

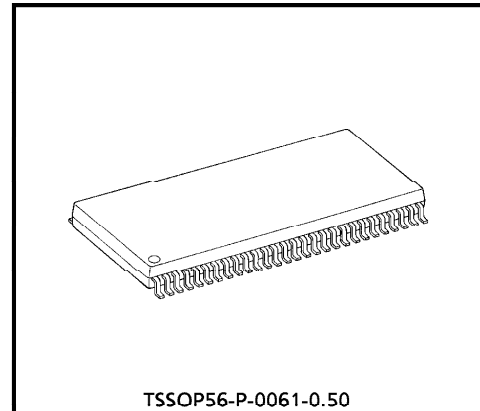
TC74VCX16821FT**LOW-VOLTAGE 20-BIT D-TYPE FLIP-FLOP
WITH 3.6V TOLERANT INPUTS AND OUTPUTS**

The TC74VCX16821FT is a high performance CMOS 20-bit D-TYPE FLIP-FLOP. Designed for use in 1.8, 2.5 or 3.3 Volt systems, it achieves high speed operation while maintaining the CMOS low power dissipation. It is also designed with over voltage tolerant inputs and outputs up to 3.6V.

The device is byte controlled with each byte functioning identically, but independent of the other. Control pins can be shorted together to obtain full 20-bit operation. The following description applies to each byte. The twenty flip-flops will store the state of their individual D inputs that meet the setup and hold time requirements on the LOW-to-HIGH Clock (CK) transition.

When the $\overline{OE}$ input is high, the outputs are in a high impedance state. This device is designed to be used with 3-state memory address drivers, etc.

All inputs are equipped with protection circuits against static discharge.



Weight : 0.25g (Typ.)

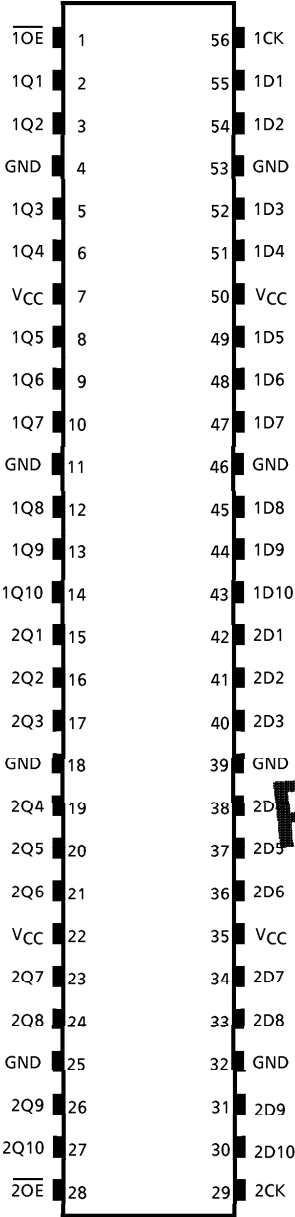
PRELIMINARY**FEATURES**

- Low Voltage Operation : $V_{CC} = 1.8 \sim 3.6V$
- High Speed Operation : $t_{pd} = TBD$ (max.) at $V_{CC} = 3.0 \sim 3.6V$
 : $t_{pd} = TBD$ (max.) at $V_{CC} = 2.3 \sim 2.7V$
 : $t_{pd} = TBD$ (max.) at $V_{CC} = 1.8V$
- 3.6V Tolerant inputs and outputs.
- Output Current : $I_{OH} / I_{OL} = \pm 24mA$ (min.) at $V_{CC} = 3.0V$
 : $I_{OH} / I_{OL} = \pm 18mA$ (min.) at $V_{CC} = 2.3V$
 : $I_{OH} / I_{OL} = \pm 6mA$ (min.) at $V_{CC} = 1.8V$
- Latch-up Performance : $\pm 300mA$
- ESD Performance : Human Body Model $> \pm 2000V$
 : Machine Model $> \pm 200V$
- Package : TSSOP
 (Thin Shrink Small Outline Package)
- Power Down Protection is provided on all inputs and outputs.

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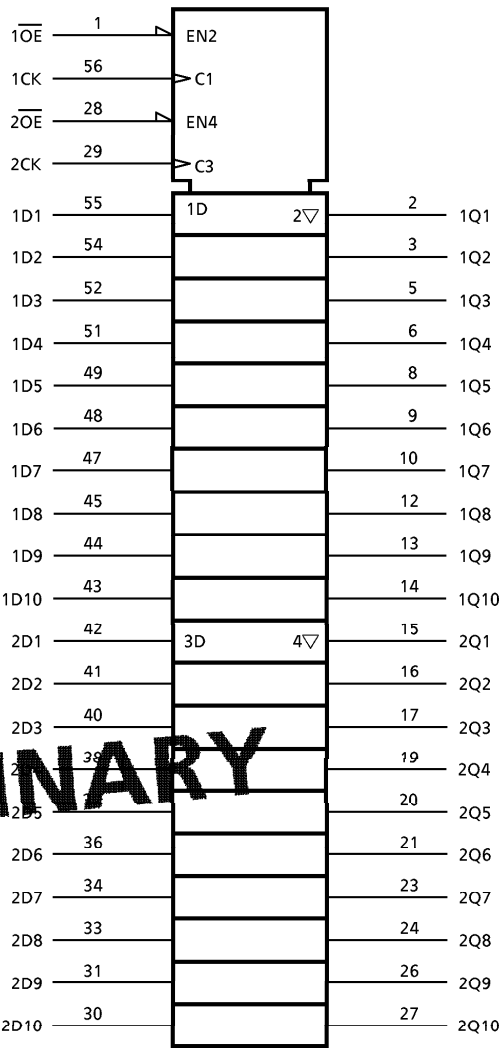
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PIN ASSIGNMENT



(TOP VIEW)

SYMBOL



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TRUTH TABLE

INPUT			OUTPUT
1OE	1CK	1D1-1D10	1Q1-1Q10
H	X	X	Z
L		X	Qn
L		L	L
L		H	H

INPUT			OUTPUT
2OE	2CK	2D1-2D10	2Q1-2Q10
H	X	X	Z
L		X	Qn
L		L	L
L		H	H

X : Don't Care
Z : High impedance
Qn : No change

SYSTEM DIAGRAM

