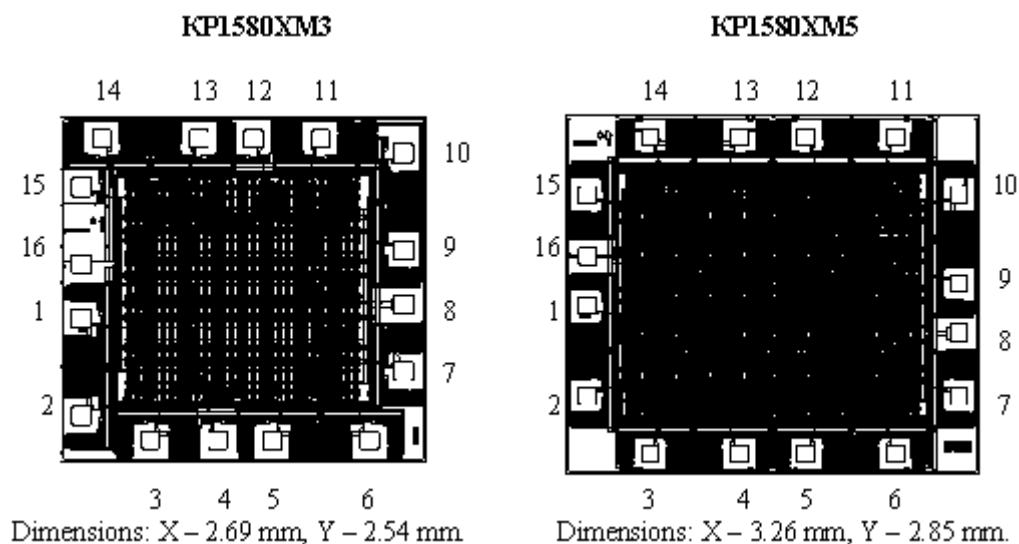


## "SYNTEC" CMOS Logic Array General series description

Logic Arrays are produced according to CMOS-technology with poly gates. The chips have a 16-pin construction: 14 multi-purpose (input-output) contact areas and 2 - "Vcc" (power supply) и "GND" (common).

### Pin's image



### Logic Array pins' function

Pin's number	KP1580XM3	KP1580XM5
1	Multi-purpose input-output	Multi-purpose input-output
2	Multi-purpose input-output	Multi-purpose input-output
3	Multi-purpose input-output	Multi-purpose input-output
4	Output	Multi-purpose input-output
5	Multi-purpose input-output	Multi-purpose input-output
6	Multi-purpose input-output	Multi-purpose input-output
7	Multi-purpose input-output	Multi-purpose input-output
8	GND	GND
9	Multi-purpose input-output	Multi-purpose input-output
10	Multi-purpose input-output	Multi-purpose input-output
11	Multi-purpose input-output	Multi-purpose input-output
12	Input	Multi-purpose input-output
13	Multi-purpose input-output	Multi-purpose input-output
14	Multi-purpose input-output	Multi-purpose input-output
15.	Input	Multi-purpose input-output
16.	Vcc	Vcc

The integrated circuit production includes the following manufacturing operations:

1. P - pocket formation.
2. Local oxidation.
3. Gate oxide formation.
4. Poly applying and drawing formation over poly.
5. Drain-source formation of P - channel transistors.
6. Drain-source formation of N - channel transistors.
7. Layer insulation formation.
8. Contact to layer formation.
9. Drawing sputtering and formation over aluminium.
10. Protection applying and contact opening.

In fact there are 37 main operations and 10 photolithography.

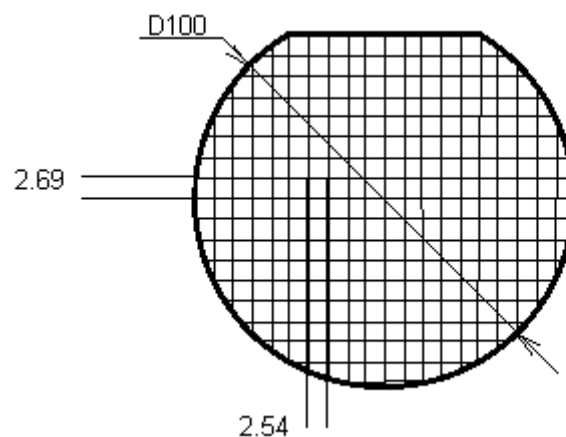
The chips have the following circuit and constructional peculiarities:

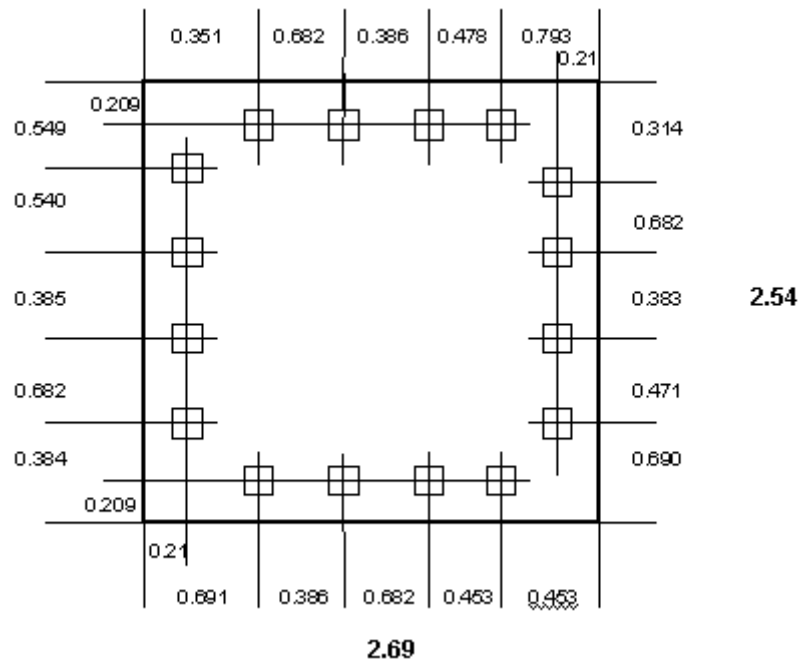
1. Input protection against static electricity effect.
2. Protection against thyristor effect.
3. The array of CMOS transistor couple is constructed according to the "sea-of-gate" principal. The main structural unit is "NO"-type gate. The chip KP1580XM3 contains 415 gates, KP1580XM5 - 660 .
4. Logical components include up to 90 various classes:
  - logical components (NO, OR-NO, AND-NO with different quantity of inputs) ;
  - triggers (D-triggers, RS-triggers, Schmitt triggers, trigger flip-flop, etc.) ;
  - buffered logic (with different load capacity) ;
  - keys and multiplexers ;
  - level converter.

A series of indicators' control integrated circuits, such as decoders, counters, counters-decoders, registers (including 7-segment indicators' control), is worked-out on the basis of chips.

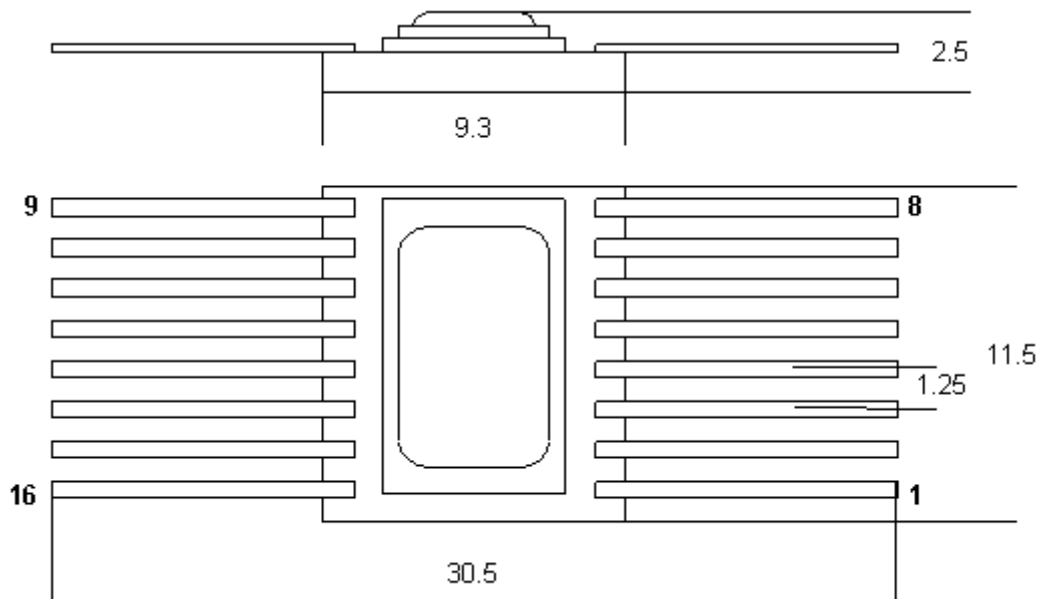
Logic Arrays may have different package-types:

1. Open-frame package - separate chips or presorted plates.

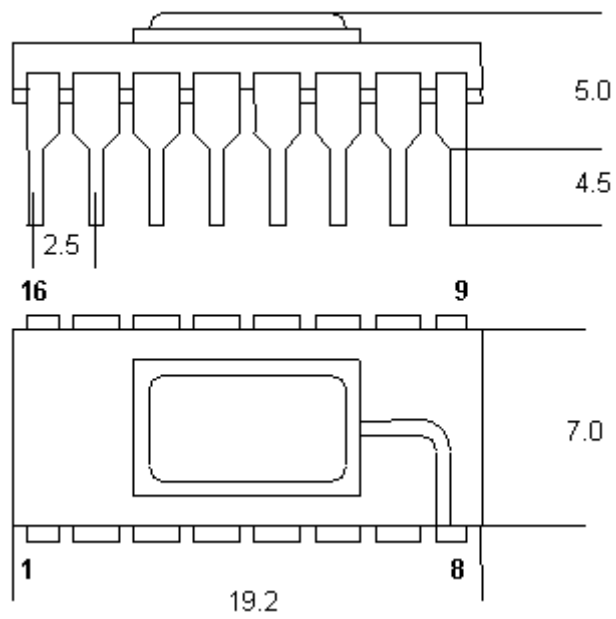




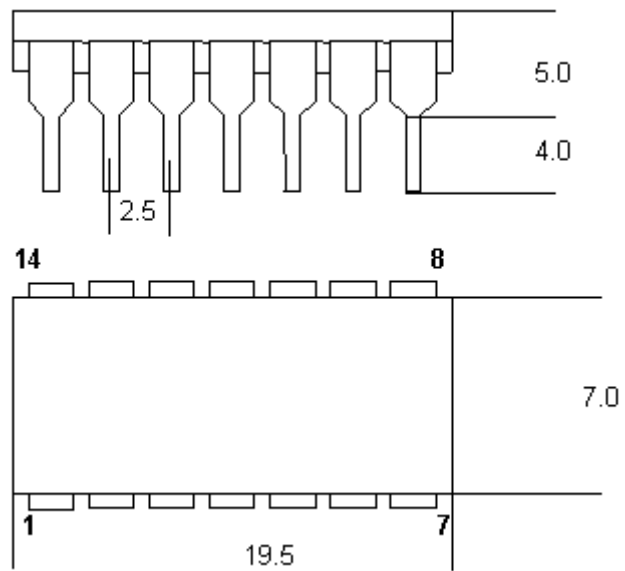
2. Planar 16-pin metal-ceramic package of the type 402.16-23 (with gold or nickel-boron plating).



3. 16-pin metal-ceramic DIP-package of the type 201.16-16 (with gold or nickel-boron plating).



4. 14-pin plastic DIP-package of the type 201.14-1.



5. 16-pin plastic DIP-package of the type 2103.16-8.

