

Thermal Model of EPC2071



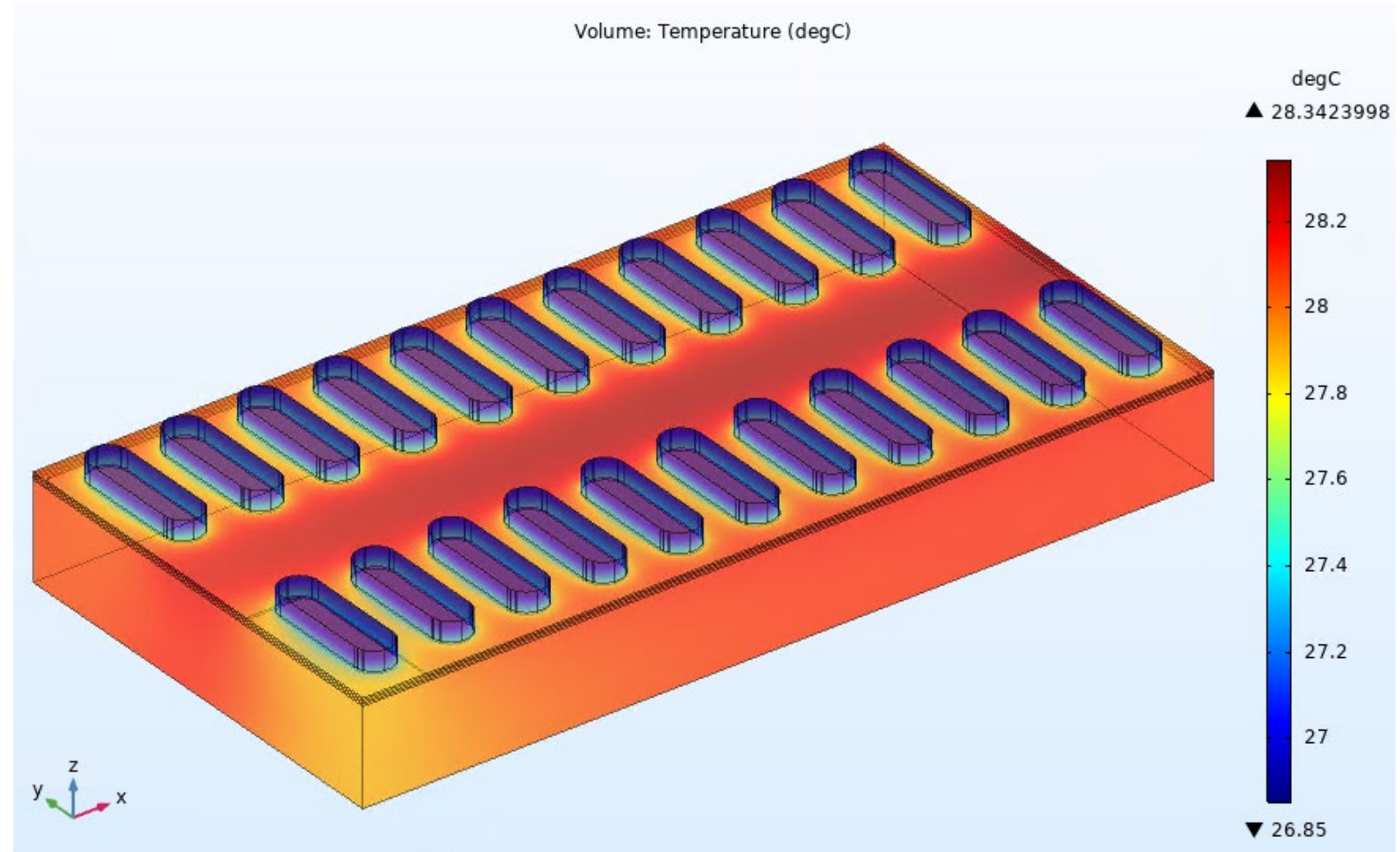
EPC2071 FEA thermal simulation



- The thermal model applies to EPC2071.
- 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.

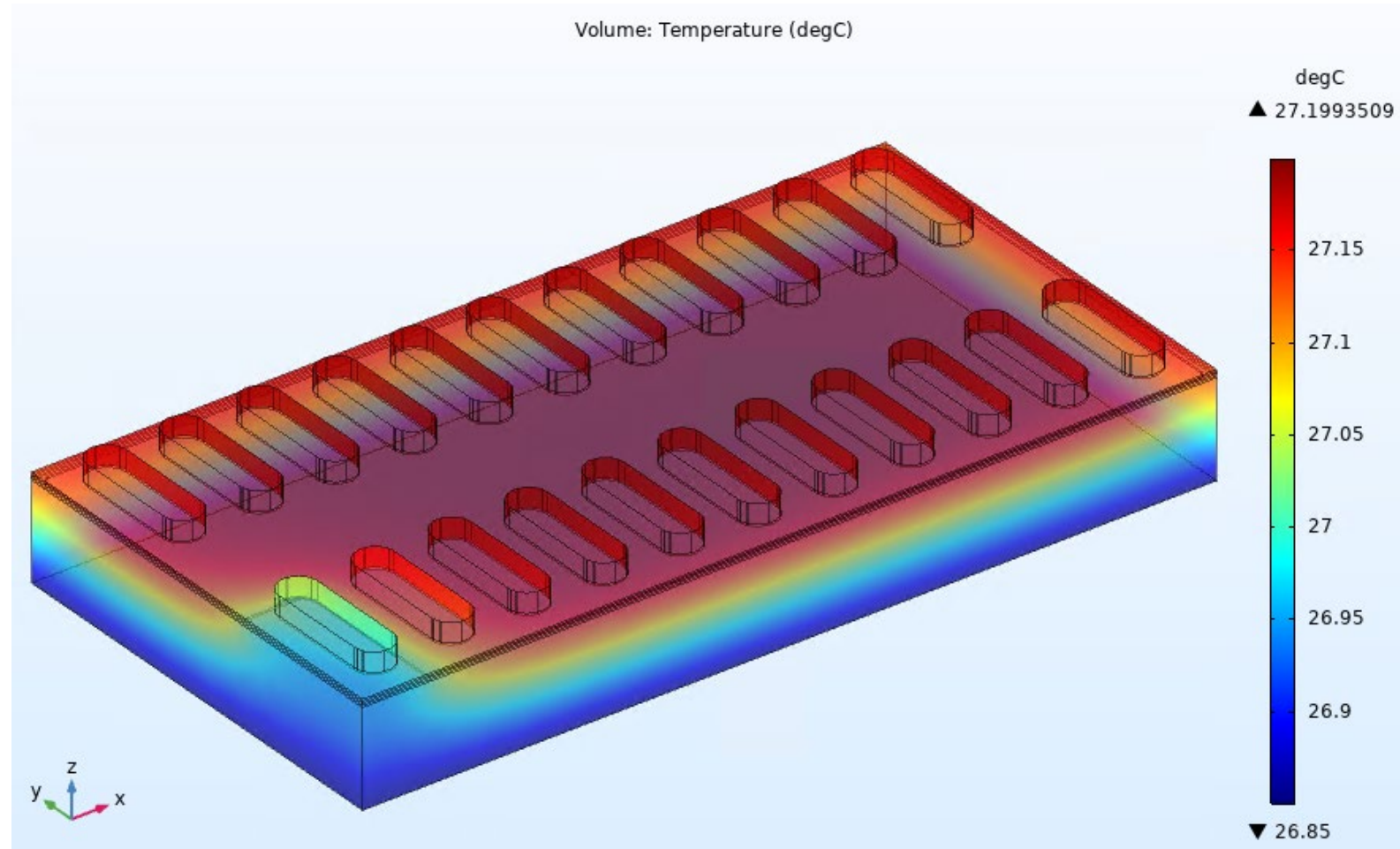
Steady-state $R_{\Theta JB}$

- Example: $P = 1 \text{ W}$



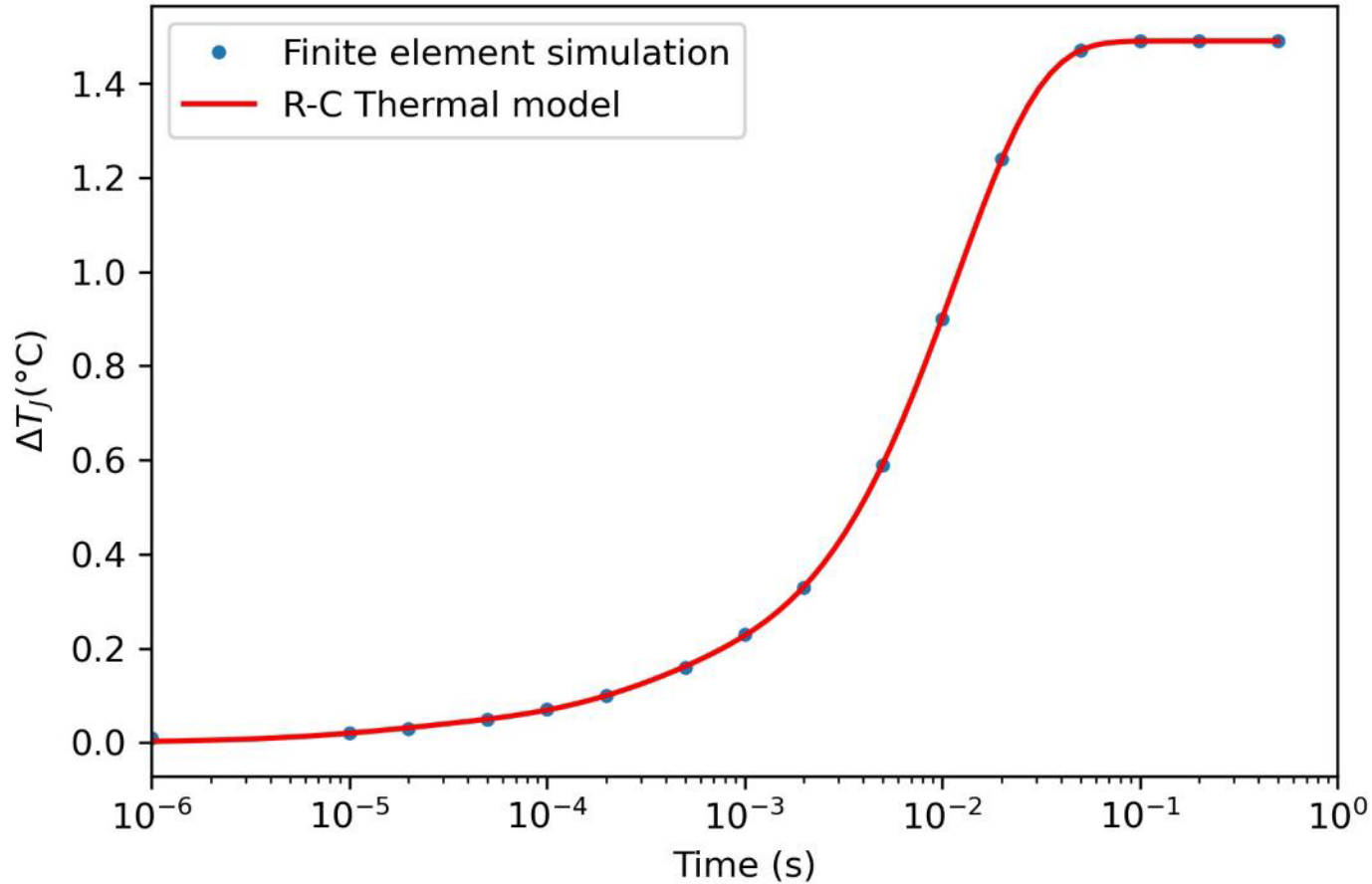
Steady-state $R_{\Theta Jc}$

- Example: $P = 1 \text{ W}$

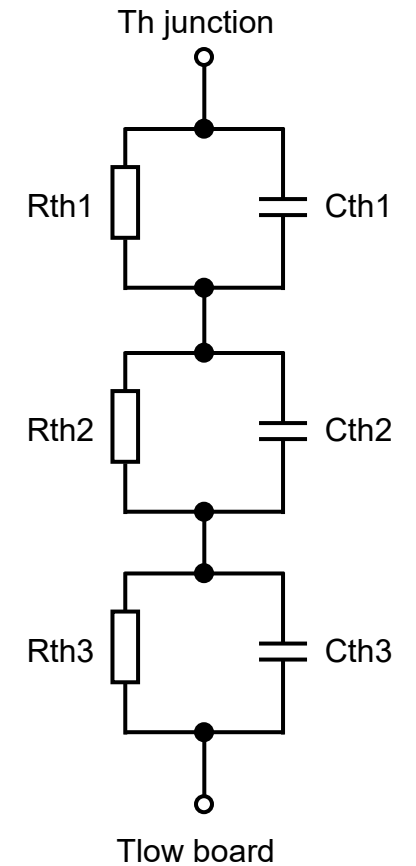


$Z_{\Theta JB}$ R-C thermal model

Transient junction temperature (Junction to Board, P = 1 W)

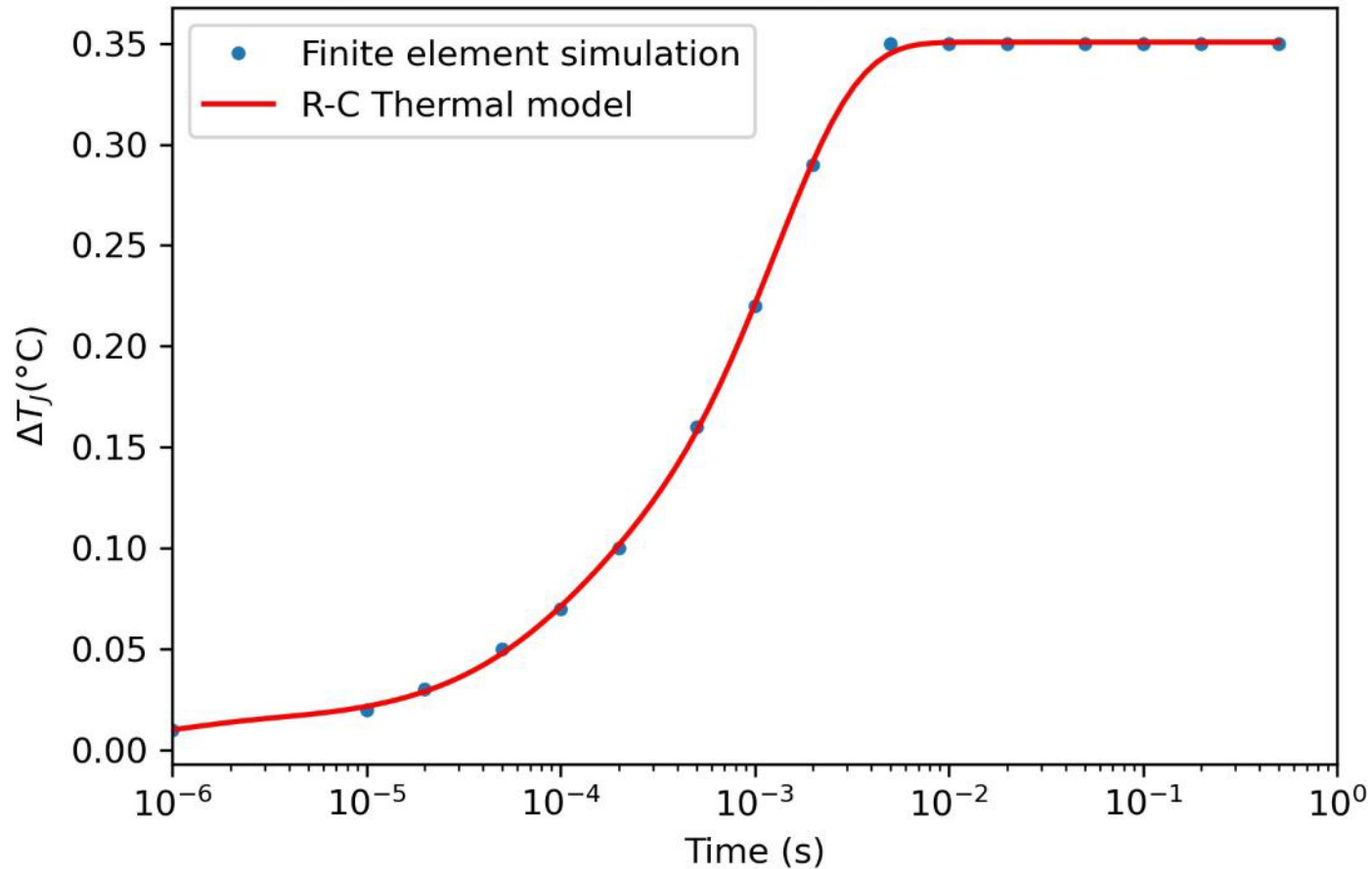


Model Parameter	Value	Unit
Rth1	2.90e-02	°C/W
Rth2	8.83e-02	
Rth3	1.37e+00	
Cth1	4.53e-04	J/°C
Cth2	2.90e-03	
Cth3	8.61e-03	

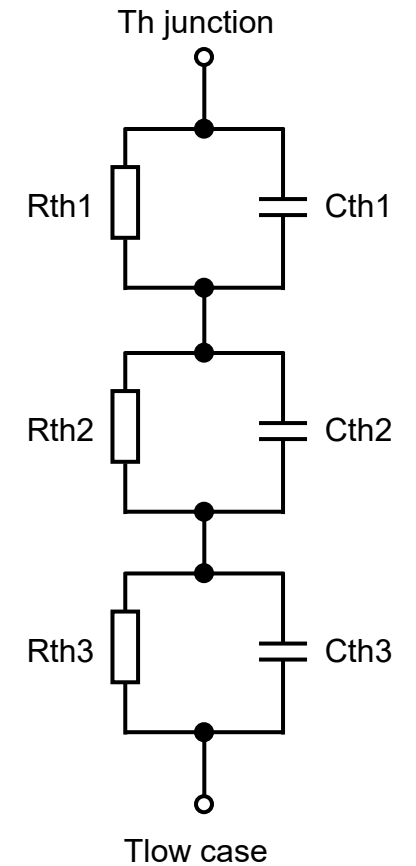


$Z_{\Theta JC}$ R-C thermal model

Transient junction temperature (Junction to Case, P = 1 W)



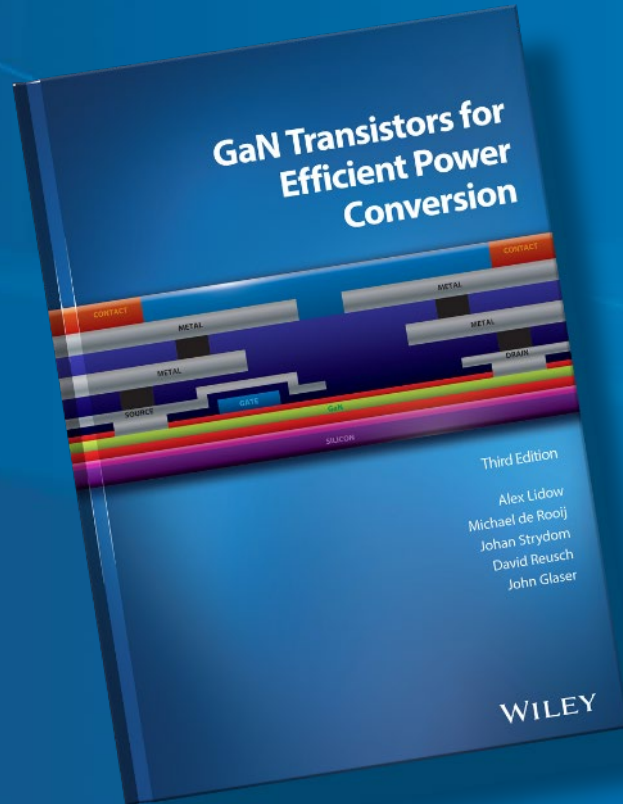
Model Parameter	Value	Unit
Rth1	1.35e-02	°C/W
Rth2	5.06e-02	
Rth3	2.87e-01	
Cth1	6.55e-05	J/°C
Cth2	1.61e-03	
Cth3	4.41e-03	



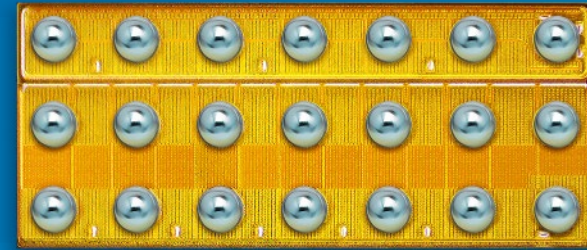


How To GaN Video Series

epc-co.com



3rd Edition Textbook



eGaN[®] FETs and ICs

Evaluation
Kits

