

74HC365-Q100; 74HCT365-Q100

Hex buffer/line driver; 3-state

Rev. 4 — 13 March 2024

Product data sheet

1. General description

The 74HC365-Q100; 74HCT365-Q100 is a hex buffer/line driver with 3-state outputs controlled by the output enable inputs ($\overline{OE}n$). A HIGH on $\overline{OE}n$ causes the outputs to assume a high impedance OFF-state. Inputs include clamp diodes. This enables the use of current limiting resistors to interface inputs to voltages in excess of V_{CC} .

This product has been qualified to the Automotive Electronics Council (AEC) standard Q100 (Grade 1) and is suitable for use in automotive applications.

2. Features and benefits

- Automotive product qualification in accordance with AEC-Q100 (Grade 1)
 - Specified from -40 °C to +85 °C and from -40 °C to +125 °C
- Wide supply voltage range from 2.0 V to 6.0 V
- CMOS low power dissipation
- High noise immunity
- Latch-up performance exceeds 100 mA per JESD 78 Class II Level B
- Complies with JEDEC standards:
 - JESD8C (2.7 V to 3.6 V)
 - JESD7A (2.0 V to 6.0 V)
- Non-inverting outputs
- Input levels:
 - For 74HC365-Q100: CMOS level
 - For 74HCT365-Q100: TTL level
- ESD protection:
 - HBM: ANSI/ESDA/JEDEC JS-001 class 2 exceeds 2000 V
 - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V

3. Ordering information

Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	Version
74HC365D-Q100	-40 °C to +125 °C	SO16	plastic small outline package; 16 leads; body width 3.9 mm	SOT109-1
74HCT365D-Q100				
74HC365PW-Q100	-40 °C to +125 °C	TSSOP16	plastic thin shrink small outline package; 16 leads; body width 4.4 mm	SOT403-1
74HCT365PW-Q100				

4. Functional diagram

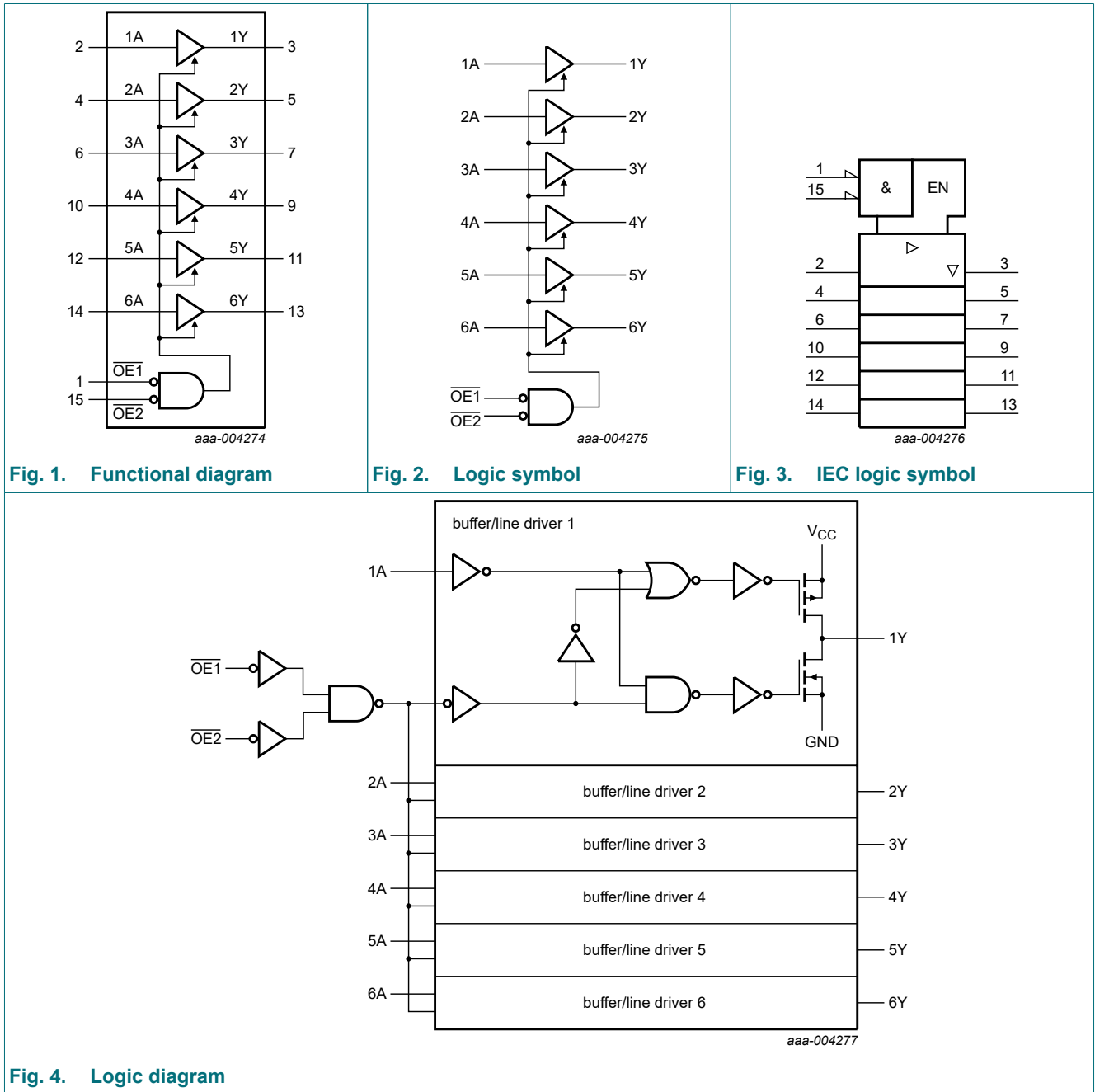


Fig. 4. Logic diagram

5. Pinning information

5.1. Pinning

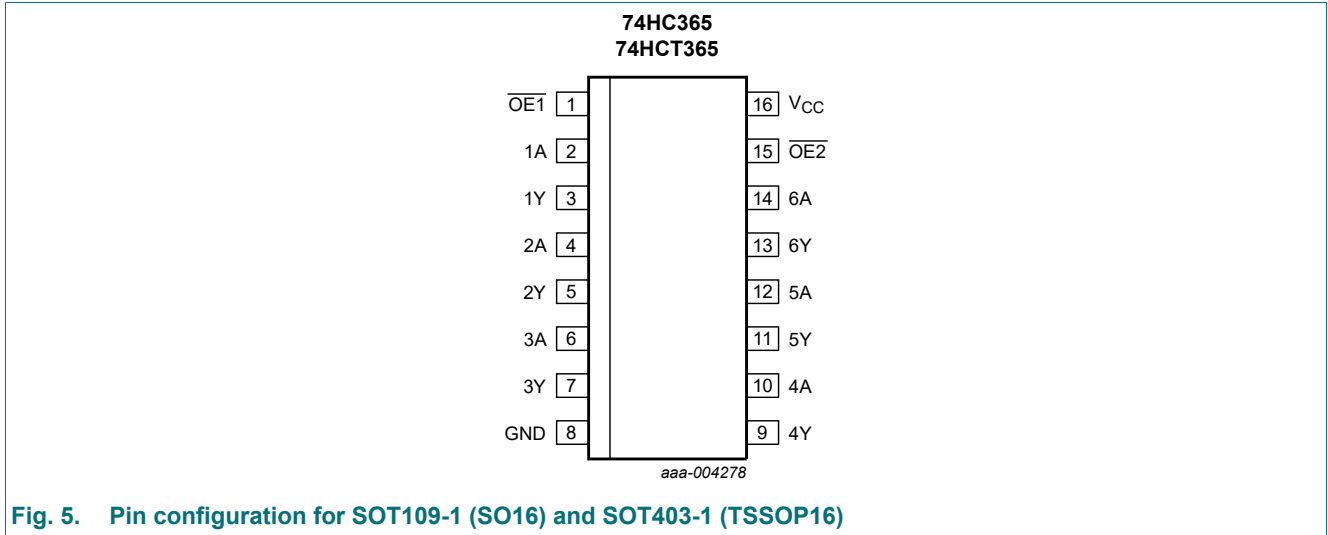


Fig. 5. Pin configuration for SOT109-1 (SO16) and SOT403-1 (TSSOP16)

5.2. Pin description

Table 2. Pin description

Symbol	Pin	Description
OE1	1	output enable input 1 (active LOW)
1A	2	data input 1
1Y	3	data output 1
2A	4	data input 2
2Y	5	data output 2
3A	6	data input 3
3Y	7	data output 3
GND	8	ground (0 V)
4Y	9	data output 4
4A	10	data input 4
5Y	11	data output 5
5A	12	data input 5
6Y	13	data output 6
6A	14	data input 6
OE2	15	output enable input 2 (active LOW)
V _{CC}	16	supply voltage

6. Functional description

Table 3. Function table

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

Control		Input	Output
OE1	OE2	nA	nY
L	L	L	L
L	L	H	H
X	H	X	Z
H	X	X	Z

7. Limiting values

Table 4. 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	+7	V
I_{IK}	input clamping current	$V_I < -0.5\text{ V}$ or $V_I > V_{CC} + 0.5\text{ V}$ [1]	-	± 20	mA
I_{OK}	output clamping current	$V_O < -0.5\text{ V}$ or $V_O > V_{CC} + 0.5\text{ V}$ [1]	-	± 20	mA
I_O	output current	$V_O = -0.5\text{ V}$ to $(V_{CC} + 0.5\text{ V})$	-	± 35	mA
I_{CC}	supply current		-	70	mA
I_{GND}	ground current		-70	-	mA
T_{stg}	storage temperature		-65	+150	°C
P_{tot}	total power dissipation	[2]	-	500	mW

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

[2] For SOT109-1 (SO16) package: P_{tot} derates linearly with 12.4 mW/K above 110 °C.
For SOT403-1 (TSSOP16) package: P_{tot} derates linearly with 8.5 mW/K above 91 °C.

8. Recommended operating conditions

Table 5. Recommended operating conditions

Voltages are referenced to GND (ground = 0 V)

Symbol	Parameter	Conditions	74HC365-Q100			74HCT365-Q100			Unit
			Min	Typ	Max	Min	Typ	Max	
V_{CC}	supply voltage		2.0	5.0	6.0	4.5	5.0	5.5	V
V_I	input voltage		0	-	V_{CC}	0	-	V_{CC}	V
V_O	output voltage		0	-	V_{CC}	0	-	V_{CC}	V
T_{amb}	ambient temperature		-40	+25	+125	-40	+25	+125	°C
$\Delta t/\Delta V$	input transition rise and fall rate	$V_{CC} = 2.0\text{ V}$	-	-	625	-	-	-	ns/V
		$V_{CC} = 4.5\text{ V}$	-	1.67	139	-	1.67	139	ns/V
		$V_{CC} = 6.0\text{ V}$	-	-	83	-	-	-	ns/V

9. Static characteristics

Table 6. Static characteristics 74HC365-Q100

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = 25 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 2.0 V	1.5	1.2	-	V
		V _{CC} = 4.5 V	3.15	2.4	-	V
		V _{CC} = 6.0 V	4.2	3.2	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 2.0 V	-	0.8	0.5	V
		V _{CC} = 4.5 V	-	2.1	1.35	V
		V _{CC} = 6.0 V	-	2.8	1.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL}	-	-	-	
		I _O = -20 μA; V _{CC} = 2.0 V	1.9	2.0	-	V
		I _O = -20 μA; V _{CC} = 4.5 V	4.4	4.5	-	V
		I _O = -20 μA; V _{CC} = 6.0 V	5.9	6.0	-	V
		I _O = -6.0 mA; V _{CC} = 4.5 V	3.98	4.32	-	V
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL}				
		I _O = 20 μA; V _{CC} = 2.0 V	-	0	0.1	V
		I _O = 20 μA; V _{CC} = 4.5 V	-	0	0.1	V
		I _O = 20 μA; V _{CC} = 6.0 V	-	0	0.1	V
		I _O = 6.0 mA; V _{CC} = 4.5 V	-	0.15	0.26	V
		I _O = 7.8 mA; V _{CC} = 6.0 V	-	0.16	0.26	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±0.1	μA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±0.5	μA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 6.0 V	-	-	8.0	μA
C _I	input capacitance		-	3.5	-	pF
T_{amb} = -40 °C to +85 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 2.0 V	1.5	-	-	V
		V _{CC} = 4.5 V	3.15	-	-	V
		V _{CC} = 6.0 V	4.2	-	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 2.0 V	-	-	0.5	V
		V _{CC} = 4.5 V	-	-	1.35	V
		V _{CC} = 6.0 V	-	-	1.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL}				
		I _O = -20 μA; V _{CC} = 2.0 V	1.9	-	-	V
		I _O = -20 μA; V _{CC} = 4.5 V	4.4	-	-	V
		I _O = -20 μA; V _{CC} = 6.0 V	5.9	-	-	V
		I _O = -6.0 mA; V _{CC} = 4.5 V	3.84	-	-	V
		I _O = -7.8 mA; V _{CC} = 6.0 V	5.34	-	-	V

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL}				
		I _O = 20 μA; V _{CC} = 2.0 V	-	-	0.1	V
		I _O = 20 μA; V _{CC} = 4.5 V	-	-	0.1	V
		I _O = 20 μA; V _{CC} = 6.0 V	-	-	0.1	V
		I _O = 6.0 mA; V _{CC} = 4.5 V	-	-	0.33	V
		I _O = 7.8 mA; V _{CC} = 6.0 V	-	-	0.33	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±1.0	μA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±5.0	μA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 6.0 V	-	-	80	μA
T_{amb} = -40 °C to +125 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 2.0 V	1.5	-	-	V
		V _{CC} = 4.5 V	3.15	-	-	V
		V _{CC} = 6.0 V	4.2	-	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 2.0 V	-	-	0.5	V
		V _{CC} = 4.5 V	-	-	1.35	V
		V _{CC} = 6.0 V	-	-	1.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL}				
		I _O = -20 μA; V _{CC} = 2.0 V	1.9	-	-	V
		I _O = -20 μA; V _{CC} = 4.5 V	4.4	-	-	V
		I _O = -20 μA; V _{CC} = 6.0 V	5.9	-	-	V
		I _O = -6.0 mA; V _{CC} = 4.5 V	3.7	-	-	V
		I _O = -7.8 mA; V _{CC} = 6.0 V	5.2	-	-	V
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL}				
		I _O = 20 μA; V _{CC} = 2.0 V	-	-	0.1	V
		I _O = 20 μA; V _{CC} = 4.5 V	-	-	0.1	V
		I _O = 20 μA; V _{CC} = 6.0 V	-	-	0.1	V
		I _O = 6.0 mA; V _{CC} = 4.5 V	-	-	0.4	V
		I _O = 7.8 mA; V _{CC} = 6.0 V	-	-	0.4	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±1.0	μA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 6.0 V	-	-	±10.0	μA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 6.0 V	-	-	160	μA

Table 7. Static characteristics 74HCT365-Q100

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = 25 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 4.5 V to 5.5 V	2.0	1.6	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 4.5 V to 5.5 V	-	1.2	0.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = -20 µA	4.4	4.5	-	V
		I _O = -6.0 mA	3.98	4.32	-	V
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = 20 µA	-	0	0.1	V
		I _O = 6.0 mA	-	0.16	0.26	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 5.5 V	-	-	±0.1	µA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 5.5 V	-	-	±0.5	µA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 5.5 V	-	-	8.0	µA
ΔI _{CC}	additional supply current	V _I = V _{CC} - 2.1 V; other inputs at V _{CC} or GND; I _O = 0 A				
		pins nA	-	100	360	µA
		pin $\overline{OE1}$	-	100	360	µA
		pin $\overline{OE2}$	-	90	324	µA
C _I	input capacitance		-	3.5	-	pF
T_{amb} = -40 °C to +85 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 4.5 V to 5.5 V	2.0	-	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 4.5 V to 5.5 V	-	-	0.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = -20 µA	4.4	-	-	V
		I _O = -6.0 mA	3.84	-	-	V
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = 20 µA	-	-	0.1	V
		I _O = 6.0 mA	-	-	0.33	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 5.5 V	-	-	±1.0	µA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 5.5 V			±5.0	µA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 5.5 V	-	-	80	µA
ΔI _{CC}	additional supply current	V _I = V _{CC} - 2.1 V; other inputs at V _{CC} or GND; I _O = 0 A				
		pins nA	-	-	450	µA
		pin $\overline{OE1}$	-	-	450	µA
		pin $\overline{OE2}$	-	-	405	µA

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = -40 °C to +125 °C						
V _{IH}	HIGH-level input voltage	V _{CC} = 4.5 V to 5.5 V	2.0	-	-	V
V _{IL}	LOW-level input voltage	V _{CC} = 4.5 V to 5.5 V	-	-	0.8	V
V _{OH}	HIGH-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = -20 µA	4.4	-	-	V
		I _O = -6.0 mA	3.7	-	-	V
V _{OL}	LOW-level output voltage	V _I = V _{IH} or V _{IL} ; V _{CC} = 4.5 V				
		I _O = 20 µA	-	-	0.1	V
		I _O = 6.0 mA	-	-	0.4	V
I _I	input leakage current	V _I = V _{CC} or GND; V _{CC} = 5.5 V	-	-	±1.0	µA
I _{OZ}	OFF-state output current	V _I = V _{IH} or V _{IL} ; V _O = V _{CC} or GND; V _{CC} = 5.5 V	-	-	±10.0	µA
I _{CC}	supply current	V _I = V _{CC} or GND; I _O = 0 A; V _{CC} = 5.5 V	-	-	160	µA
ΔI _{CC}	additional supply current	V _I = V _{CC} - 2.1 V; other inputs at V _{CC} or GND; I _O = 0 A				
		pins nA	-	-	490	µA
		pin $\overline{\text{OE}}1$	-	-	490	µA
		pin $\overline{\text{OE}}2$	-	-	441	µA

10. Dynamic characteristics

Table 8. Dynamic characteristics 74HC365-Q100

Voltages are referenced to GND (ground = 0 V); C_L = 50 pF unless otherwise specified; see test circuit Fig. 8.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = 25 °C						
t _{pd}	propagation delay	nA to nY; see Fig. 6 [1]				
		V _{CC} = 2.0 V	-	30	95	ns
		V _{CC} = 4.5 V	-	11	19	ns
		V _{CC} = 5 V; C _L = 15 pF	-	9	-	ns
		V _{CC} = 6.0 V	-	9	16	ns
t _{en}	enable time	$\overline{\text{OEn}}$ to nY; see Fig. 7 [2]				
		V _{CC} = 2.0 V	-	47	150	ns
		V _{CC} = 4.5 V	-	17	30	ns
		V _{CC} = 6.0 V	-	14	26	ns
t _{dis}	disable time	$\overline{\text{OEn}}$ to nY; see Fig. 7 [3]				
		V _{CC} = 2.0 V	-	61	150	ns
		V _{CC} = 4.5 V	-	22	30	ns
		V _{CC} = 6.0 V	-	18	26	ns
t _t	transition time	see Fig. 6 [4]				
		V _{CC} = 2.0 V	-	14	60	ns
		V _{CC} = 4.5 V	-	5	12	ns
		V _{CC} = 6.0 V	-	4	10	ns
C _{PD}	power dissipation capacitance	per buffer; V _I = GND to V _{CC} [5]	-	40	-	pF

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = -40 °C to +85 °C						
t _{pd}	propagation delay	nA to nY; see Fig. 6 [1]				
		V _{CC} = 2.0 V	-	-	120	ns
		V _{CC} = 4.5 V	-	-	24	ns
		V _{CC} = 6.0 V	-	-	20	ns
t _{en}	enable time	OE _n to nY; see Fig. 7 [2]				
		V _{CC} = 2.0 V	-	-	190	ns
		V _{CC} = 4.5 V	-	-	38	ns
		V _{CC} = 6.0 V	-	-	33	ns
t _{dis}	disable time	OE _n to nY; see Fig. 7 [3]				
		V _{CC} = 2.0 V	-	-	190	ns
		V _{CC} = 4.5 V	-	-	38	ns
		V _{CC} = 6.0 V	-	-	33	ns
t _t	transition time	see Fig. 6 [4]				
		V _{CC} = 2.0 V	-	-	75	ns
		V _{CC} = 4.5 V	-	-	15	ns
		V _{CC} = 6.0 V	-	-	13	ns
T_{amb} = -40 °C to +125 °C						
t _{pd}	propagation delay	nA to nY; see Fig. 6 [1]				
		V _{CC} = 2.0 V	-	-	145	ns
		V _{CC} = 4.5 V	-	-	29	ns
		V _{CC} = 6.0 V	-	-	25	ns
t _{en}	enable time	OE _n to nY; see Fig. 7 [2]				
		V _{CC} = 2.0 V	-	-	225	ns
		V _{CC} = 4.5 V	-	-	45	ns
		V _{CC} = 6.0 V	-	-	38	ns
t _{dis}	disable time	OE _n to nY; see Fig. 7 [3]				
		V _{CC} = 2.0 V	-	-	225	ns
		V _{CC} = 4.5 V	-	-	45	ns
		V _{CC} = 6.0 V	-	-	38	ns
t _t	transition time	see Fig. 6 [4]				
		V _{CC} = 2.0 V	-	-	90	ns
		V _{CC} = 4.5 V	-	-	18	ns
		V _{CC} = 6.0 V	-	-	15	ns

- [1] t_{pd} is the same as t_{PHL} and t_{PLH}.
- [2] t_{en} is the same as t_{PZH} and t_{PZL}.
- [3] t_{dis} is the same as t_{PHZ} and t_{PLZ}.
- [4] t_t is the same as t_{THL} and t_{TLH}.
- [5] C_{PD} is used to determine the dynamic power dissipation (P_D in μW).

$$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o)$$
 where:
 f_i = input frequency in MHz;
 f_o = output frequency in MHz;
 C_L = output load capacitance in pF;
 V_{CC} = supply voltage in V;
 N = number of inputs switching;
 Σ(C_L × V_{CC}² × f_o) = sum of outputs.

Table 9. Dynamic characteristics 74HCT365-Q100

Voltages are referenced to GND (ground = 0 V); $C_L = 50$ pF unless otherwise specified; see test circuit Fig. 8.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = 25 °C						
t _{pd}	propagation delay	nA to nY; see Fig. 6 [1]				
		V _{CC} = 4.5 V	-	14	25	ns
		V _{CC} = 5 V; C _L = 15 pF	-	11	-	ns
t _{en}	enable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [2]	-	18	35	ns
t _{dis}	disable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [3]	-	23	35	ns
t _t	transition time	V _{CC} = 4.5 V; see Fig. 6 [4]	-	5	12	ns
C _{PD}	power dissipation capacitance	per buffer; V _I = GND to (V _{CC} - 1.5 V) [5]	-	40	-	pF
T_{amb} = -40 °C to +85 °C						
t _{pd}	propagation delay	nA to nY; V _{CC} = 4.5 V; see Fig. 6 [1]	-	-	31	ns
t _{en}	enable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [2]	-	-	44	ns
t _{dis}	disable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [3]	-	-	44	ns
t _t	transition time	V _{CC} = 4.5 V; see Fig. 6 [4]	-	-	15	ns
T_{amb} = -40 °C to +125 °C						
t _{pd}	propagation delay	nA to nY; V _{CC} = 4.5 V; see Fig. 6 [1]	-	-	38	ns
t _{en}	enable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [2]	-	-	53	ns
t _{dis}	disable time	\overline{OEn} to nY; V _{CC} = 4.5 V; see Fig. 7 [3]	-	-	53	ns
t _t	transition time	V _{CC} = 4.5 V; see Fig. 6 [4]	-	-	18	ns

[1] t_{pd} is the same as t_{P_{HL}} and t_{P_{LH}}.

[2] t_{en} is the same as t_{P_{ZH}} and t_{P_{ZL}}.

[3] t_{dis} is the same as t_{P_{HZ}} and t_{P_{LZ}}.

[4] t_t is the same as t_{T_{HL}} and t_{T_{LH}}.

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

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

f_i = input frequency in MHz;

f_o = output frequency in MHz;

C_L = output load capacitance in pF;

V_{CC} = supply voltage in V;

N = number of inputs switching;

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

10.1. Waveforms and test circuit

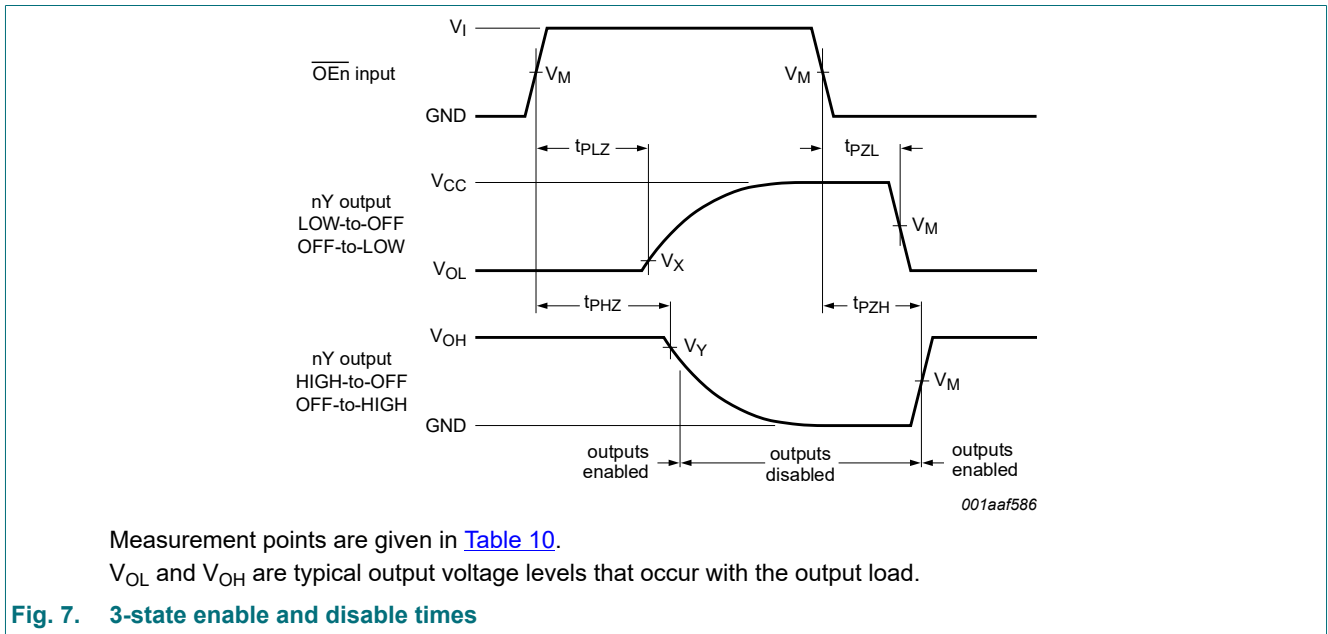
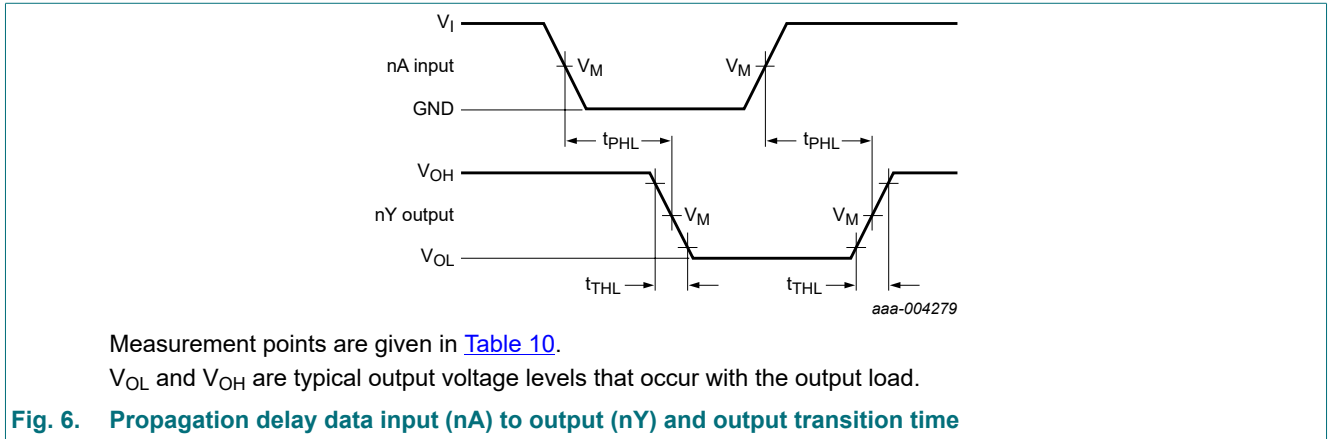


Table 10. Measurement points

Type	Input	Output		
	V_M	V_M	V_X	V_Y
74HC365-Q100	$0.5V_{CC}$	$0.5V_{CC}$	$0.1 \times V_{CC}$	$0.9 \times V_{CC}$
74HCT365-Q100	1.3 V	1.3 V	$0.1 \times V_{CC}$	$0.9 \times V_{CC}$

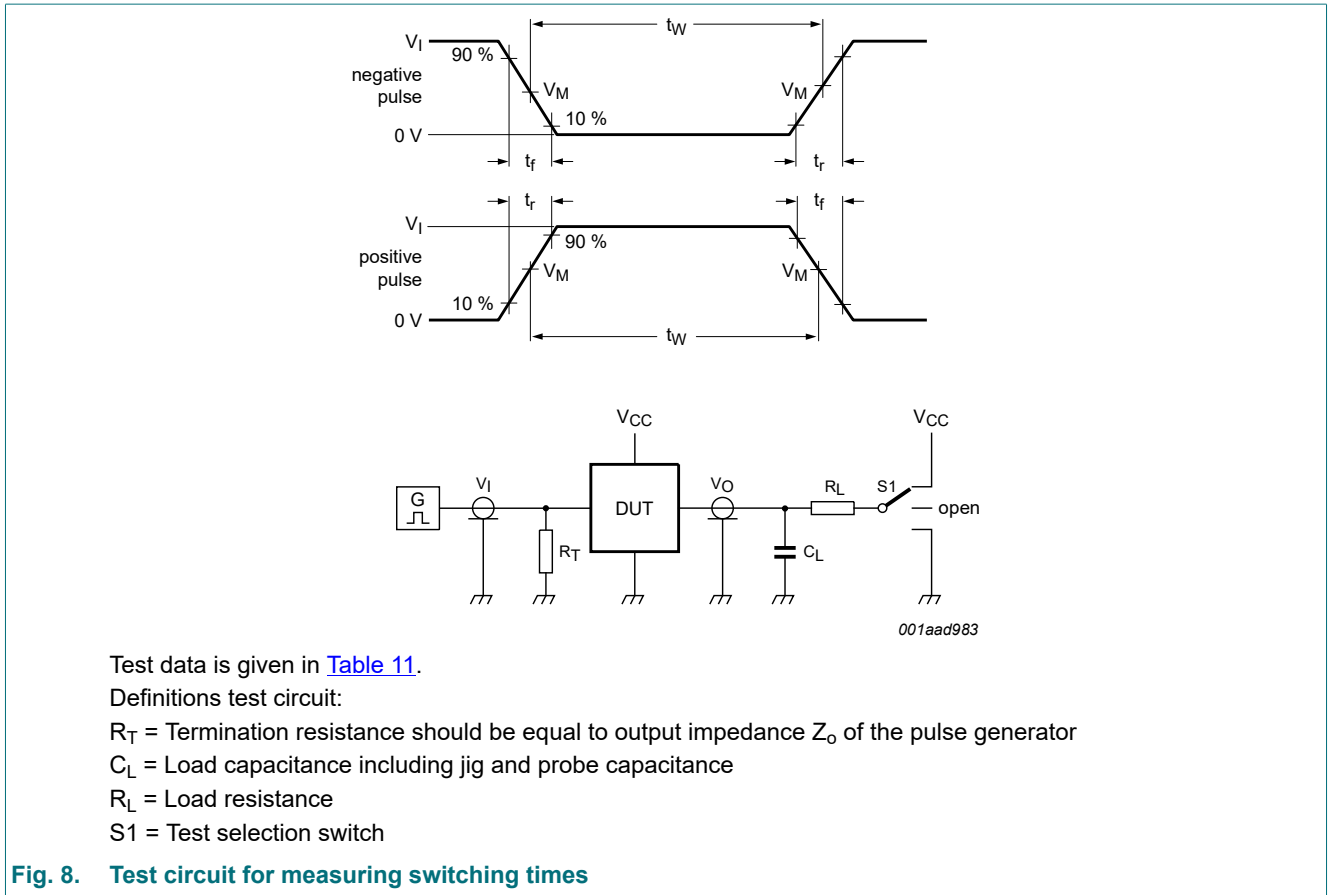


Fig. 8. Test circuit for measuring switching times

Table 11. Test data

Type	Input		Load		S1 position		
	V_I	t_r, t_f	C_L	R_L	t_{PHL}, t_{PLH}	t_{PZH}, t_{PHZ}	t_{PZL}, t_{PLZ}
74HC365-Q100	V_{CC}	6 ns	15 pF, 50 pF	1 k Ω	open	GND	V_{CC}
74HCT365-Q100	3 V	6 ns	15 pF, 50 pF	1 k Ω	open	GND	V_{CC}

11. Package outline

SO16: plastic small outline package; 16 leads; body width 3.9 mm

SOT109-1

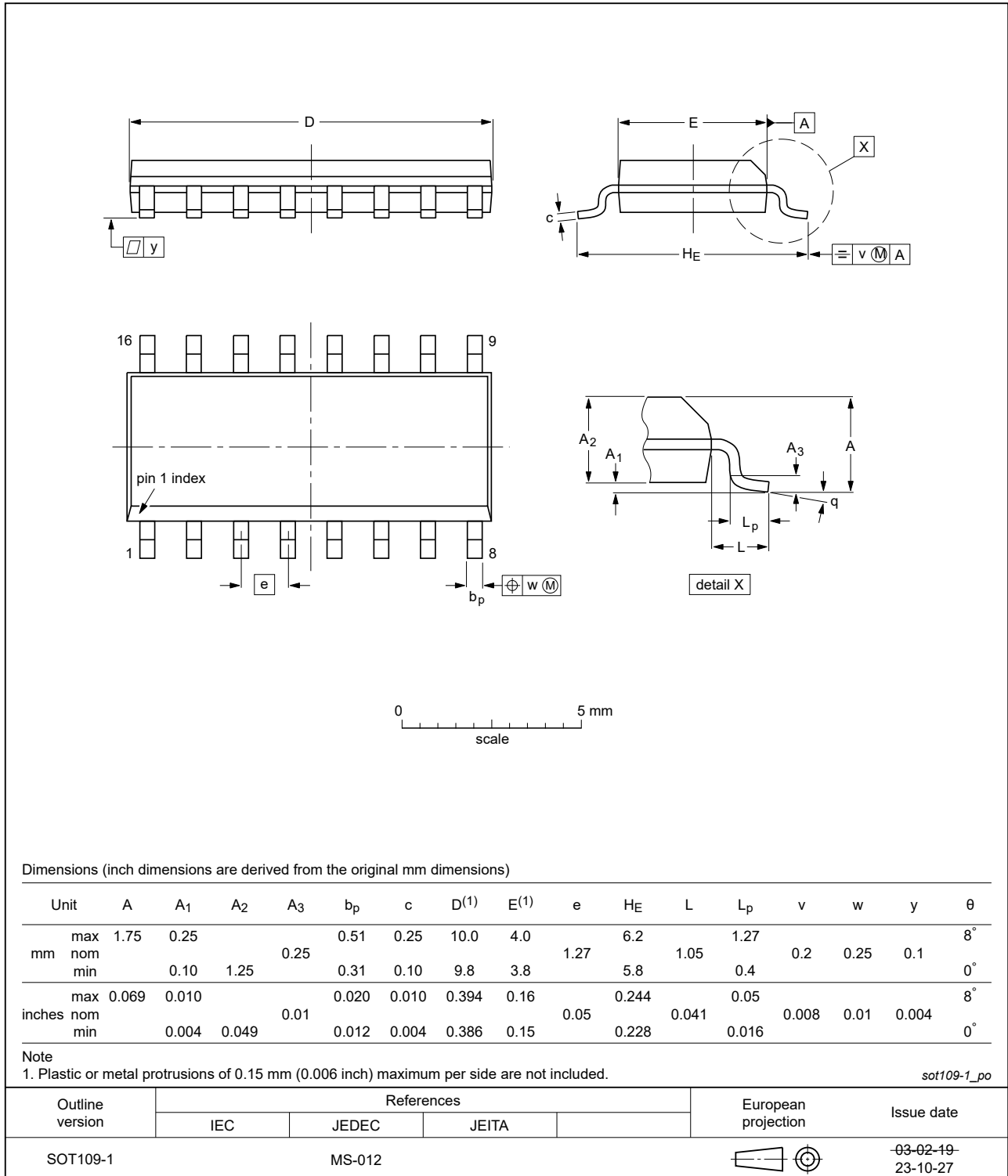


Fig. 9. Package outline SOT109-1 (SO16)

TSSOP16: plastic thin shrink small outline package; 16 leads; body width 4.4 mm

SOT403-1

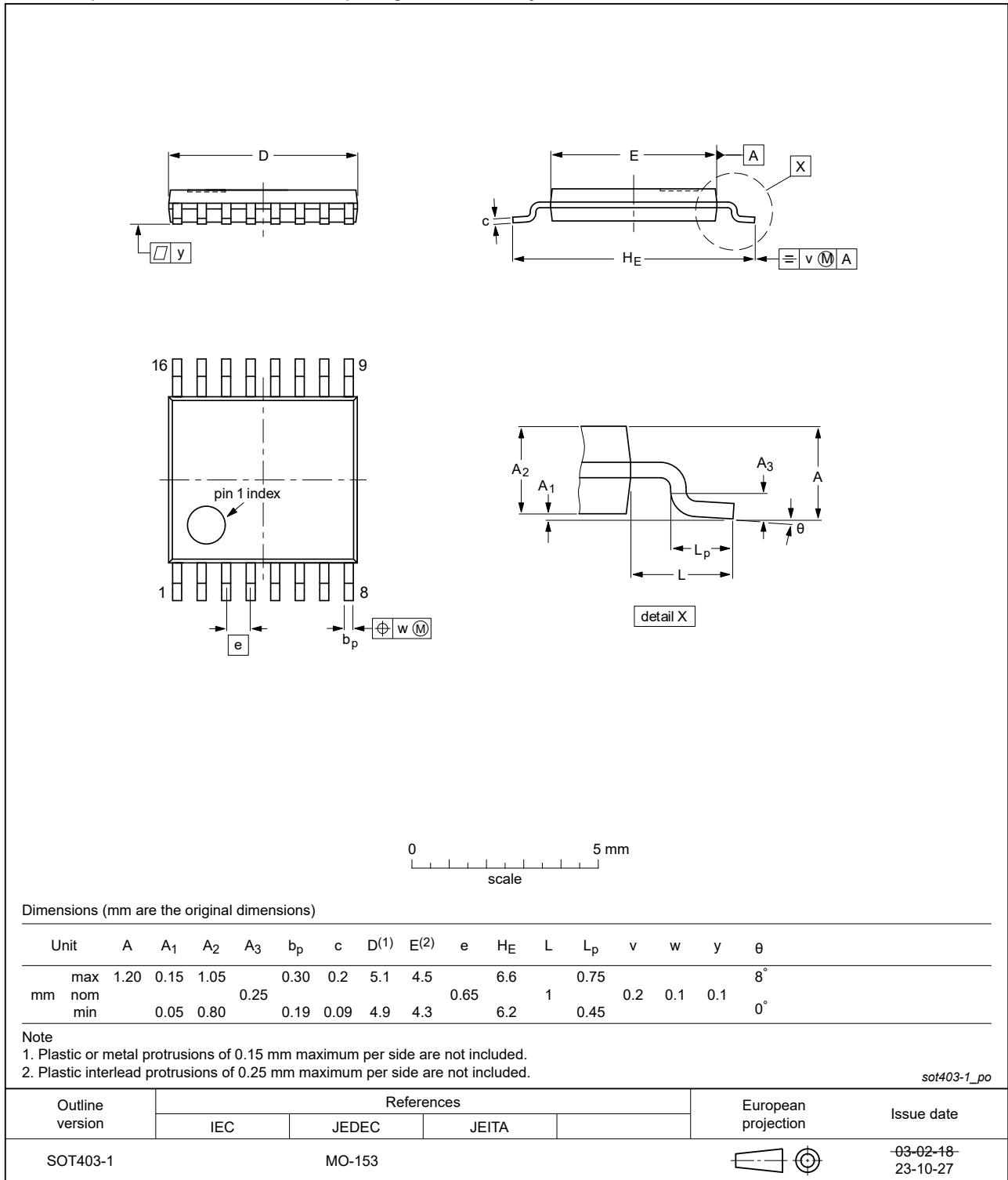


Fig. 10. Package outline SOT403-1 (TSSOP16)

12. Abbreviations

Table 12. Abbreviations

Acronym	Description
CDM	Charged Device Model

Acronym	Description
CMOS	Complementary Metal Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model

13. Revision history

Table 13. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74HC_HCT365_Q100 v.4	20240313	Product data sheet	-	74HC_HCT365_Q100 v.3
Modifications:	<ul style="list-style-type: none"> • Section 2: ESD specification updated according to the latest JEDEC standard. • Fig. 9 and Fig. 10: Aligned SO and TSSOP package outline drawings to JEDEC MS-012 and MO-153. 			
74HC_HCT365_Q100 v.3	20210728	Product data sheet	-	74HC_HCT365_Q100 v.2
Modifications:	<ul style="list-style-type: none"> • Section 1 and Section 2 updated. (errata) 			
74HC_HCT365_Q100 v.2	20210212	Product data sheet	-	74HC_HCT365_Q100 v.1
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. • Section 1 and Section 2 updated. • Section 7: Derating values for P_{tot} total power dissipation updated. • Table 7: Conditions for I_{OZ} have changed for 74HCT365-Q100. (errata) 			
74HC_HCT365_Q100 v.1	20120802	Product data sheet	-	-

14. 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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