

10100  
10001  
01010

# Transistor Technology Timeline



**1947**

**BELL LABS GERMANIUM  
TRANSISTOR**

12.7mm wide  
1 transistor



**1954**

**TEXAS INSTRUMENTS  
SILICON TRANSISTOR**

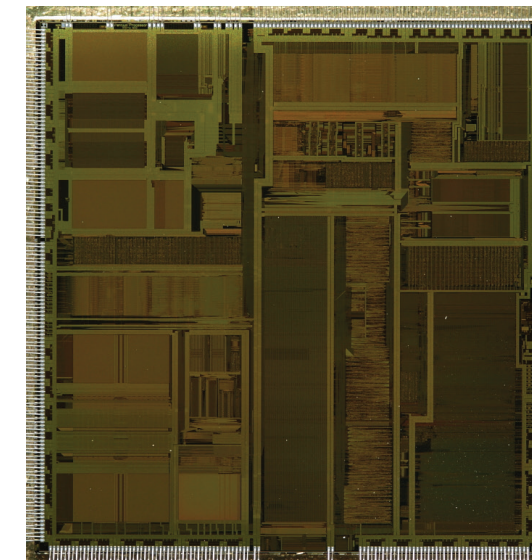
6.4mm wide  
1 transistor



**1971**

**INTEL 4004  
MICROPROCESSOR**

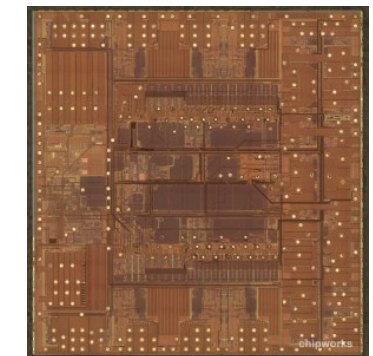
3.2mm wide  
2,300 transistors



**1993**

**INTEL PENTIUM  
MICROPROCESSOR**

17mm wide  
4.5 million transistors



**2013**

**QUALCOMM SNAPDRAGON  
SYSTEM ON A CHIP**

10mm wide  
250 million transistors

1mm =