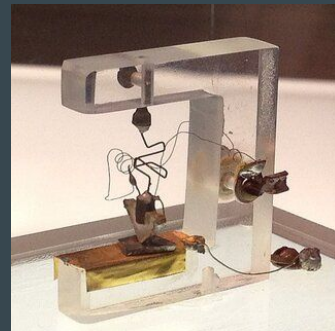




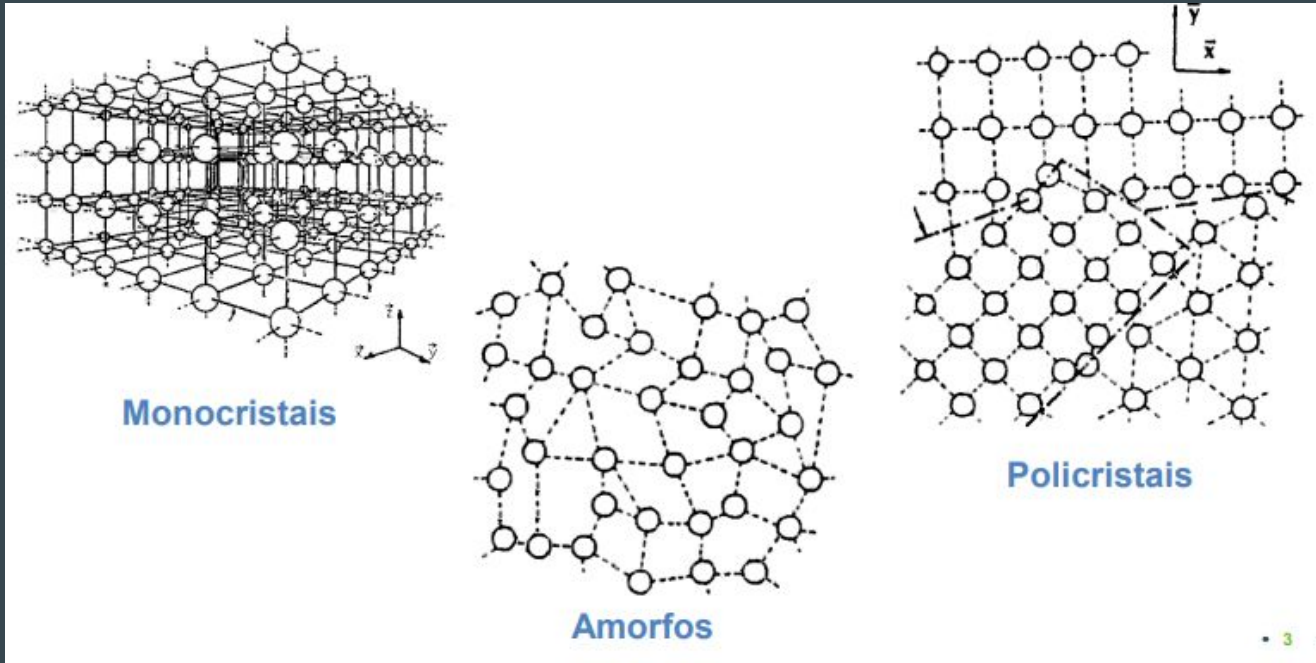
Quartzo ao transistor

...

Mariana Arias

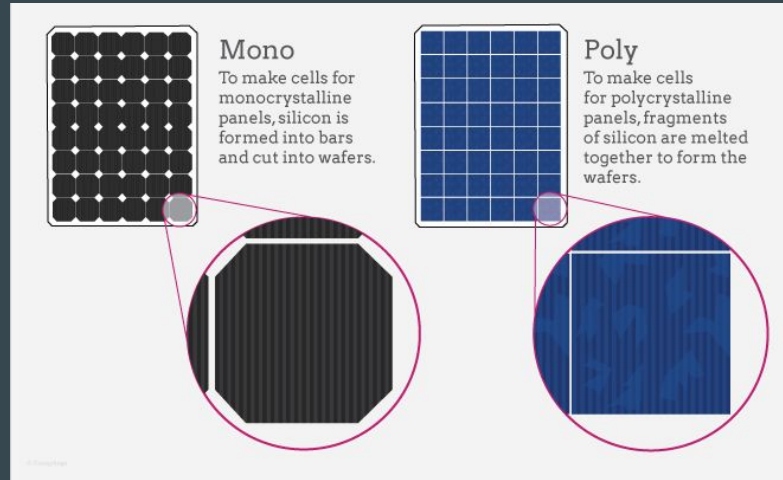


Estrutura cristalina

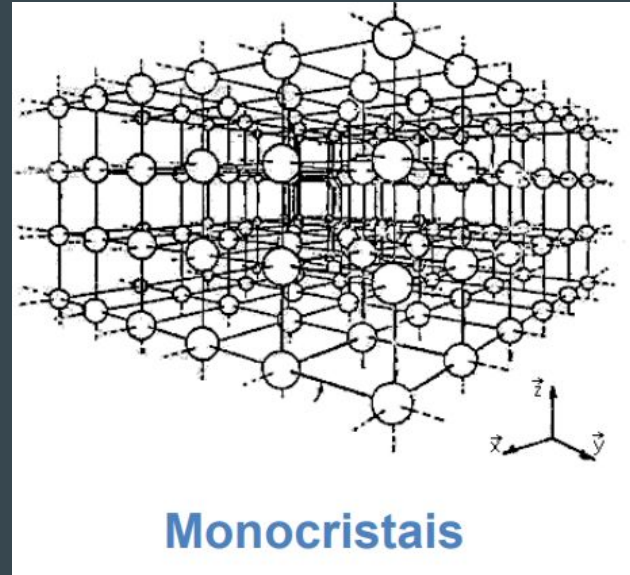


Estrutura cristalina

- Células solares



Semicondutores

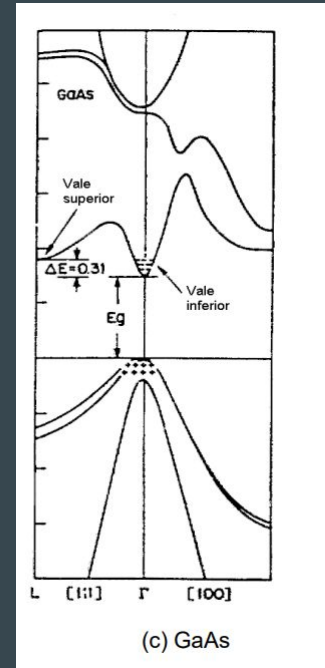


Bandas de energia de semicondutores reais

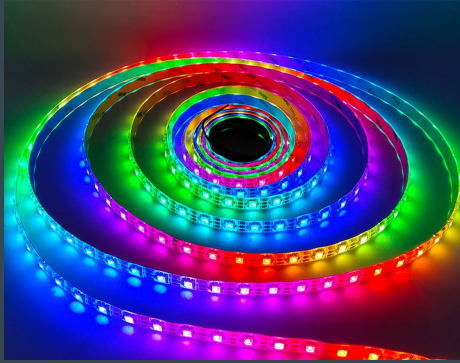
Bandas de energia



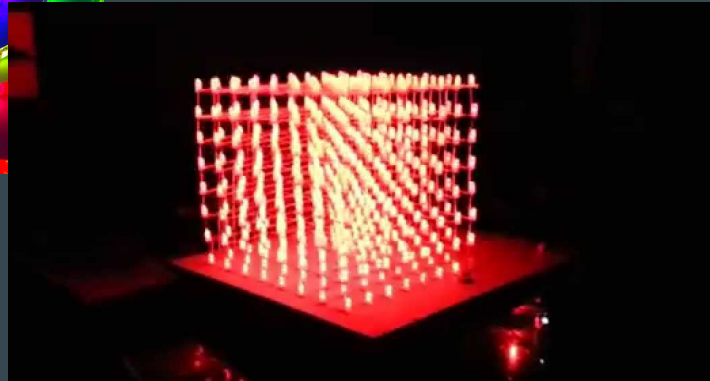
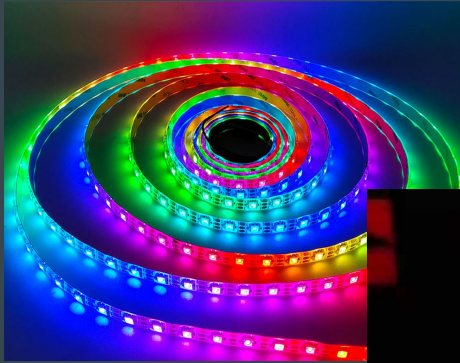
Transferência direta



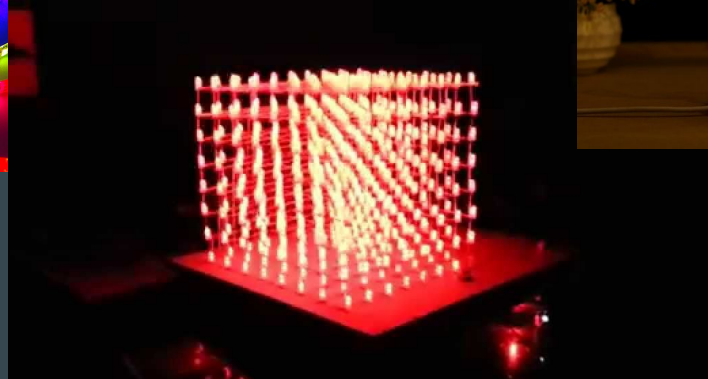
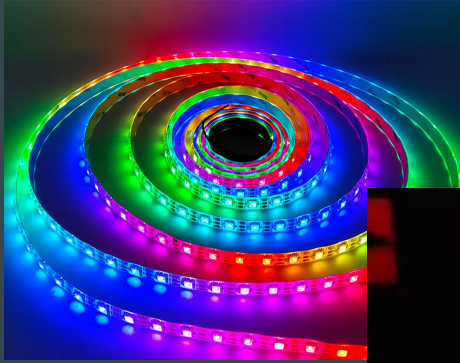
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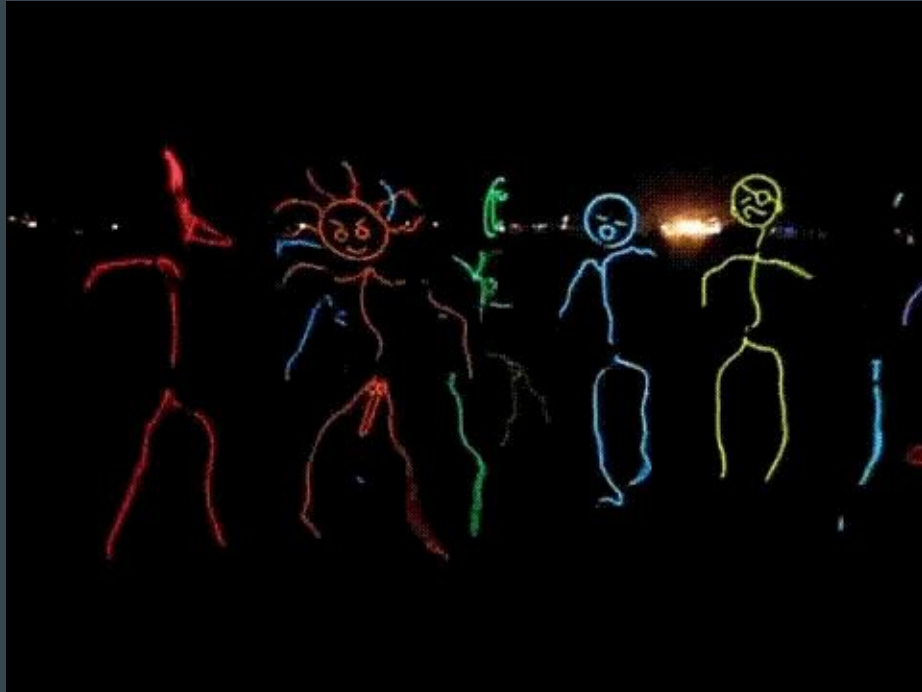
Bandas de energia de semicondutores reais



Bandas de energia de semicondutores reais

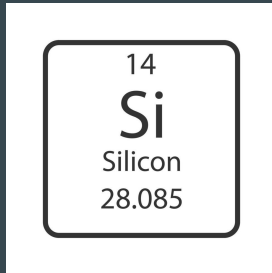


Bandas de energia de semicondutores reais



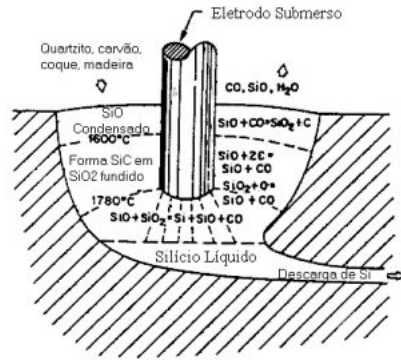
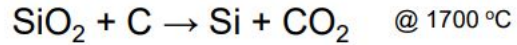
E o silício?

- Como sair do quartzo?
- O que define a orientação cristalina?
- Como eu produzo componentes com ele?



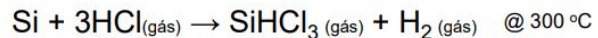
Método de produção do silício

Silício Grau Metalúrgico (GM)

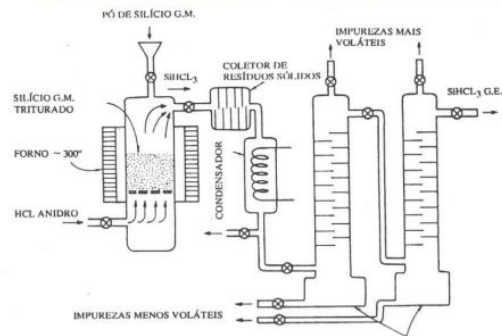


Método de produção do silício

Silício Grau Eletrônico (GE)

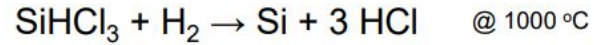


- Destilação fracionada para purificação do SiHCl_3
- Remove impurezas formando FeCl_3 , AlCl_3 , and BCl_3



Método de produção do silício

> Crescimento do Si (GE):



- Reator CVD para formar Si a partir de SiHCl_3



Método de cz

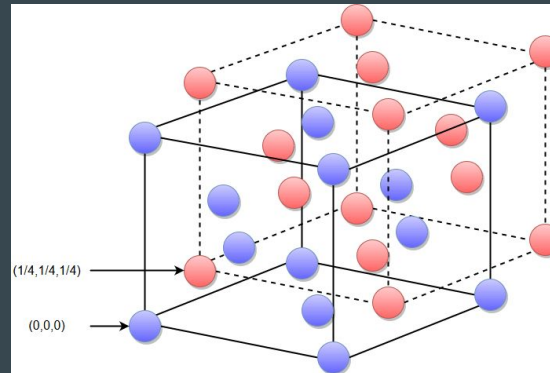
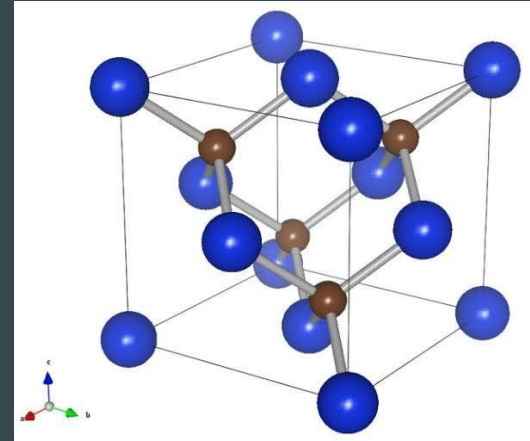
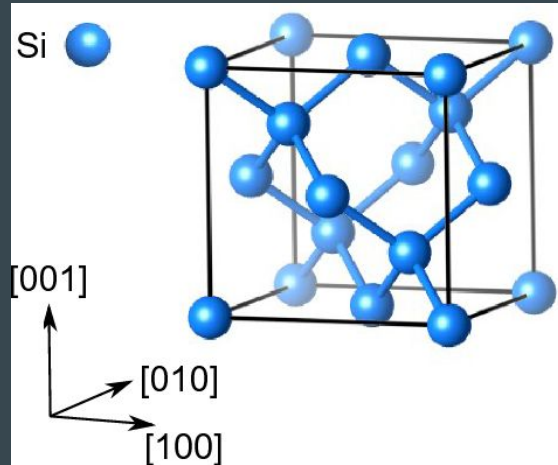


Estrutura cristalina do Silício

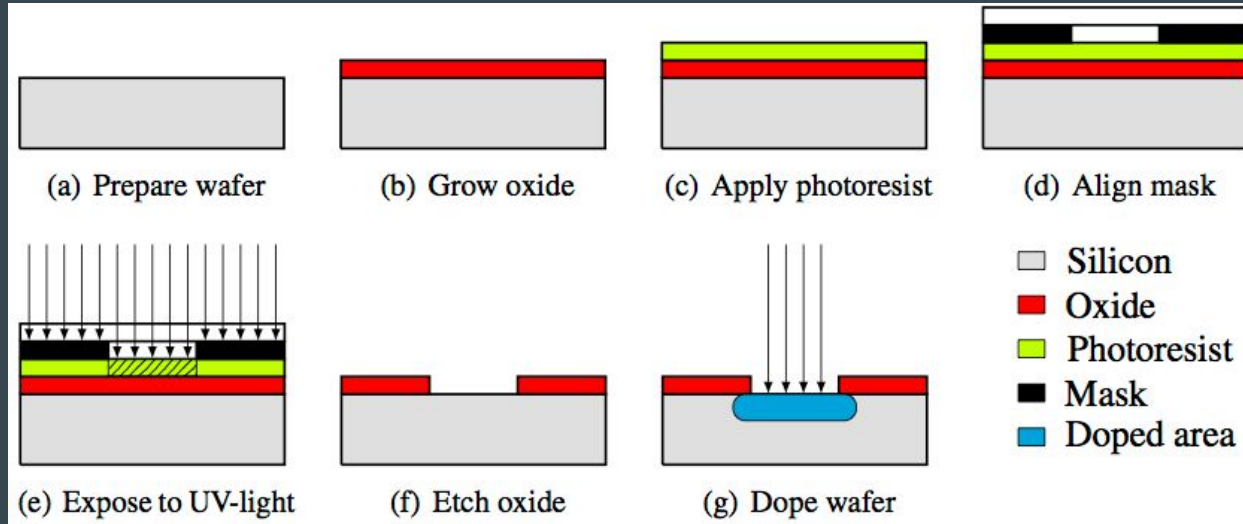


Estrutura cristalina do Silício

- Rede cúbica de face centrada



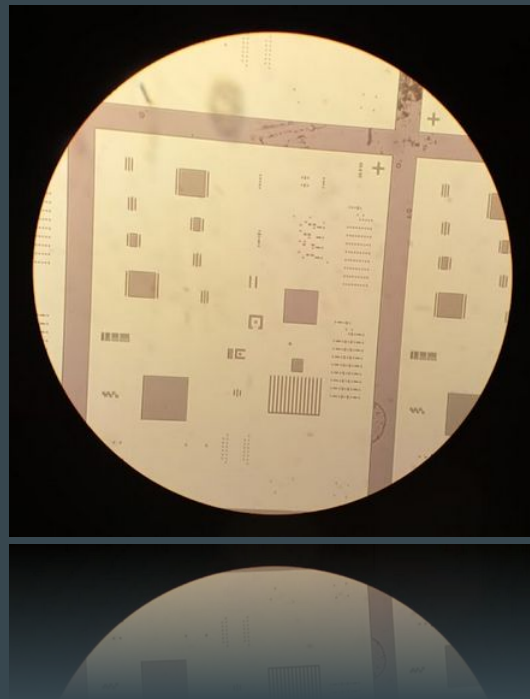
E o transistor?



Fotolitografia

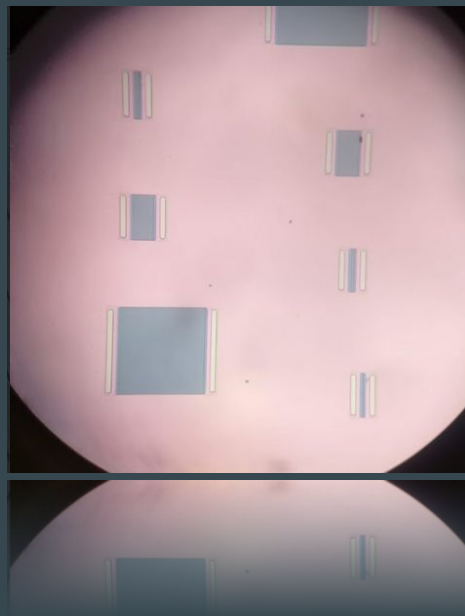
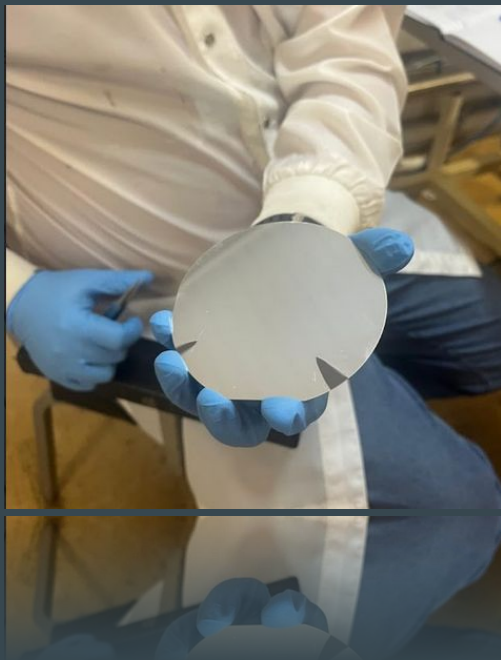


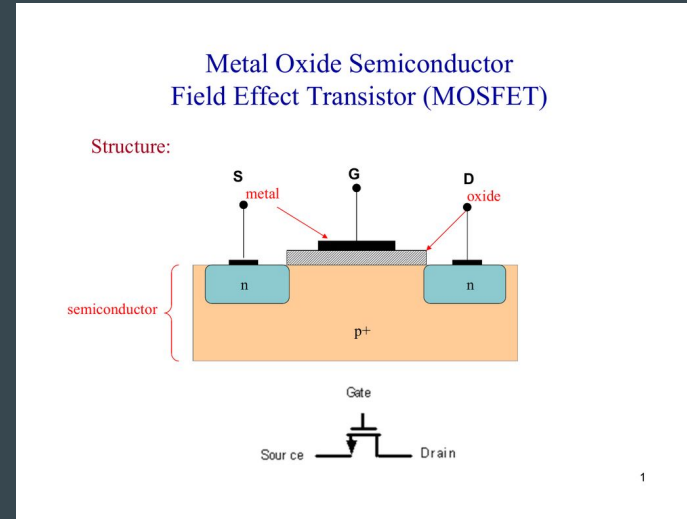
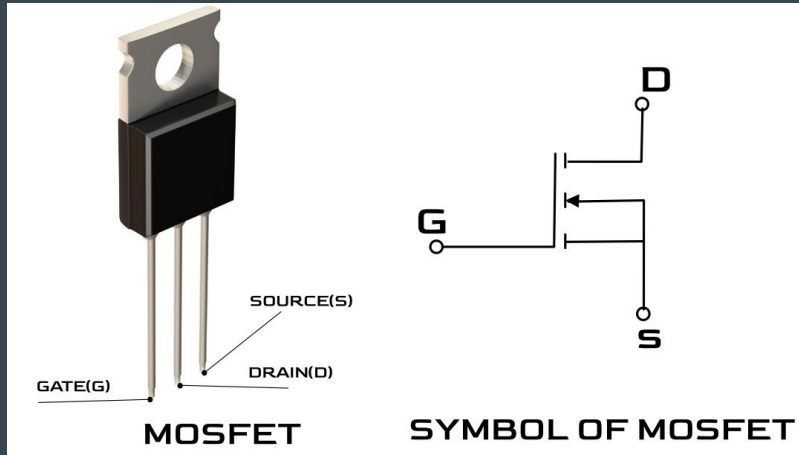
Fotolitografia



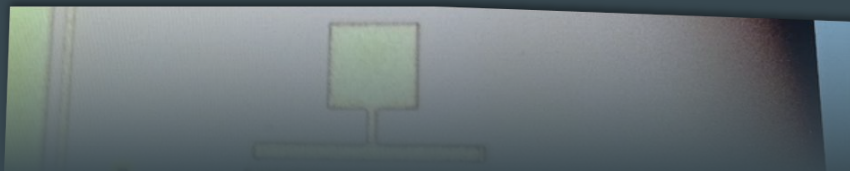
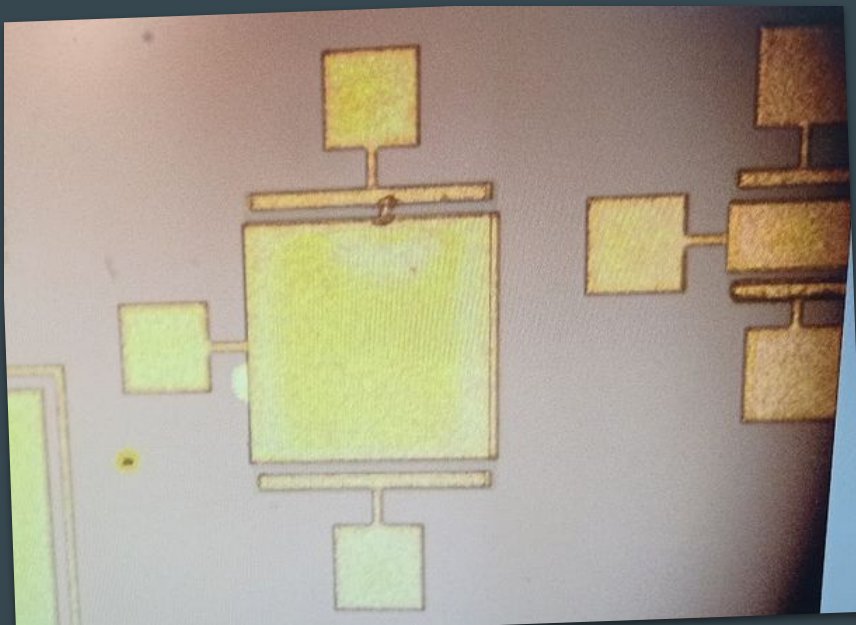


E o transistor?





Transistor fabricado



Embarque nessa!

