

Hints, Tips and Solutions

Robin Jones Ph.D., Senior Applications and Support Engineer

Q. How do you perform a lift off procedure in ATHENA?

A. A common technique for creating metal contacts is one known as a lift off. When performing a lift off process step, in order to create metal contacts, for example, it is imperative that the part of the metal to be lifted off is disjoint from the deposited metal layer. A good way of performing a lift off process procedure in *ATHENA* is to make use of a deposit machine created in *ATHENA*.

The *ATHENA* syntax for such a procedure is as follows:

```
rate.depo machine=au_depo material=gold a.m \  
sigma.dep=0.0 unidirec dep.rate=500 \  
angle1=0.00
```

#

```
deposit machine=au_depo time=1.0 minutes \  
divisions=6
```

Here we have first created a machine called *au_depo*, the material we are depositing is gold, *a.m* specifies that the rate is in Angstroms per minute, *dep.rate* is the deposit rate i.e. in this case it is 500 Angstroms, *unidirec* specifies it is unidirection, *angle1* is the angle used by *unidirec*. *Sigma.dep* specifies the surface diffusion parameter used by *unidirec*.

After the machine has been created use is then made of the *deposit* command which in turn makes use of the machine just created. Figure 1(a) shows such a deposit.

Beneath the gold is the photoresist barrier. Note how the gold on top of the barrier is disjoint from the the gold surrounding the barrier. This therefore makes it possible for a strip resist command to remove the resist and thus lift off the gold, Figure 1(b).

Call for Questions

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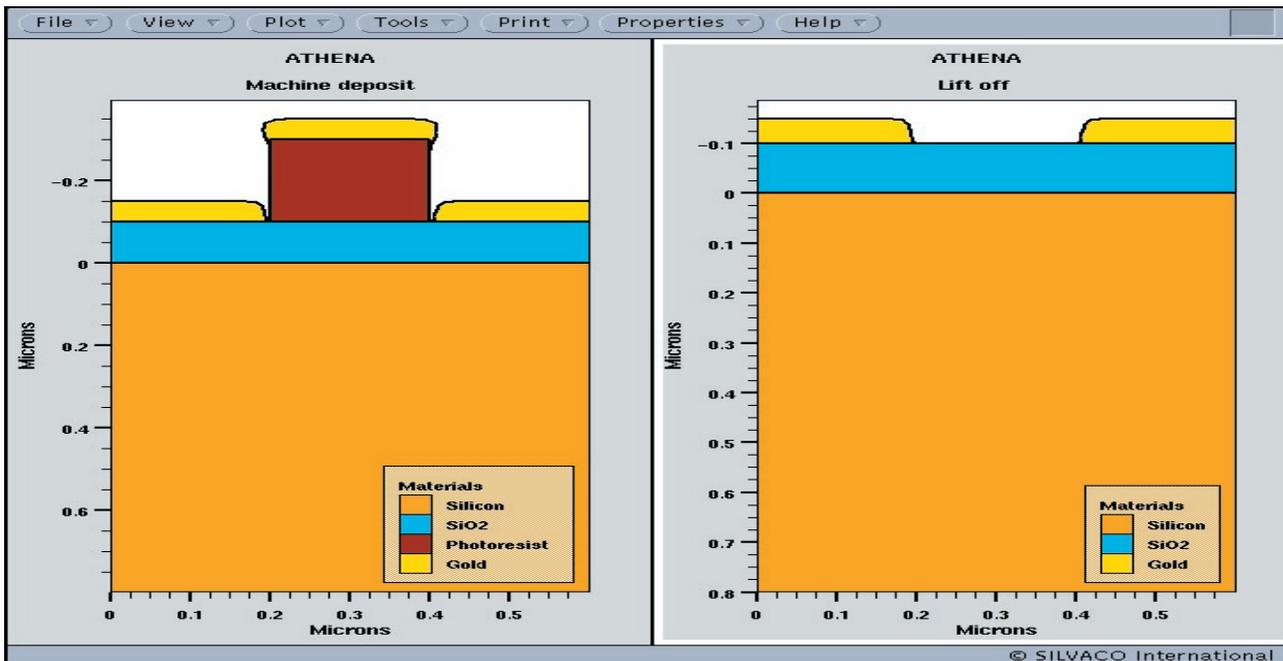


Figure 1.