

START

INITIALIZE

Geometry & Material Properties
Boundary Conditions
Boundary Values
Initial Carrier Distribution

Calculate Net Charge

Solve Poisson's Equation

Calculate Current Density
(Finite Difference/Scharfetter-Gummel)

**Calculate Divergence of Current Density
& Update Carrier Distribution**
(Implicit or Explicit Time stepping)

**Check for Stopping
Criteria**

Yes

Stop Simulation

Output Results

(Low Charge density)
No

(High Charge density)
No