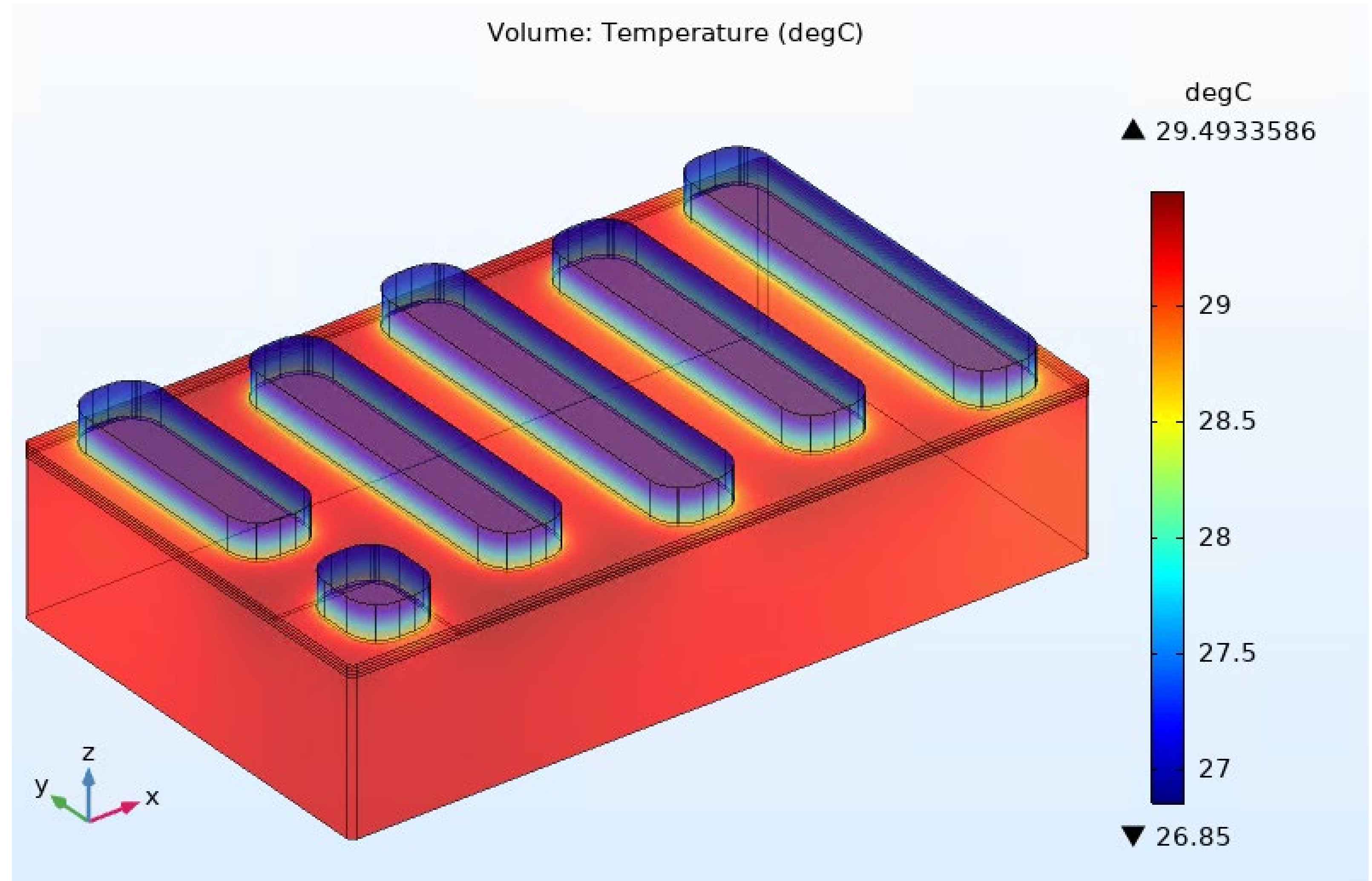
Thermal Model of EPC2619

EPC2619 FEA thermal simulation

- The thermal model applies to EPC2619.
- A power dissipation of 1 W in the device active area is assumed.
- Finite element analysis (FEA) thermal simulations
  - $R_{\Theta JB}$ and $R_{\Theta JC}$ are obtained by stationary simulations.
  - $Z_{\Theta JB}$ and $Z_{\Theta JC}$ are obtained by transient simulations.
- R-C thermal model is generated.

Steady-state $R_{\Theta JB}$

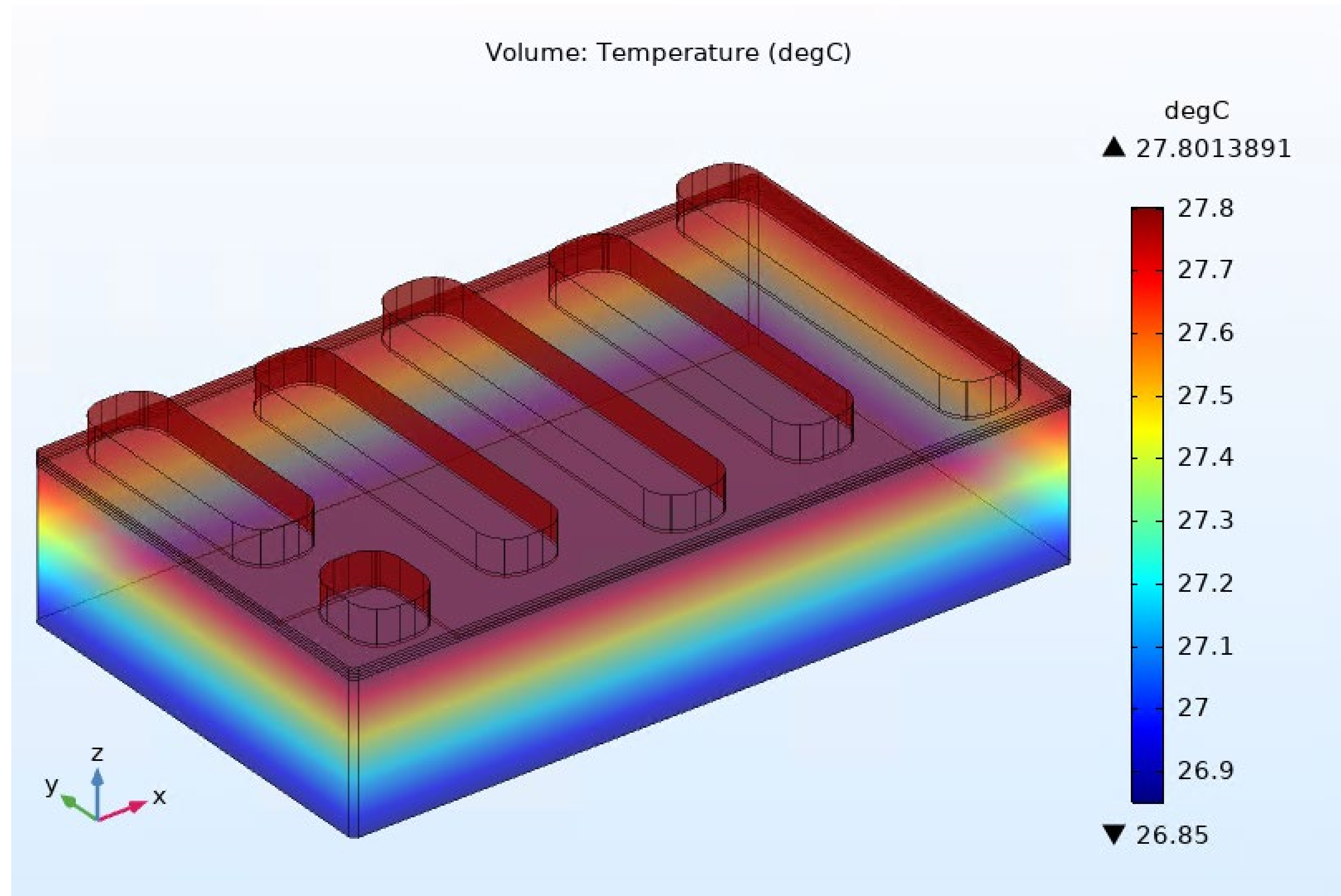
- Example: P = 1 W



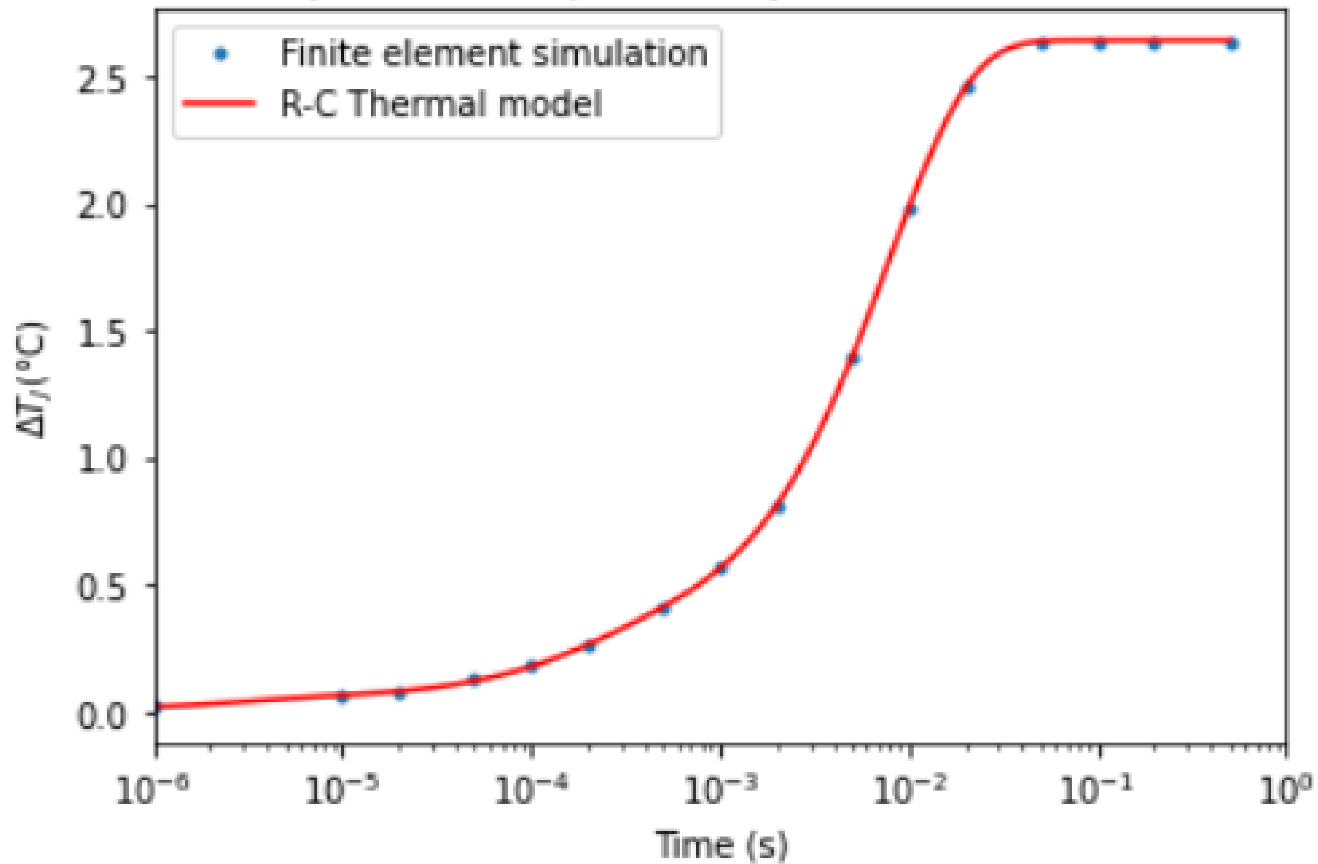
Steady-state $R_{\Theta JC}$

EFFICIENT POWER CONVERSION

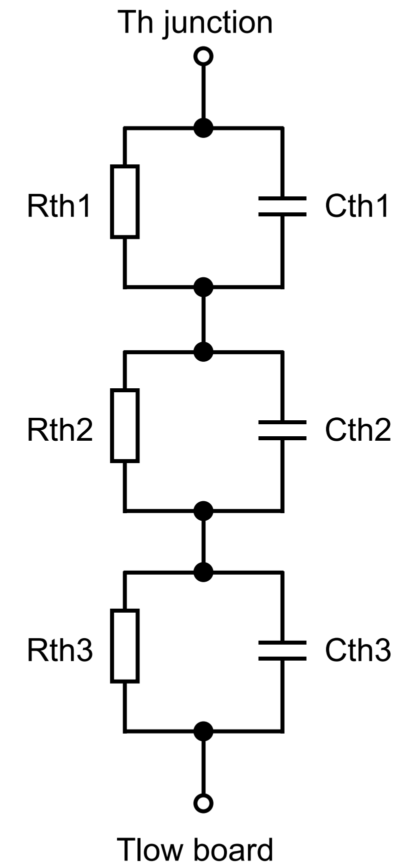
- Example: P = 1 W



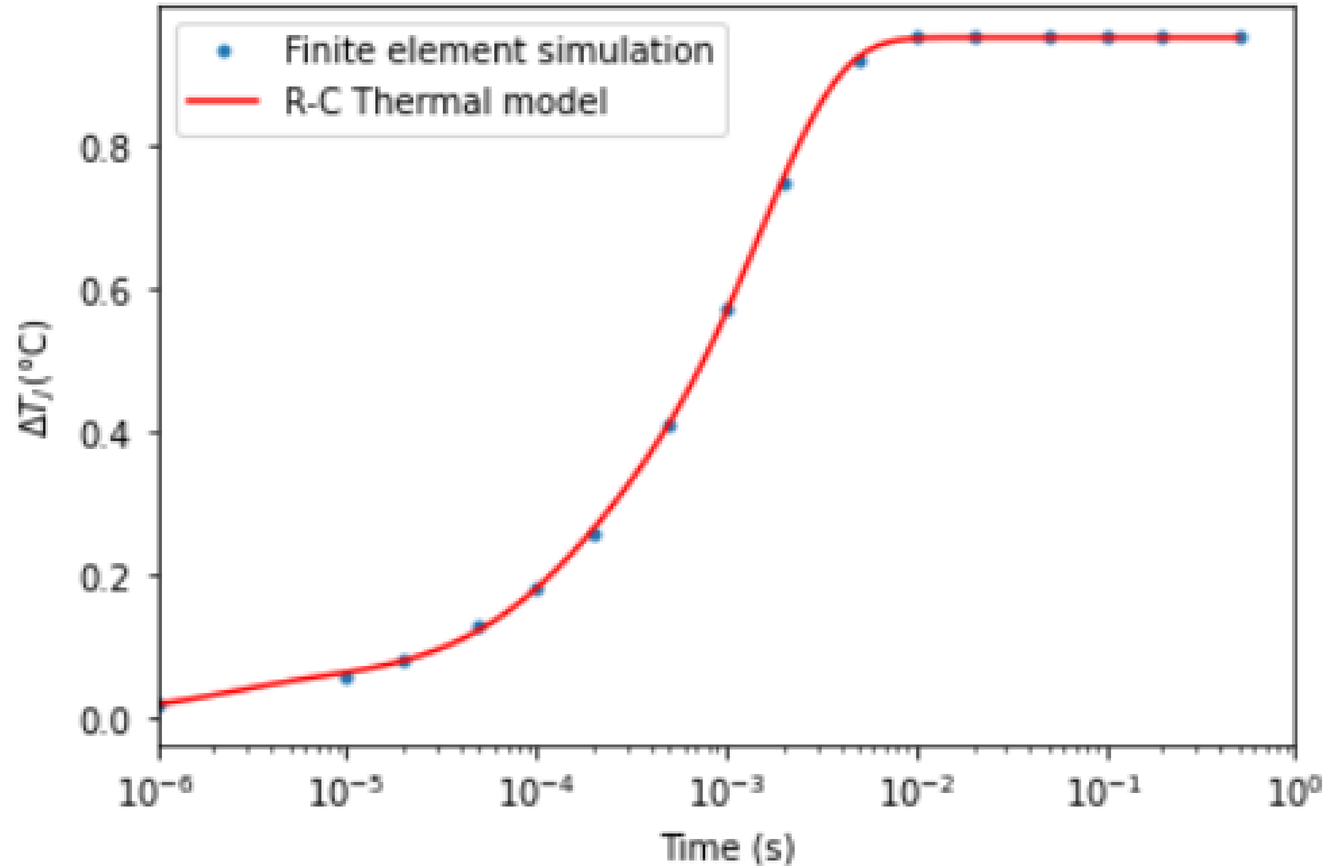
$Z_{\Theta JB}$ R-C thermal model



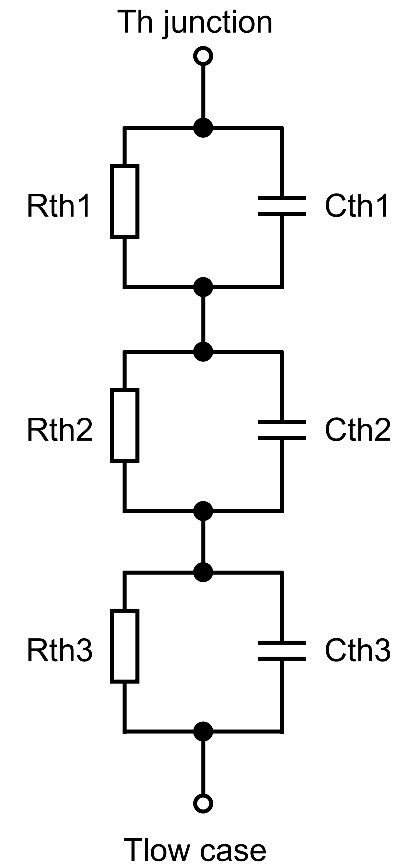
Model Parameter	Value	Unit
Rth1	5.14E-02	°C/W
Rth2	2.31E-01	
Rth3	2.36E+00	
Cth1	4.91E-05	J/°C
Cth2	7.94E-04	
Cth3	3.33E-03	



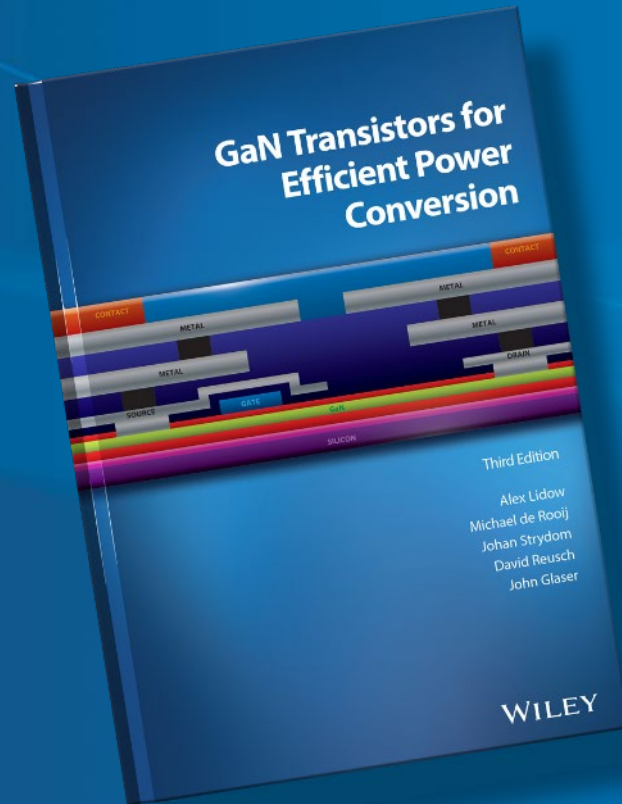
$Z_{\Theta JC}$ R-C thermal model



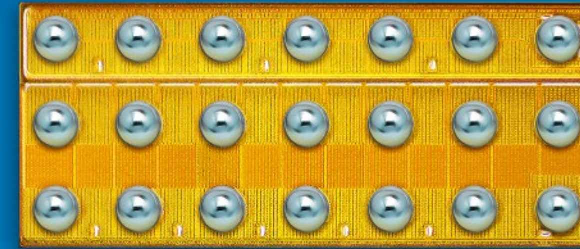
Model Parameter	Value	Unit
Rth1	4.75E-02	°C/W
Rth2	1.54E-01	
Rth3	7.48E-01	
Cth1	4.53E-05	J/°C
Cth2	8.09E-04	
Cth3	2.01E-03	



How To GaN Video Series

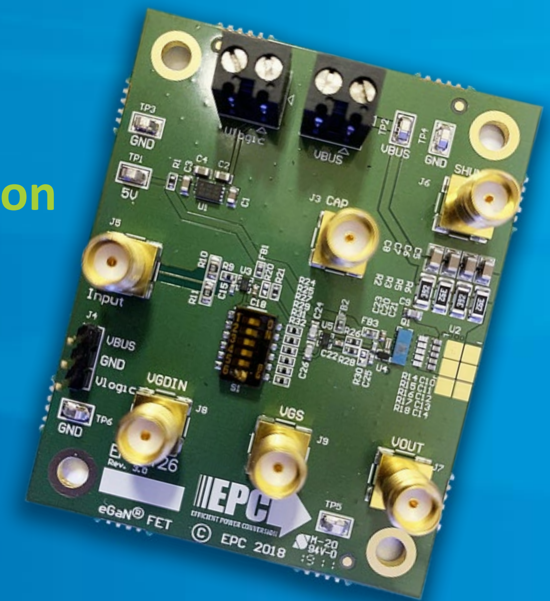


3rd Edition Textbook



eGaN® FETs and ICs

Evaluation Kits



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