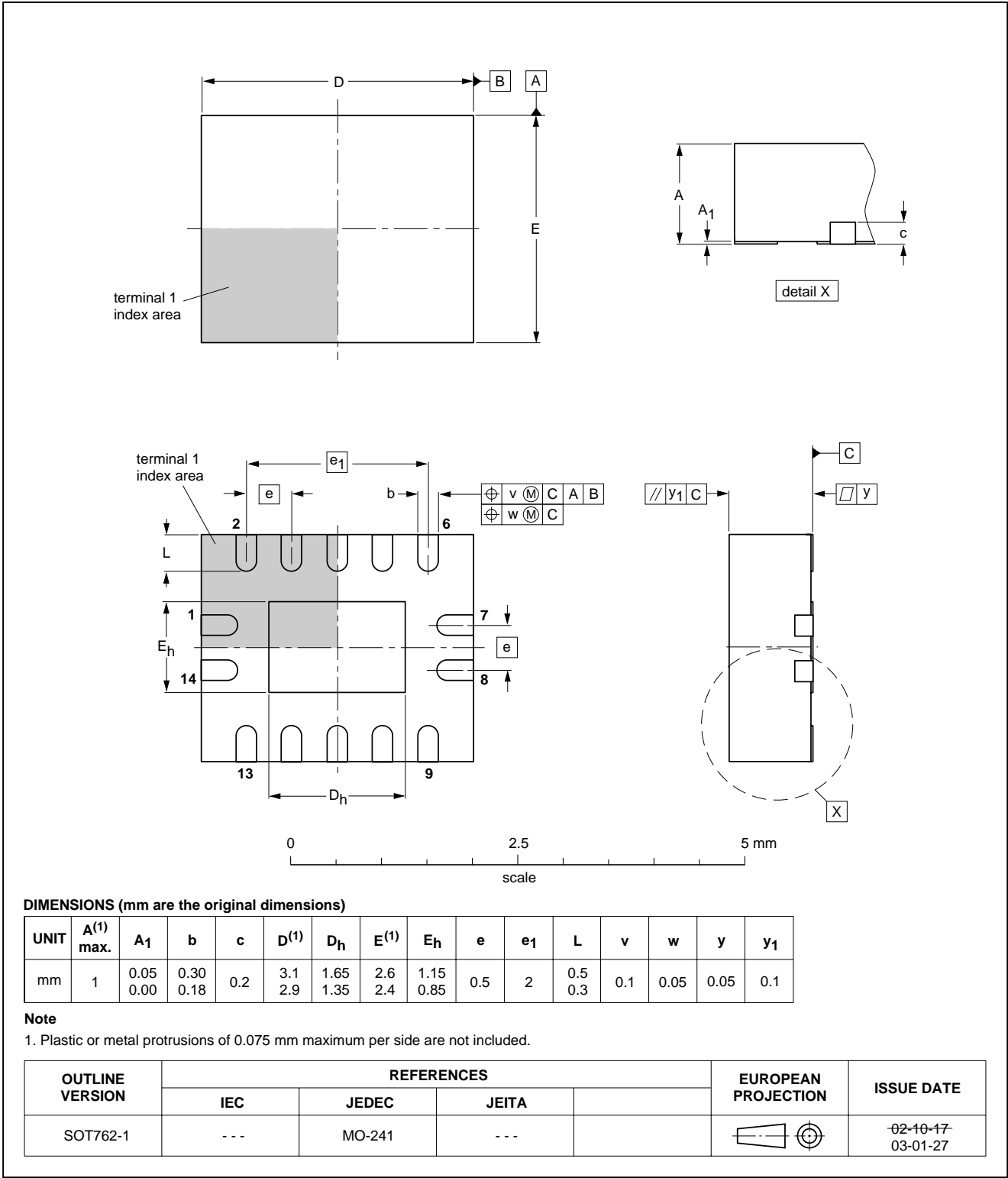


Hex inverter

74HC04; 74HCT04

DHVQFN14: plastic dual in-line compatible thermal enhanced very thin quad flat package; no leads; 14 terminals; body 2.5 x 3 x 0.85 mm SOT762-1



## Hex inverter

## 74HC04; 74HCT04

## FEATURES

- Complies with JEDEC standard no. 8-1A
- ESD protection:  
HBM EIA/JESD22-A114-A exceeds 2000 V  
MM EIA/JESD22-A115-A exceeds 200 V.
- Specified from  $-40$  to  $+85$  °C and  $-40$  to  $+125$  °C.

## DESCRIPTION

The 74HC/HCT04 are high-speed Si-gate CMOS devices and are pin compatible with low power Schottky TTL (LSTTL). They are specified in compliance with JEDEC standard no. 7A. The 74HC/HCT04 provide six inverting buffers.

## QUICK REFERENCE DATA

GND = 0 V;  $T_{amb} = 25$  °C;  $t_r = t_f \leq 6.0$  ns.

SYMBOL	PARAMETER	CONDITIONS	TYPICAL		UNIT
			HC04	HCT04	
$t_{PHL}/t_{PLH}$	propagation delay nA to nY	$C_L = 15$ pF; $V_{CC} = 5$ V	7	8	ns
$C_I$	input capacitance		3.5	3.5	pF
$C_{PD}$	power dissipation capacitance per gate	notes 1 and 2	21	24	pF

## Notes

- $C_{PD}$  is used to determine the dynamic power dissipation ( $P_D$  in  $\mu$ W).

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

$f_i$  = input frequency in MHz;

$f_o$  = output frequency in MHz;

$C_L$  = output load capacitance in pF;

$V_{CC}$  = supply voltage in Volts;

$N$  = total load switching outputs;

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

- For 74HC04: the condition is  $V_I = \text{GND to } V_{CC}$ .

For 74HCT04: the condition is  $V_I = \text{GND to } V_{CC} - 1.5$  V.

## FUNCTION TABLE

See note 1.

INPUT	OUTPUT
nA	nY
L	H
H	L

## Note

- H = HIGH voltage level;  
L = LOW voltage level.









