

– These electrons will, then be attracted towards the collector because of its high positive potential, passing through the collector junction (fig.2). The emitter–base junction (the emitter junction) and the base–collector junction (the collector junction). Biasing a transistor Forward bias is applied on the emitter junction with a value that exceeds the knee voltage; many free electrons will enter the base, crossing the emitter junction. The variable parameters of this circuit are: I_B , I_C , V_{CE} , V_{BE} The instantaneous value of these variables are: i_{SS} , i_c , V_{CE} , V_{be} The independent variables of these are: i_{SS} , V_{CE} The dependent variables are: i_c , V_{BE} ISTICS The transistor is a semiconductor crystal with three doped regions (NPN transistor or PNP, fig. So $I_E = I_C + I_B$ with I_B being very small it can be said that $I_C = I_E$ Fig 2 is redrawn using the transistor symbol (this circuit is known as the common base; since the base is common between the two circuits. The emitter is heavily doped; its job is to emit, or inject, electrons into the base. The transistor is, thus, composed of two pn–junctions. 1).