# Mathematics:

## Thermoelectric Semiconductor

Equations for properties of both N and P type semiconductors.

Variables:

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Name | Equation | Units |
|  | Length | Property |  |
|  | Cross sectional area | Property |  |
|  | Thermal conductivity | Property |  |
|  | Electrical resistivity | Property |  |
|  | Thermal conductance | (1) |  |
|  | Electrical resistance | (2) |  |
|  | Thomson coefficient | Property |  |

(1)

(2)

# References:

[1] F. Cheng, “Calculation methods for thermoelectric generator performance,” *Thermoelectrics for Power Generation - A Look at Trends in the Technology*, 2016. doi:10.5772/65596