$$CIS = CuInSe_2$$

 $CGS = CuGaSe_2$
 $CIGS = Cu(In, Ga)Se_2 = CuIn_{1-x}Ga_xSe_2$

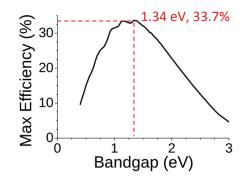
In Set Ga

Unit cell of Culn_{0.5}Ga_{0.5}Se₂

Advantages of CIGS:

- 1. Tunable band-gap (1.0 to 1.7 eV)
- 2. Efficienty 23.3% in the lab
- 3. Higher absorption coefficient,





The Shockley-Queisser limit for the efficiency of a solar cell.



CIGS is doing well in the Building-integrated photovoltaics market.