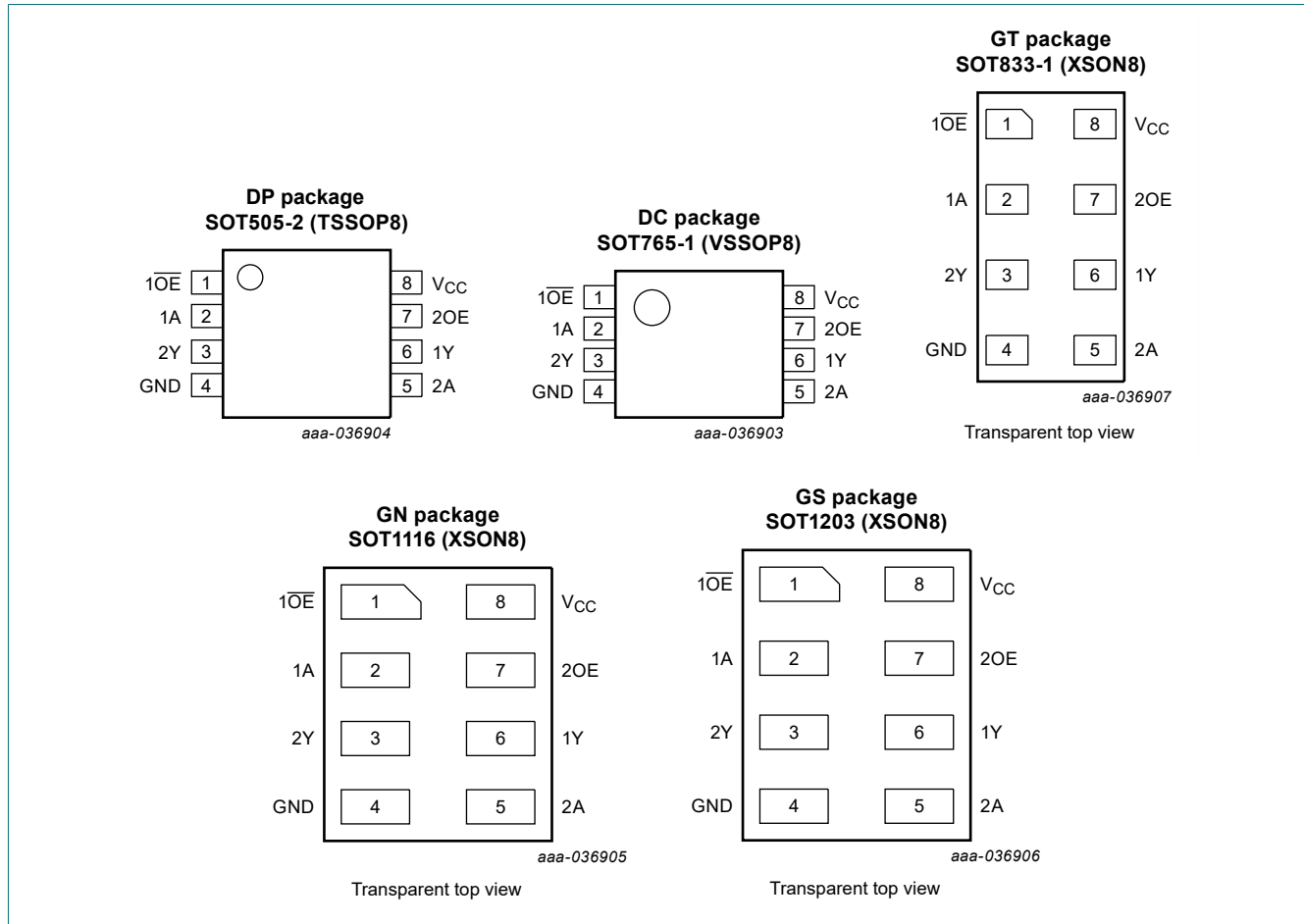


Fig. 2. IEC logic symbol

## 6. Pinning information

### 6.1. Pinning



### 6.2. Pin description

Table 3. Pin description

Symbol	Pin	Description
1OE	1	output enable input (active LOW)
1A, 2A	2, 5	data input
GND	4	ground (0 V)
1Y, 2Y	6, 3	data output
2OE	7	output enable input (active HIGH)
V <sub>CC</sub>	8	supply voltage

## 7. Functional description

**Table 4. Function table**

H = HIGH voltage level; L = LOW voltage level; X = don't care; Z = high-impedance OFF-state.

Input				Output	
1OE	1A	2OE	2A	1Y	2Y
L	L	H	L	L	L
L	H	H	H	H	H
H	X	L	X	Z	Z

## 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		[1] -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	enable mode	[1] -0.5	$V_{CC} + 0.5$	V
		disable mode	[1] -0.5	+6.5	V
		$V_{CC} = 0$ V; Power-down mode	[1] -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
$T_{stg}$	storage temperature		-65	+150	°C
$P_{tot}$	total power dissipation	$T_{amb} = -40$ °C to +125 °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 SOT505-2 (TSSOP8) package:  $P_{tot}$  derates linearly with 4.6 mW/K above 96 °C.  
 For SOT765-1 (VSSOP8) package:  $P_{tot}$  derates linearly with 4.9 mW/K above 99 °C.  
 For SOT833-1 (XSON8) package:  $P_{tot}$  derates linearly with 3.1 mW/K above 68 °C.  
 For SOT1116 (XSON8) package:  $P_{tot}$  derates linearly with 4.2 mW/K above 90 °C.  
 For SOT1203 (XSON8) package:  $P_{tot}$  derates linearly with 3.6 mW/K above 81 °C.

## 9. Recommended operating conditions

**Table 6. Operating conditions**

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{CC}$	supply voltage		1.65	5.5	V
$V_I$	input voltage		0	5.5	V
$V_O$	output voltage	$V_{CC} = 1.65$ V to 5.5 V; enable mode	0	$V_{CC}$	V
		$V_{CC} = 1.65$ V to 5.5 V; disable mode	0	5.5	V
		$V_{CC} = 0$ V; Power-down mode	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[1]	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 1.65 V to 1.95 V	0.65 × V <sub>CC</sub>	-	-	V
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.7	-	-	V
		V <sub>CC</sub> = 2.7 V to 3.6 V	2.0	-	-	V
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.7 × V <sub>CC</sub>	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 1.65 V to 1.95 V	-	-	0.35 × V <sub>CC</sub>	V
		V <sub>CC</sub> = 2.3 V to 2.7 V	-	-	0.7	V
		V <sub>CC</sub> = 2.7 V to 3.6 V	-	-	0.8	V
		V <sub>CC</sub> = 4.5 V to 5.5 V	-	-	0.3 × V <sub>CC</sub>	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		I <sub>O</sub> = 100 μA; V <sub>CC</sub> = 1.65 V to 5.5 V	-	-	0.1	V
		I <sub>O</sub> = 4 mA; V <sub>CC</sub> = 1.65 V	-	-	0.45	V
		I <sub>O</sub> = 8 mA; V <sub>CC</sub> = 2.3 V	-	-	0.3	V
		I <sub>O</sub> = 12 mA; V <sub>CC</sub> = 2.7 V	-	-	0.4	V
		I <sub>O</sub> = 24 mA; V <sub>CC</sub> = 3.0 V	-	-	0.55	V
		I <sub>O</sub> = 32 mA; V <sub>CC</sub> = 4.5 V	-	-	0.55	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		I <sub>O</sub> = -100 μA; V <sub>CC</sub> = 1.65 V to 5.5 V	V <sub>CC</sub> - 0.1	-	-	V
		I <sub>O</sub> = -4 mA; V <sub>CC</sub> = 1.65 V	1.2	-	-	V
		I <sub>O</sub> = -8 mA; V <sub>CC</sub> = 2.3 V	1.9	-	-	V
		I <sub>O</sub> = -12 mA; V <sub>CC</sub> = 2.7 V	2.2	-	-	V
		I <sub>O</sub> = -24 mA; V <sub>CC</sub> = 3.0 V	2.3	-	-	V
		I <sub>O</sub> = -32 mA; V <sub>CC</sub> = 4.5 V	3.8	-	-	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = 5.5 V or GND; V <sub>CC</sub> = 0 V to 5.5 V	-	±0.1	±1	μA
I <sub>OZ</sub>	OFF-state output current	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>O</sub> = 5.5 V or GND; V <sub>CC</sub> = 3.6 V	-	±0.1	±2	μA
I <sub>OFF</sub>	power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 5.5 V; V <sub>CC</sub> = 0 V	-	±0.1	±2	μA
I <sub>CC</sub>	supply current	V <sub>I</sub> = 5.5 V or GND; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 1.65 V to 5.5 V	-	0.1	4	μA
ΔI <sub>CC</sub>	additional supply current	per pin; V <sub>I</sub> = V <sub>CC</sub> - 0.6 V; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 2.3 V to 5.5 V	-	5	500	μA
C <sub>I</sub>	input capacitance		-	2	-	pF

Symbol	Parameter	Conditions	Min	Typ[1]	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 1.65 V to 1.95 V	0.65 × V <sub>CC</sub>	-	-	V
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.7	-	-	V
		V <sub>CC</sub> = 2.7 V to 3.6 V	2.0	-	-	V
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.7 × V <sub>CC</sub>	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 1.65 V to 1.95 V	-	-	0.35 × V <sub>CC</sub>	V
		V <sub>CC</sub> = 2.3 V to 2.7 V	-	-	0.7	V
		V <sub>CC</sub> = 2.7 V to 3.6 V	-	-	0.8	V
		V <sub>CC</sub> = 4.5 V to 5.5 V	-	-	0.3 × V <sub>CC</sub>	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		I <sub>O</sub> = 100 μA; V <sub>CC</sub> = 1.65 V to 5.5 V	-	-	0.1	V
		I <sub>O</sub> = 4 mA; V <sub>CC</sub> = 1.65 V	-	-	0.70	V
		I <sub>O</sub> = 8 mA; V <sub>CC</sub> = 2.3 V	-	-	0.45	V
		I <sub>O</sub> = 12 mA; V <sub>CC</sub> = 2.7 V	-	-	0.60	V
		I <sub>O</sub> = 24 mA; V <sub>CC</sub> = 3.0 V	-	-	0.80	V
		I <sub>O</sub> = 32 mA; V <sub>CC</sub> = 4.5 V	-	-	0.80	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		I <sub>O</sub> = -100 μA; V <sub>CC</sub> = 1.65 V to 5.5 V	V <sub>CC</sub> - 0.1	-	-	V
		I <sub>O</sub> = -4 mA; V <sub>CC</sub> = 1.65 V	0.95	-	-	V
		I <sub>O</sub> = -8 mA; V <sub>CC</sub> = 2.3 V	1.7	-	-	V
		I <sub>O</sub> = -12 mA; V <sub>CC</sub> = 2.7 V	1.9	-	-	V
		I <sub>O</sub> = -24 mA; V <sub>CC</sub> = 3.0 V	2.0	-	-	V
		I <sub>O</sub> = -32 mA; V <sub>CC</sub> = 4.5 V	3.4	-	-	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = 5.5 V or GND; V <sub>CC</sub> = 0 V to 5.5 V	-	-	±1	μA
I <sub>OZ</sub>	OFF-state output current	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>O</sub> = 5.5 V or GND; V <sub>CC</sub> = 3.6 V	-	-	±2	μA
I <sub>OFF</sub>	power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 5.5 V; V <sub>CC</sub> = 0 V	-	-	±2	μA
I <sub>CC</sub>	supply current	V <sub>I</sub> = 5.5 V or GND; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 1.65 V to 5.5 V	-	-	4	μA
ΔI <sub>CC</sub>	additional supply current	per pin; V <sub>I</sub> = V <sub>CC</sub> - 0.6 V; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 2.3 V to 5.5 V	-	-	500	μA

[1] Typical values are measured at V<sub>CC</sub> = 3.3 V and T<sub>amb</sub> = 25 °C.



## 11. Dynamic characteristics

**Table 8. Dynamic characteristics**

Voltages are referenced to GND (ground = 0 V); for test circuit see Fig. 6.

Symbol	Parameter	Conditions	-40 °C to +85 °C			-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	
t <sub>pd</sub>	propagation delay	nA to nY; see Fig. 3 [2]						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.0	4.5	8.8	1.0	11.0	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.5	2.8	4.9	0.5	6.3	ns
		V <sub>CC</sub> = 2.7 V	1.0	2.8	4.7	1.0	5.9	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.5	2.6	4.3	0.5	5.4	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	2.1	3.7	0.5	4.6	ns
t <sub>en</sub>	enable time	1OE to 1Y; see Fig. 4 [2]						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.5	5.2	9.9	1.5	12.4	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.0	3.1	5.6	1.0	7.0	ns
		V <sub>CC</sub> = 2.7 V	1.5	3.2	5.5	1.5	6.9	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.5	2.7	4.7	0.5	5.9	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	2.0	3.8	0.5	4.8	ns
		2OE to 2Y; see Fig. 5 [2]						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.0	4.3	8.8	1.0	11.0	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	1.0	2.7	4.7	1.0	5.9	ns
		V <sub>CC</sub> = 2.7 V	1.0	2.7	4.6	1.0	5.8	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.0	2.5	4.1	1.0	5.1	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	1.9	3.3	0.5	4.1	ns		
t <sub>dis</sub>	disable time	1OE to 1Y; see Fig. 4 [2]						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.0	3.2	11.6	1.0	14.1	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.5	2.2	5.8	0.5	7.6	ns
		V <sub>CC</sub> = 2.7 V	1.0	2.8	4.6	1.0	5.9	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.0	2.6	4.4	1.0	5.7	ns
		V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	2.0	3.4	0.5	4.6	ns
		2OE to 2Y; see Fig. 5 [2]						
		V <sub>CC</sub> = 1.65 V to 1.95 V	1.0	3.6	12.5	1.0	15.2	ns
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.5	2.0	5.2	0.5	6.9	ns
		V <sub>CC</sub> = 2.7 V	1.5	3.2	4.9	1.5	6.3	ns
		V <sub>CC</sub> = 3.0 V to 3.6 V	1.0	2.8	4.2	1.0	5.4	ns
V <sub>CC</sub> = 4.5 V to 5.5 V	0.5	2.0	3.3	0.5	4.4	ns		
C <sub>PD</sub>	power dissipation capacitance	per buffer; V <sub>I</sub> = GND to V <sub>CC</sub> [3]						
		output enabled	-	20	-	-	-	pF
		output disabled	-	5	-	-	-	pF

[1] Typical values are measured at nominal V<sub>CC</sub> and at T<sub>amb</sub> = 25 °C.

[2] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>; t<sub>en</sub> is the same as t<sub>PZH</sub> and t<sub>PZL</sub>; t<sub>dis</sub> is the same as t<sub>PLZ</sub> and t<sub>PHZ</sub>.

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

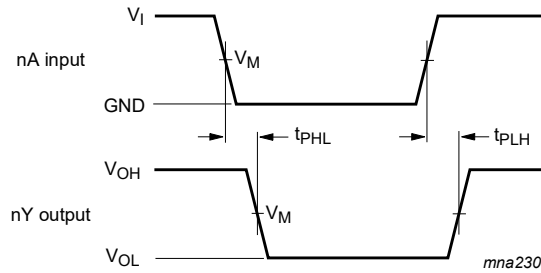
$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o)$  where:

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 V; N = number of inputs switching;

$\Sigma(C_L \times V_{CC}^2 \times f_o)$  = sum of outputs.

## 11.1. Waveforms and test circuit



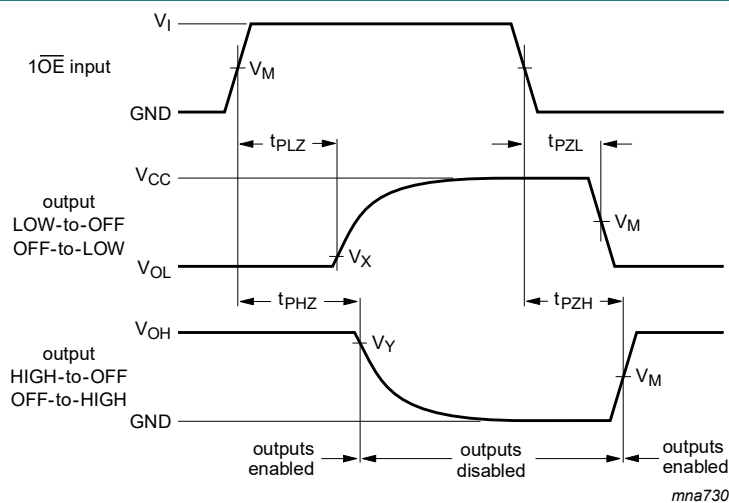
Measurement points are given in [Table 9](#).

Logic levels:  $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

**Fig. 3.** The data input (nA) to output (nY) propagation delays

**Table 9.** Measurement points

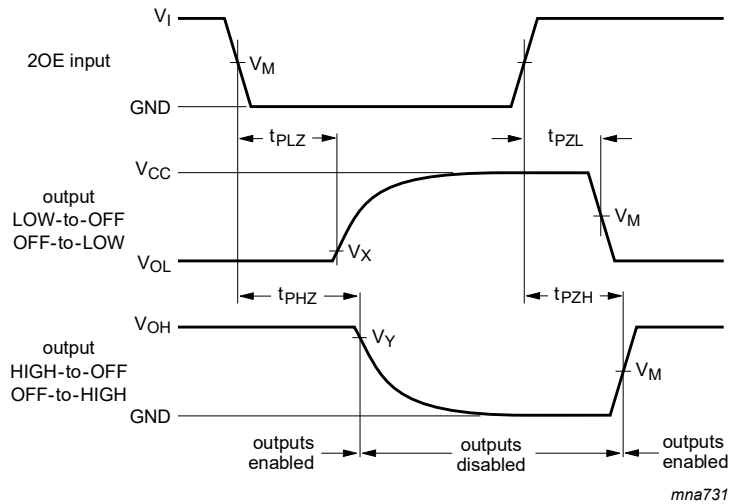
Supply voltage	Input	Output		
$V_{CC}$	$V_M$	$V_M$	$V_X$	$V_Y$
1.65 V to 1.95 V	$0.5V_{CC}$	$0.5V_{CC}$	$V_{OL} + 0.15\text{ V}$	$V_{OH} - 0.15\text{ V}$
2.3 V to 2.7 V	$0.5V_{CC}$	$0.5V_{CC}$	$V_{OL} + 0.15\text{ V}$	$V_{OH} - 0.15\text{ V}$
2.7 V	1.5 V	1.5 V	$V_{OL} + 0.3\text{ V}$	$V_{OH} - 0.3\text{ V}$
3.0 V to 3.6 V	1.5 V	1.5 V	$V_{OL} + 0.3\text{ V}$	$V_{OH} - 0.3\text{ V}$
4.5 V to 5.5 V	$0.5V_{CC}$	$0.5V_{CC}$	$V_{OL} + 0.3\text{ V}$	$V_{OH} - 0.3\text{ V}$



Measurement points are given in [Table 9](#).

Logic levels:  $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

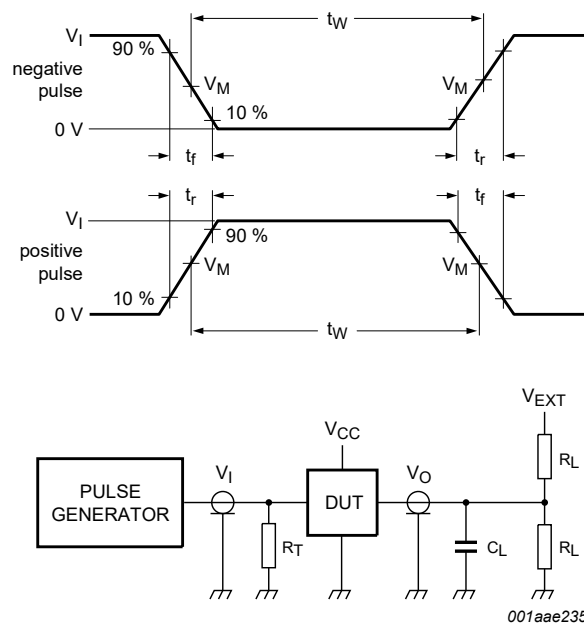
**Fig. 4.** Enable and disable times for input  $1\overline{OE}$



Measurement points are given in [Table 9](#).

Logic levels:  $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

**Fig. 5. Enable and disable times for input 2OE**



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

Definitions for test circuit:

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

$C_L$  = Load capacitance including jig and probe capacitance;  $R_L$  = Load resistance.

**Fig. 6. Test circuit for measuring switching times**

**Table 10. Test data**

Supply voltage	Input	Load		$V_{EXT}$		
	$V_I$	$C_L$	$R_L$	$t_{PLH}$ , $t_{PHL}$	$t_{PZH}$ , $t_{PHZ}$	$t_{PZL}$ , $t_{PLZ}$
1.65 V to 1.95 V	$V_{CC}$	30 pF	1 k $\Omega$	open	GND	$2V_{CC}$
2.3 V to 2.7 V	$V_{CC}$	30 pF	500 $\Omega$	open	GND	$2V_{CC}$
2.7 V	2.7 V	50 pF	500 $\Omega$	open	GND	6 V
3.0 V to 3.6 V	2.7 V	50 pF	500 $\Omega$	open	GND	6 V
4.5 V to 5.5 V	$V_{CC}$	50 pF	500 $\Omega$	open	GND	$2V_{CC}$

## 12. Package outline

TSSOP8: plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm SOT505-2

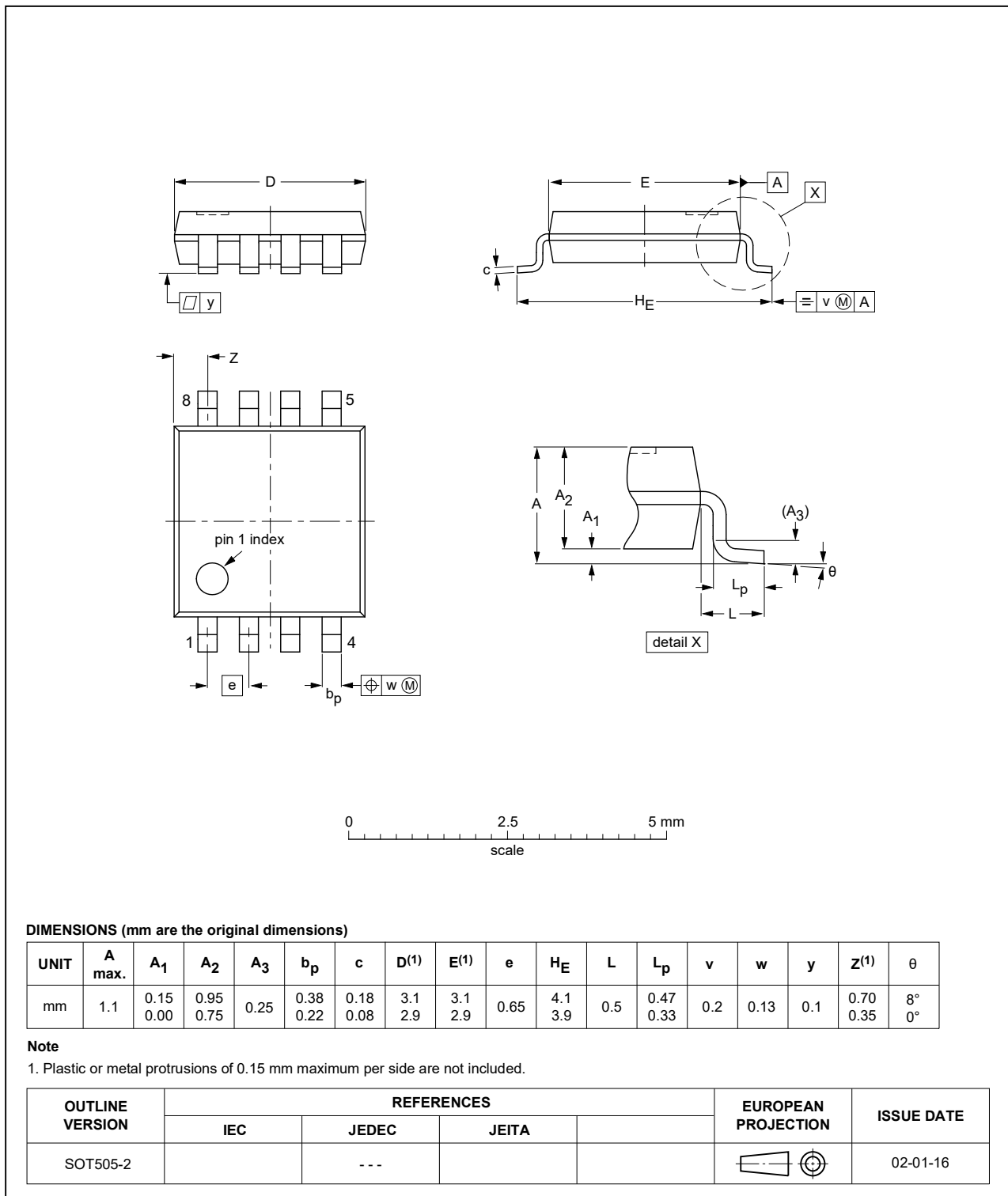


Fig. 7. Package outline SOT505-2 (TSSOP8)

VSSOP8: plastic very thin shrink small outline package; 8 leads; body width 2.3 mm

SOT765-1

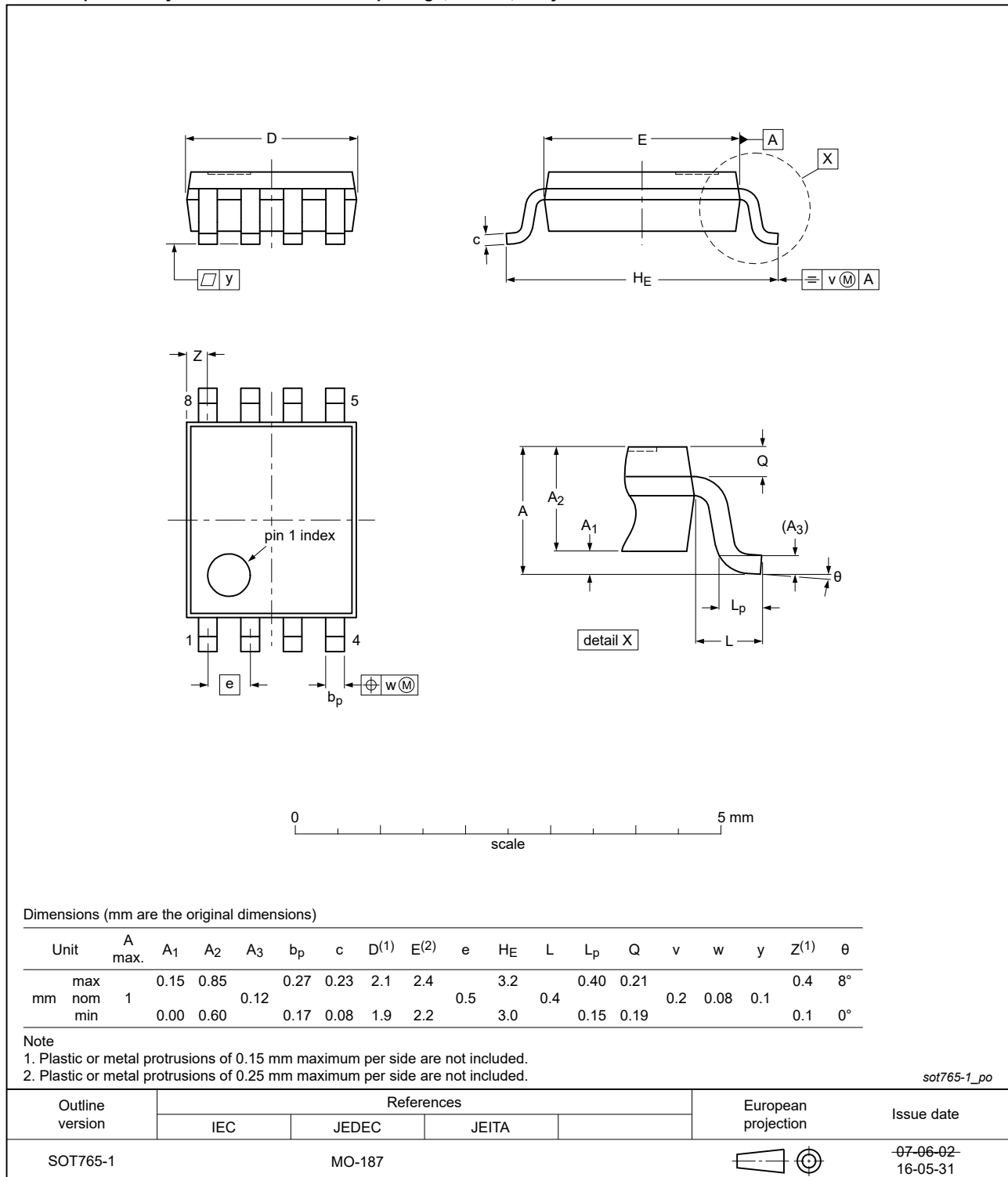


Fig. 8. Package outline SOT765-1 (VSSOP8)



XSON8: plastic extremely thin small outline package; no leads; 8 terminals; body 1 x 1.95 x 0.5 mm

SOT833-1

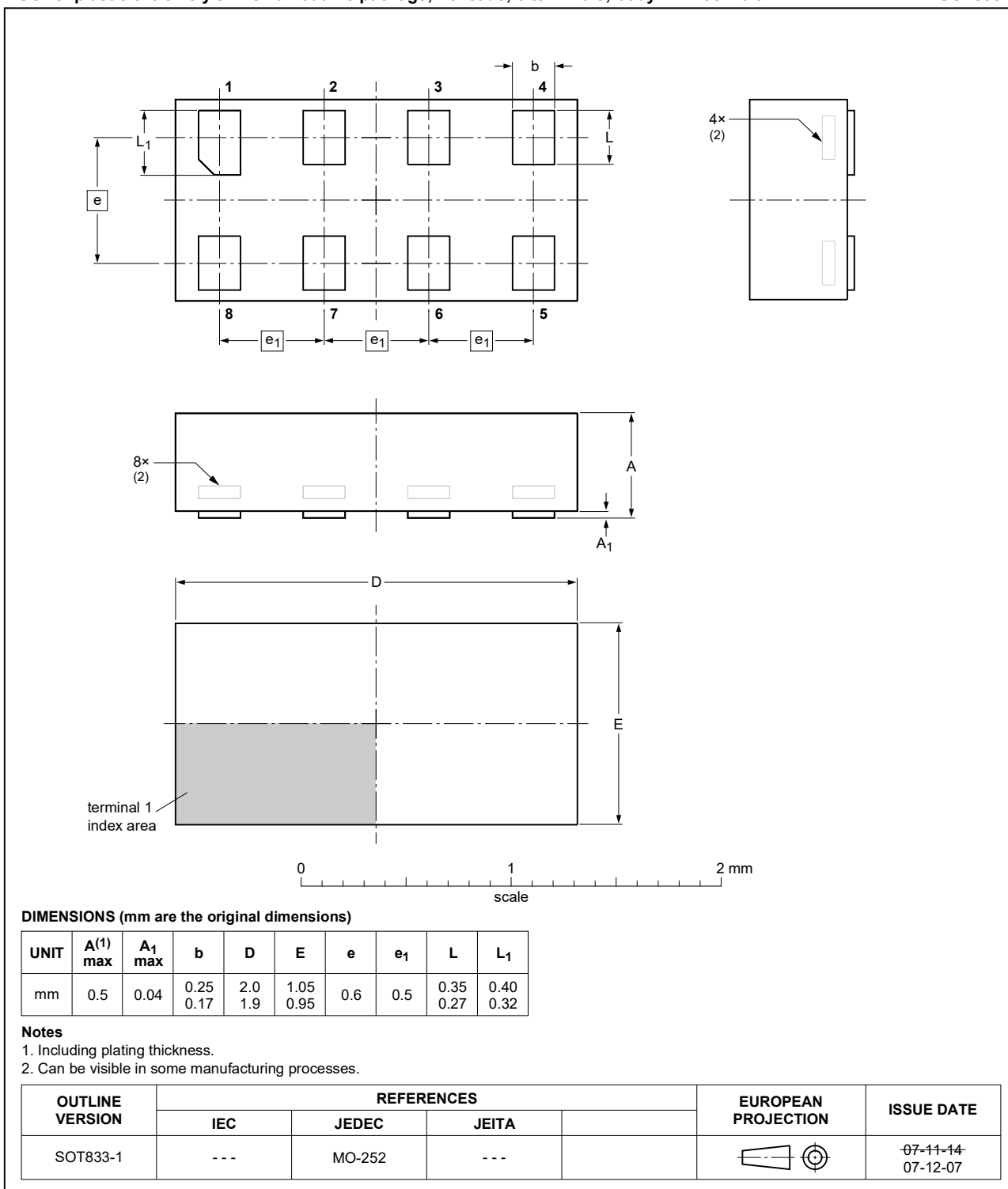
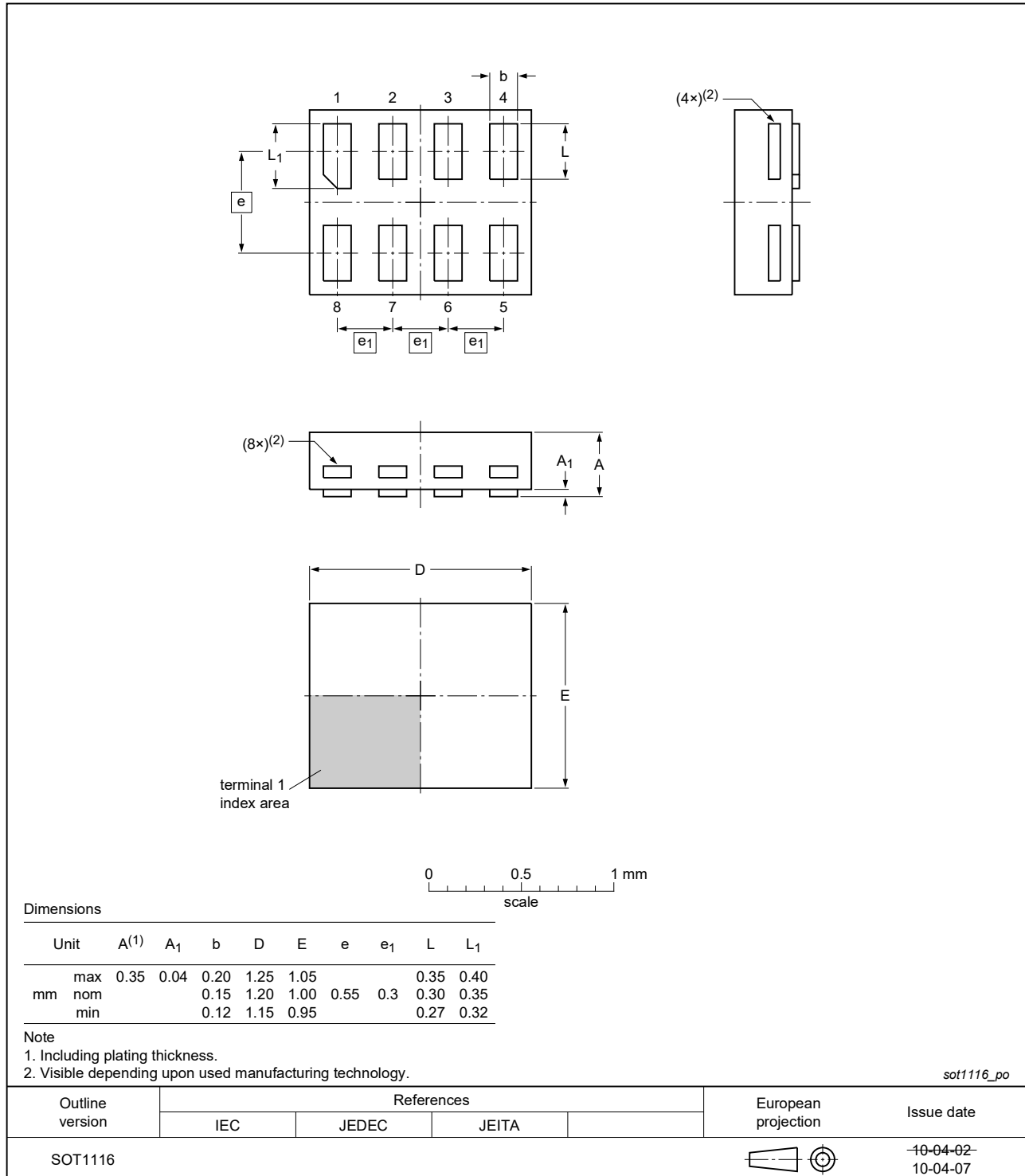


Fig. 9. Package outline SOT833-1 (XSON8)

**XSON8: extremely thin small outline package; no leads;  
8 terminals; body 1.2 x 1.0 x 0.35 mm**

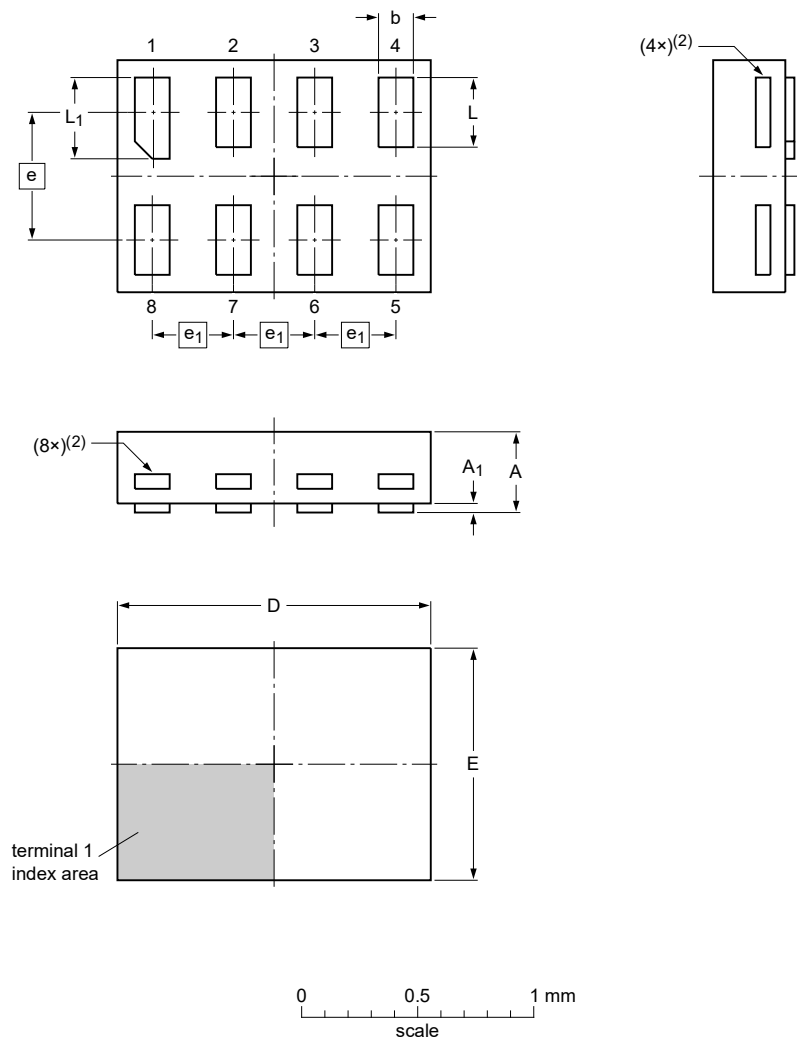
SOT1116



**Fig. 10. Package outline SOT1116 (XSON8)**

**XSON8: extremely thin small outline package; no leads;  
8 terminals; body 1.35 x 1.0 x 0.35 mm**

SOT1203




## Dimensions

Unit	A <sup>(1)</sup>	A <sub>1</sub>	b	D	E	e	e <sub>1</sub>	L	L <sub>1</sub>
mm	max	0.35	0.04	0.20	1.40	1.05		0.35	0.40
	nom		0.15	1.35	1.00	0.55	0.35	0.30	0.35
	min		0.12	1.30	0.95			0.27	0.32

## Note

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

sot1203\_po

Outline version	References				European projection	Issue date
	IEC	JEDEC	JEITA			
SOT1203						<del>10-04-02</del> 10-04-06

**Fig. 11. Package outline SOT1203 (XSON8)**

## 13. Abbreviations

Table 11. Abbreviations

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

## 14. Revision history

Table 12. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74LVC2G241 v.18	20240430	Product data sheet	-	74LVC2G241 v.17
Modifications:	<ul style="list-style-type: none"> <li>Type number 74LVC2G241GF (SOT1089/XSON8) removed.</li> </ul>			
74LVC2G241 v.17	20230821	Product data sheet	-	74LVC2G241 v.16
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Section 2</a>: ESD specification updated in according to the latest Jedec standard.</li> </ul>			
74LVC2G241 v.16	20190731	Product data sheet	-	74LVC2G241 v.15
Modifications:	<ul style="list-style-type: none"> <li>Type number 74LVC2G241GM (SOT902-2/XQFN8) removed.</li> <li><a href="#">Table 5</a>: Derating values for <math>P_{tot}</math> total power dissipation updated.</li> </ul>			
74LVC2G241 v.15	20181122	Product data sheet	-	74LVC2G241 v.14
Modifications:	<ul style="list-style-type: none"> <li>The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia.</li> <li>Legal texts have been adapted to the new company name where appropriate.</li> <li>Type numbers 74LVC2G241GD (SOT996-2/XSON8) removed.</li> </ul>			
74LVC2G241 v.14	20161215	Product data sheet	-	74LVC2G241 v.13
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>			
74LVC2G241 v.13	20130408	Product data sheet	-	74LVC2G241 v.12
Modifications:	<ul style="list-style-type: none"> <li>For type number 74LVC2G241GD XSON8U has changed to XSON8.</li> </ul>			
74LVC2G241 v.12	20120622	Product data sheet	-	74LVC2G241 v.11
Modifications:	<ul style="list-style-type: none"> <li>For type number 74LVC2G241GM the SOT code has changed to SOT902-2.</li> </ul>			
74LVC2G241 v.11	20111129	Product data sheet	-	74LVC2G241 v.10
Modifications:	<ul style="list-style-type: none"> <li>Legal pages updated.</li> </ul>			
74LVC2G241 v.10	20100806	Product data sheet	-	74LVC2G241 v.9
74LVC2G241 v.9	20080610	Product data sheet	-	74LVC2G241 v.8
74LVC2G241 v.8	20080312	Product data sheet	-	74LVC2G241 v.7
74LVC2G241 v.7	20071005	Product data sheet	-	74LVC2G241 v.6
74LVC2G241 v.6	20060922	Product data sheet	-	74LVC2G241 v.5
74LVC2G241 v.5	20050202	Product specification	-	74LVC2G241 v.4
74LVC2G241 v.4	20040922	Product specification	-	74LVC2G241 v.3
74LVC2G241 v.3	20030311	Product specification	-	74LVC2G241 v.2
74LVC2G241 v.2	20030129	Product specification	-	74LVC2G241 v.1

## 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".
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