

# 74HC154; 74HCT154

## 4-to-16 line decoder/demultiplexer

Product data sheet

### 1. General description

The 74HC154; 74HCT154 is a high-speed Si-gate CMOS device and is pin compatible with Low-power Schottky TTL (LSTTL).

The 74HC154; 74HCT154 decoders accept four active HIGH binary address inputs and provide 16 mutually-exclusive active LOW outputs. The two-input enable gate can be used to strobe the decoder to eliminate the normal decoding 'glitches' on the outputs, or can be used for the expansion of the decoder.

The enable gate has two ANDed inputs which must be LOW to enable the outputs.

The 74HC154; 74HCT154 can be used as a 1-to-16 demultiplexer by using one of the enable inputs as the multiplexed data input.

When the other enable input is LOW, the addressed output will follow the state of the applied data.

### 2. Features

- 16-line demultiplexing capability
- Decodes 4 binary-coded inputs into 16 mutually-exclusive outputs
- Complies with JEDEC standard no. 7A
- Specified from  $-40\text{ }^{\circ}\text{C}$  to  $+85\text{ }^{\circ}\text{C}$  and  $-40\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$
- ESD protection:
  - ◆ HBM EIA/JESD22-A114D exceeds 2000 V
  - ◆ MM EIA/JESD22-A115-A exceeds 200 V

### 3. Ordering information

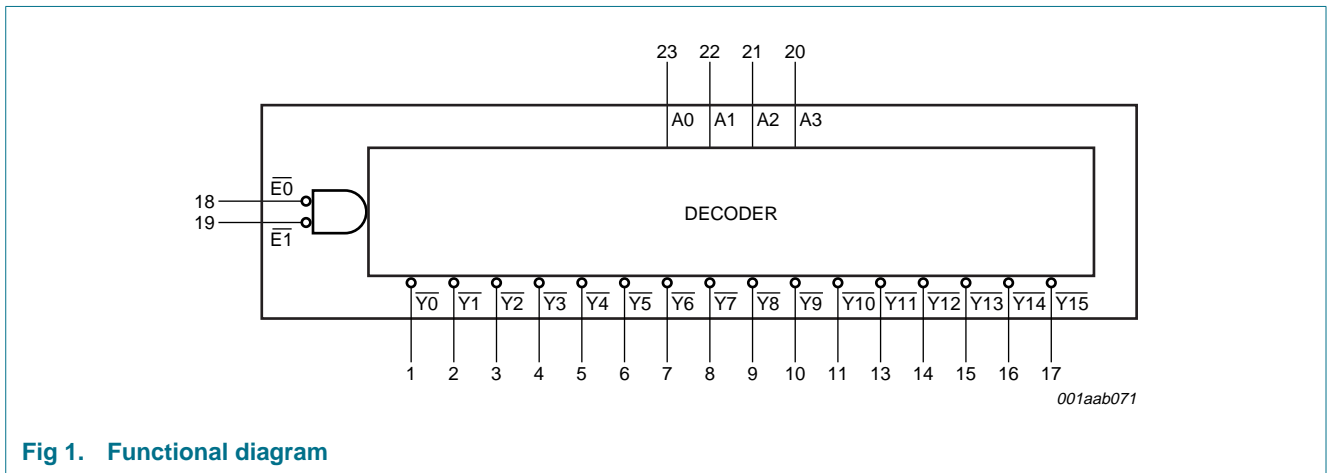
Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	Version
<b>74HC154</b>				
74HC154N	$-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$	DIP24	plastic dual in-line package; 24 leads (600 mil)	SOT101-1
74HC154D	$-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$	SO24	plastic small outline package; 24 leads; body width 7.5 mm	SOT137-1
74HC154DB	$-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$	SSOP24	plastic shrink small outline package; 24 leads; body width 5.3 mm	SOT340-1
74HC154PW	$-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$	TSSOP24	plastic thin shrink small outline package; 24 leads; body width 4.4 mm	SOT355-1

**Table 1. Ordering information ...continued**

Type number	Package			
	Temperature range	Name	Description	Version
74HC154BQ	-40 °C to +125 °C	DHVQFN24	plastic dual in-line compatible thermal enhanced very thin quad flat package; no leads; 24 terminals; body 3.5 × 5.5 × 0.85 mm	SOT815-1
<b>74HCT154</b>				
74HCT154N	-40 °C to +125 °C	DIP24	plastic dual in-line package; 24 leads (600 mil)	SOT101-1
74HCT154D	-40 °C to +125 °C	SO24	plastic small outline package; 24 leads; body width 7.5 mm	SOT137-1
74HCT154DB	-40 °C to +125 °C	SSOP24	plastic shrink small outline package; 24 leads; body width 5.3 mm	SOT340-1
74HCT154PW	-40 °C to +125 °C	TSSOP24	plastic thin shrink small outline package; 24 leads; body width 4.4 mm	SOT355-1
74HCT154BQ	-40 °C to +125 °C	DHVQFN24	plastic dual in-line compatible thermal enhanced very thin quad flat package; no leads; 24 terminals; body 3.5 × 5.5 × 0.85 mm	SOT815-1

## 4. Functional diagram



**Fig 1. Functional diagram**

## 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	+7.0	V
$I_{IK}$	input clamping current	$V_I < -0.5\text{ V}$ or $V_I > V_{CC} + 0.5\text{ V}$	[1] -	$\pm 20$	mA
$I_{OK}$	output clamping current	$V_O < -0.5\text{ V}$ or $V_O > V_{CC} + 0.5\text{ V}$	[1] -	$\pm 20$	mA
$I_O$	output current	$-0.5\text{ V} < V_O < V_{CC} + 0.5\text{ V}$	[1] -	$\pm 25$	mA
$I_{CC}$	supply current		[1] -	50	mA
$I_{GND}$	ground current		[1] -	-50	mA
$T_{stg}$	storage temperature		-65	+150	°C
$P_{tot}$	total power dissipation	$T_{amb} = -40\text{ °C to }+125\text{ °C}$	[2] -	300	mW

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

[2] For DIP24 packages:  $P_{tot}$  derates linearly at 12 mW/K above 70 °C.

For SO24 packages:  $P_{tot}$  derates linearly at 8 mW/K above 70 °C.

For SSOP24 and TSSOP24 packages:  $P_{tot}$  derates linearly at 5.5 mW/K above 60 °C.

For DHVQFN24 packages:  $P_{tot}$  derates linearly at 4.5 mW/K above 60 °C.

## 8. Recommended operating conditions

**Table 5. Operating conditions**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>74HC154</b>						
$V_{CC}$	supply voltage		2.0	5.0	6.0	V
$V_I$	input voltage		0	-	$V_{CC}$	V
$V_O$	output voltage		0	-	$V_{CC}$	V
$T_{amb}$	ambient temperature		-40	+25	+125	°C
$t_r$	rise time	$V_{CC} = 2.0\text{ V}$	-	-	1000	ns
		$V_{CC} = 4.5\text{ V}$	-	6.0	500	ns
		$V_{CC} = 6.0\text{ V}$	-	-	400	ns
$t_f$	fall time	$V_{CC} = 2.0\text{ V}$	-	-	1000	ns
		$V_{CC} = 4.5\text{ V}$	-	6.0	500	ns
		$V_{CC} = 6.0\text{ V}$	-	-	400	ns
<b>74HCT154</b>						
$V_{CC}$	supply voltage		4.5	5.0	5.5	V
$V_I$	input voltage		0	-	$V_{CC}$	V
$V_O$	output voltage		0	-	$V_{CC}$	V
$T_{amb}$	ambient temperature		-40	+25	+125	°C
$t_r$	input rise time	$V_{CC} = 4.5\text{ V}$	-	6.0	500	ns
$t_f$	input fall time	$V_{CC} = 4.5\text{ V}$	-	6.0	500	ns

9. Static characteristics

**Table 6. Static characteristics 74HC154**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = 25 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 2.0 V	1.5	1.2	-	V
		V <sub>CC</sub> = 4.5 V	3.15	2.4	-	V
		V <sub>CC</sub> = 6.0 V	4.2	3.2	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 2.0 V	-	0.8	0.5	V
		V <sub>CC</sub> = 4.5 V	-	2.1	1.35	V
		V <sub>CC</sub> = 6.0 V	-	2.8	1.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = -20 μA	1.9	2.0	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	4.5	-	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = -20 μA	5.9	6.0	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4.0 mA	3.98	4.32	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = 20 μA	-	0	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	0	0.1	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = 20 μA	-	0	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4.0 mA	-	0.15	0.26	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±0.1	μA
		V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	8.0	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	8.0	μA
C <sub>I</sub>	input capacitance		-	3.5	-	pF
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 2.0 V	1.5	-	-	V
		V <sub>CC</sub> = 4.5 V	3.15	-	-	V
		V <sub>CC</sub> = 6.0 V	4.2	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 2.0 V	-	-	0.5	V
		V <sub>CC</sub> = 4.5 V	-	-	1.35	V
		V <sub>CC</sub> = 6.0 V	-	-	1.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = -20 μA	1.9	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	-	-	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = -20 μA	5.9	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4.0 mA	3.84	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = -5.2 mA	5.34	-	-	V

**Table 6. Static characteristics 74HC154 ...continued**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4.0 mA	-	-	0.33	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = 5.2 mA	-	-	0.33	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±1.0	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	80	μA
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 2.0 V	1.5	-	-	V
		V <sub>CC</sub> = 4.5 V	3.15	-	-	V
		V <sub>CC</sub> = 6.0 V	4.2	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 2.0 V	-	-	0.5	V
		V <sub>CC</sub> = 4.5 V	-	-	1.35	V
		V <sub>CC</sub> = 6.0 V	-	-	1.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = -20 μA	1.9	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	-	-	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = -20 μA	5.9	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4.0 mA	3.7	-	-	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = -5.2 mA	5.2	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 2.0 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4.0 mA	-	-	0.4	V
		V <sub>CC</sub> = 6.0 V; I <sub>O</sub> = 5.2 mA	-	-	0.4	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±0.1	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 6.0 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	160	μA

**Table 7. Static characteristics 74HCT154**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = 25 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	2.0	1.6	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	-	1.2	0.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	4.5	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4 mA	3.98	4.32	-	V

**Table 7. Static characteristics 74HCT154 ...continued**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	0	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4 mA	-	0.15	0.25	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±0.1	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	8.0	μA
ΔI <sub>CC</sub>	additional supply current	per input pin; V <sub>CC</sub> = 4.5 V to 5.5 V; V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; I <sub>O</sub> = 0 A	-	-	360	μA
C <sub>I</sub>	input capacitance		-	3.5	-	pF
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	2.0	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	-	-	0.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4 mA	3.84	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4 mA	-	-	0.33	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±1.0	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	80	μA
ΔI <sub>CC</sub>	additional supply current	per input pin; V <sub>CC</sub> = 4.5 V to 5.5 V; V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; I <sub>O</sub> = 0 A	-	-	450	μA
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>IH</sub>	HIGH-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	2.0	-	-	V
V <sub>IL</sub>	LOW-level input voltage	V <sub>CC</sub> = 4.5 V to 5.5 V	-	-	0.8	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -20 μA	4.4	-	-	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = -4 mA	3.7	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>				
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 20 μA	-	-	0.1	V
		V <sub>CC</sub> = 4.5 V; I <sub>O</sub> = 4 mA	-	-	0.4	V
I <sub>I</sub>	input leakage current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND	-	-	±1.0	μA
I <sub>CC</sub>	supply current	V <sub>CC</sub> = 5.5 V; V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A	-	-	160	μA
ΔI <sub>CC</sub>	additional supply current	per input pin; V <sub>CC</sub> = 4.5 V to 5.5 V; V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; I <sub>O</sub> = 0 A	-	-	490	μA

10. Dynamic characteristics

Table 8. Dynamic characteristics

GND (ground = 0 V); C<sub>L</sub> = 50 pF unless otherwise specified; for test circuit, see Figure 9.

Symbol	Parameter	Conditions	25 °C			-40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
<b>74HC154</b>									
t <sub>pd</sub>	propagation delay	An to $\overline{Y}_n$ ; see Figure 7	[1]						
		V <sub>CC</sub> = 2.0 V	-	36	150	-	190	225	ns
		V <sub>CC</sub> = 4.5 V	-	13	30	-	38	45	ns
		V <sub>CC</sub> = 5 V; C <sub>L</sub> = 15 pF	-	11	-	-	-	-	ns
		V <sub>CC</sub> = 6.0 V	-	10	26	-	33	38	ns
		$\overline{E}_n$ to $\overline{Y}_n$ ; see Figure 8							
		V <sub>CC</sub> = 2.0 V	-	39	150	-	190	225	ns
		V <sub>CC</sub> = 4.5 V	-	14	30	-	38	45	ns
t <sub>t</sub>	transition time	see Figure 7 and 8	[2]						
		V <sub>CC</sub> = 2.0 V	-	19	75	-	95	110	ns
		V <sub>CC</sub> = 4.5 V	-	7	15	-	19	22	ns
C <sub>PD</sub>	power dissipation capacitance	per gate; V <sub>I</sub> = GND to V <sub>CC</sub>	[3]	60	-	-	-	-	pF
		V <sub>CC</sub>							
<b>74HCT154</b>									
t <sub>pd</sub>	propagation delay	An to $\overline{Y}_n$ ; see Figure 7	[1]						
		V <sub>CC</sub> = 4.5 V	-	16	35	-	44	53	ns
		V <sub>CC</sub> = 5 V; C <sub>L</sub> = 15 pF	-	13	-	-	-	-	ns
		$\overline{E}_n$ to $\overline{Y}_n$ ; see Figure 8							
		V <sub>CC</sub> = 4.5 V	-	15	32	-	40	48	ns
t <sub>t</sub>	transition time	V <sub>CC</sub> = 5 V; C <sub>L</sub> = 15 pF	-	13	-	-	-	-	ns
		see Figure 7 and 8	[2]						
C <sub>PD</sub>	power dissipation capacitance	V <sub>CC</sub> = 4.5 V	-	7	15	-	19	22	ns
		per gate; V <sub>I</sub> = GND to (V <sub>CC</sub> - 1.5 V)	[3]	60	-	-	-	-	pF

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

[2] t<sub>t</sub> is the same as t<sub>TLH</sub> and t<sub>THL</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 V;

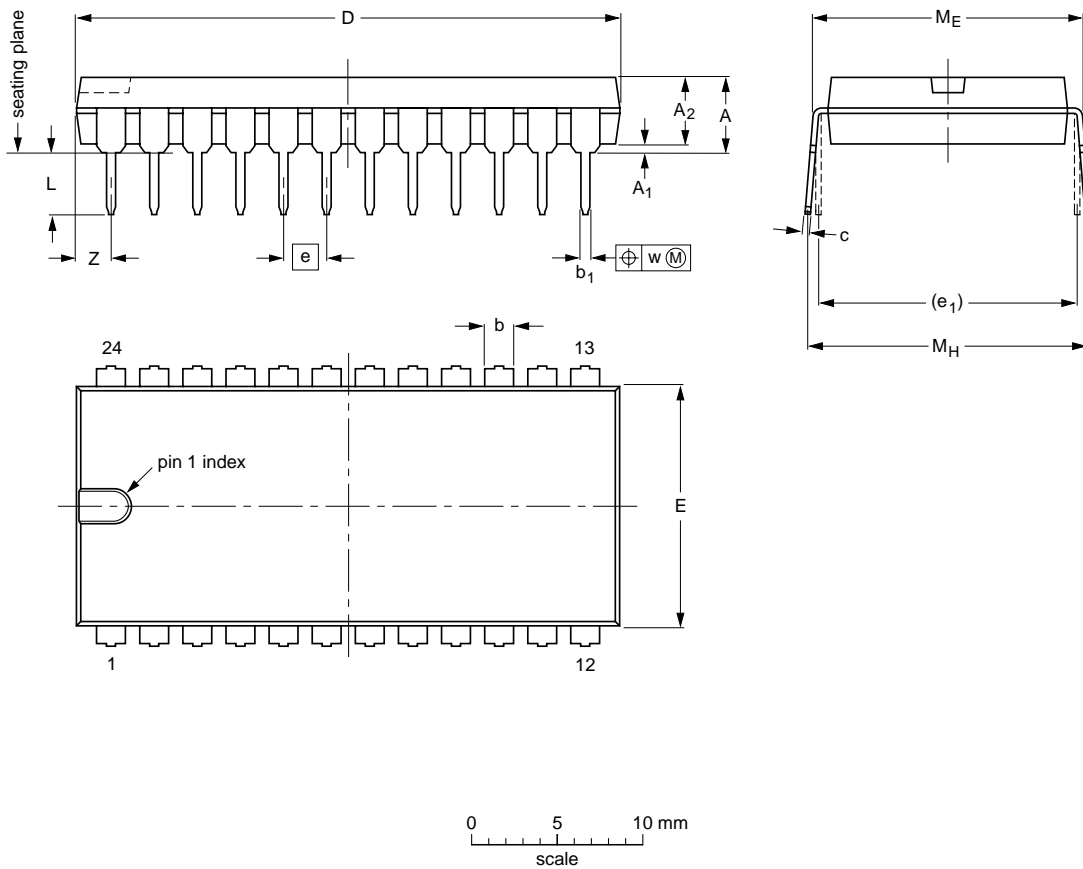
N = number of load switching outputs;

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

13. Package outline

DIP24: plastic dual in-line package; 24 leads (600 mil)

SOT101-1



DIMENSIONS (inch dimensions are derived from the original mm dimensions)

UNIT	A max.	A <sub>1</sub> min.	A <sub>2</sub> max.	b	b <sub>1</sub>	c	D <sup>(1)</sup>	E <sup>(1)</sup>	e	e <sub>1</sub>	L	M <sub>E</sub>	M <sub>H</sub>	w	Z <sup>(1)</sup> max.
mm	5.1	0.51	4	1.7 1.3	0.53 0.38	0.32 0.23	32.0 31.4	14.1 13.7	2.54	15.24	3.9 3.4	15.80 15.24	17.15 15.90	0.25	2.2
inches	0.2	0.02	0.16	0.066 0.051	0.021 0.015	0.013 0.009	1.26 1.24	0.56 0.54	0.1	0.6	0.15 0.13	0.62 0.60	0.68 0.63	0.01	0.087

Note

1. Plastic or metal protrusions of 0.25 mm (0.01 inch) maximum per side are not included.

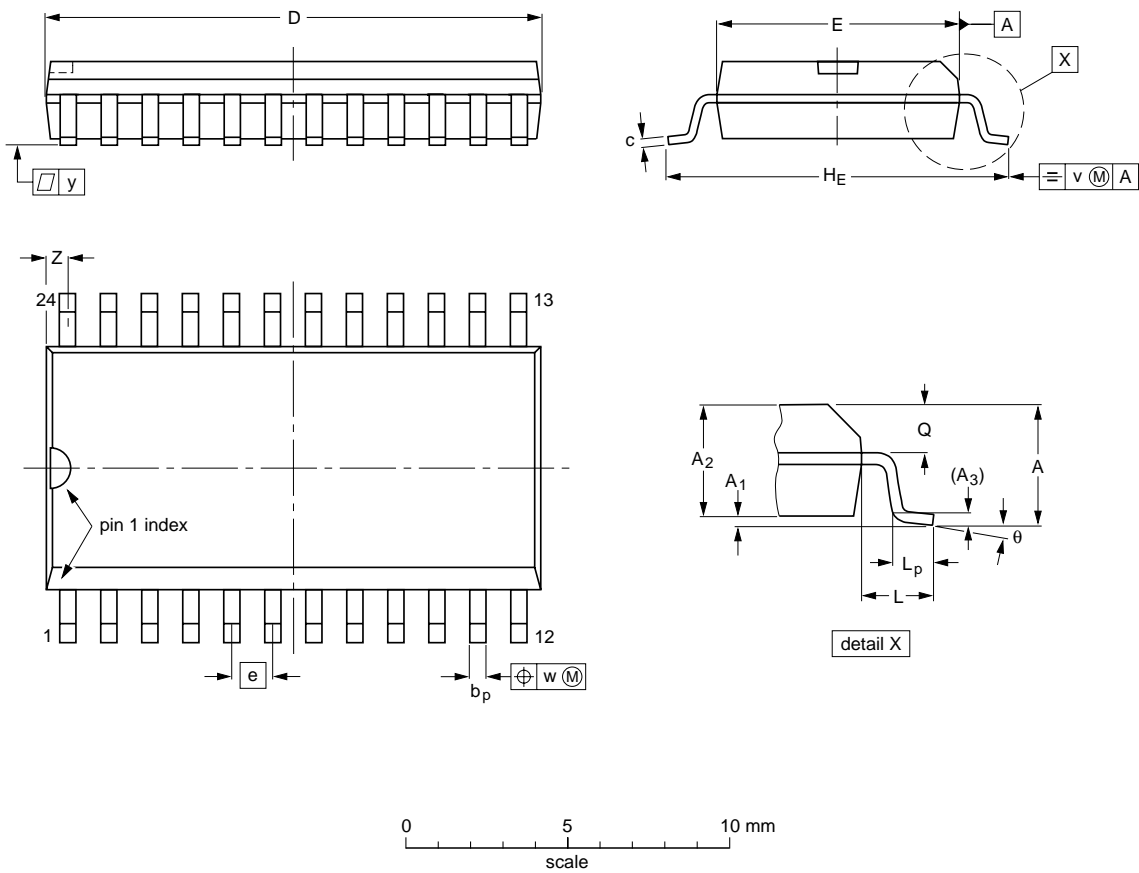
OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION
	IEC	JEDEC	JEITA	
SOT101-1	051G02	MO-015	SC-509-24	

Fig 12. Package outline SOT101-1 (DIP24)



SO24: plastic small outline package; 24 leads; body width 7.5 mm

SOT137-1



**DIMENSIONS (inch dimensions are derived from the original mm dimensions)**

UNIT	A max.	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	b <sub>p</sub>	c	D <sup>(1)</sup>	E <sup>(1)</sup>	e	H <sub>E</sub>	L	L <sub>p</sub>	Q	v	w	y	z <sup>(1)</sup>	θ
mm	2.65	0.3 0.1	2.45 2.25	0.25	0.49 0.36	0.32 0.23	15.6 15.2	7.6 7.4	1.27	10.65 10.00	1.4	1.1 0.4	1.1 1.0	0.25	0.25	0.1	0.9 0.4	8° 0°
inches	0.1	0.012 0.004	0.096 0.089	0.01	0.019 0.014	0.013 0.009	0.61 0.60	0.30 0.29	0.05	0.419 0.394	0.055	0.043 0.016	0.043 0.039	0.01	0.01	0.004	0.035 0.016	

**Note**

1. Plastic or metal protrusions of 0.15 mm (0.006 inch) maximum per side are not included.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION
	IEC	JEDEC	JEITA		
SOT137-1	075E05	MS-013			

Fig 13. Package outline SOT137-1 (SO24)