In[ ]:=
```
(*DEFINITONS*)
cm = 10^-2;
μm = 10^-6;
nm = 10^-9;
mΩ = 10^-3;
μΩ = 10^-6;
mW = 10^-3;
nV = 10^-9;
Pmax = 30 mW;
(*NANOWIRE PARAMETERS*)
A = (25 nm)^2 π;
L = 2 μm;
```

In[ ]:=
```
(*FIRST  CASE: NW RESISTIVITY IN ORDER OF ~300 uΩ cm*)
ρ = 300 μΩ cm;
R = ρ L / A;
Imin = 1 nV / R;
Imax = Sqrt[A Pmax / (ρ L)];
```

In[ ]:=
```
N[R]
N[Imin]
N[Imax]
```

Out[ ]=
```
3055.77
```

Out[ ]=
```
3.27249 × 10^-13
```

Out[ ]=
```
0.00313329
```

In[ ]:=
```
(*FIRST  CASE: NW RESISTIVITY IN ORDER OF ~300 uΩ cm*)
ρ = 5 mΩ cm;
R = ρ L / A;
Imin = 1 nV / R;
Imax = Sqrt[A Pmax / (ρ L)];
```

In[ ]:=
```
N[R]
N[Imin]
N[Imax]
```

Out[ ]=
```
50 929.6
```

Out[ ]=
```
1.9635 × 10^-14
```

Out[ ]=
```
0.000767495
```