

Thermal Model of EPC2302



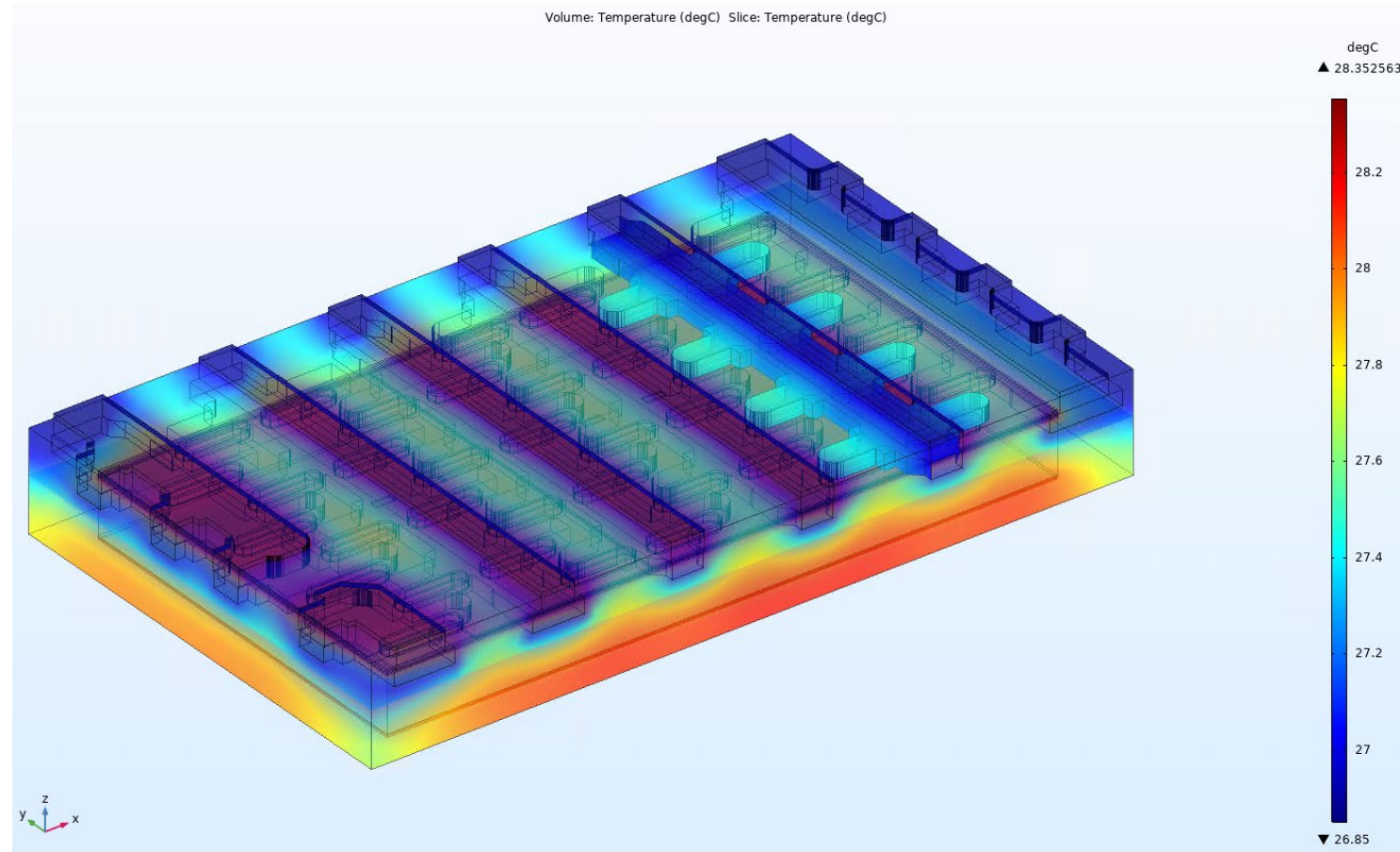
EPC2302 FEA thermal simulation



- The thermal model applies to EPC2302.
- 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.

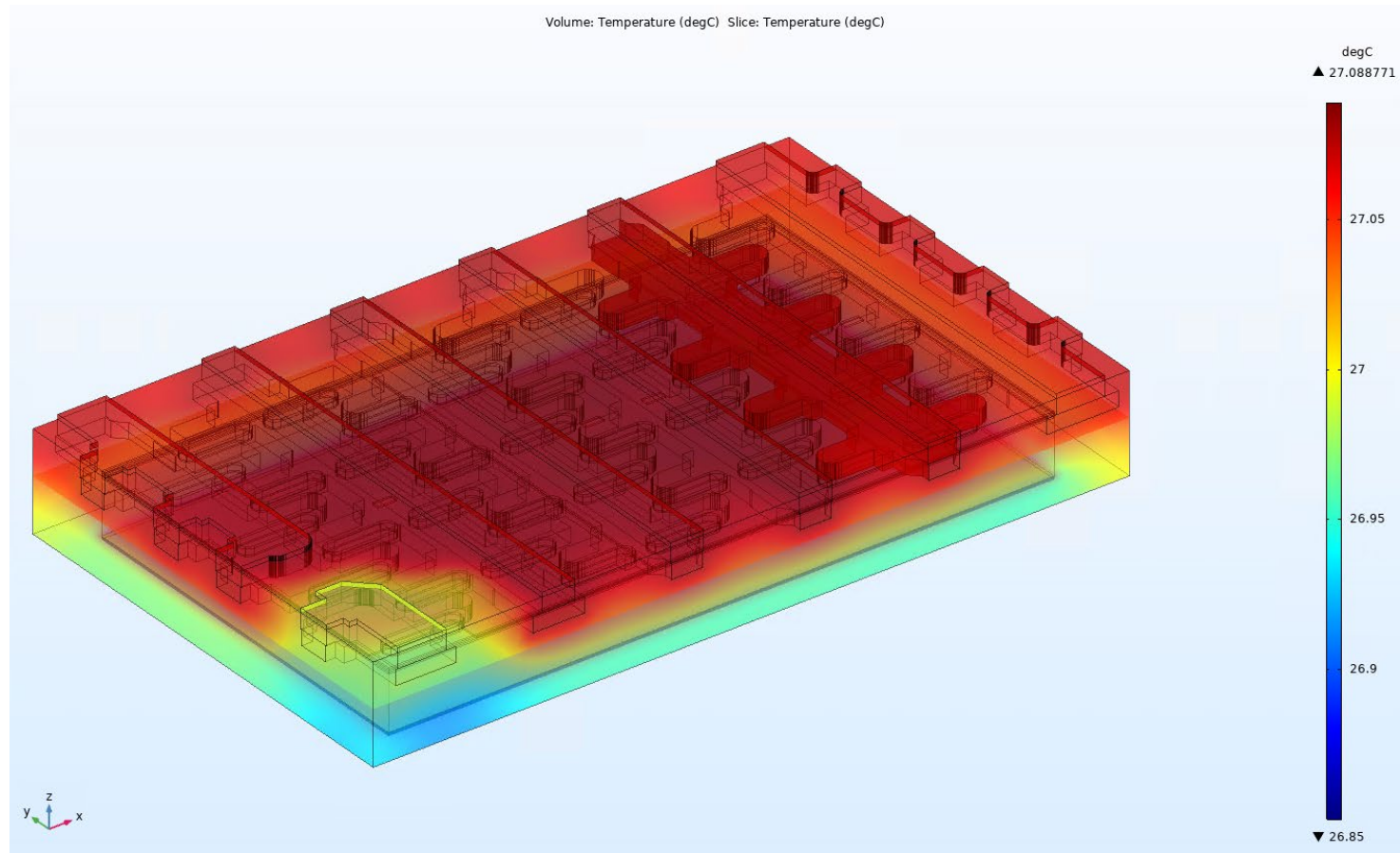
Steady-state $R_{\Theta JB}$

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



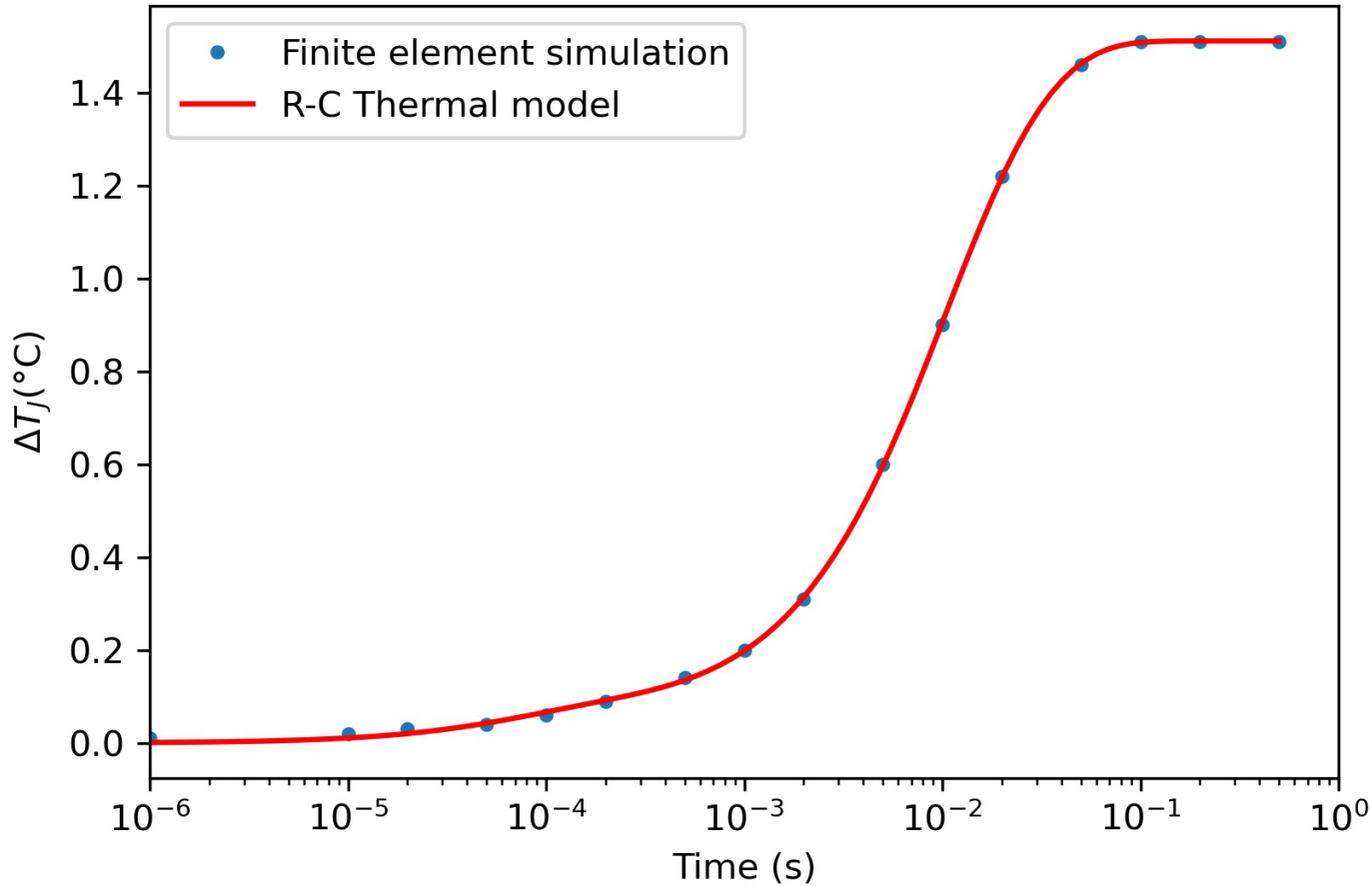
Steady-state $R_{\Theta Jc}$

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

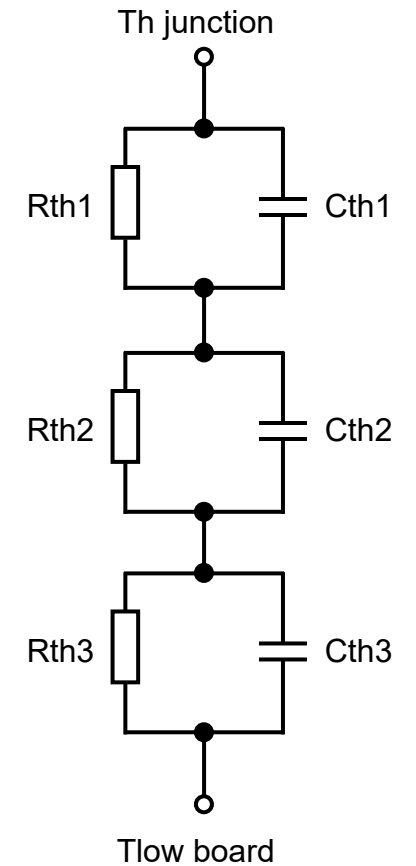


$Z_{\Theta JB}$ R-C thermal model

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

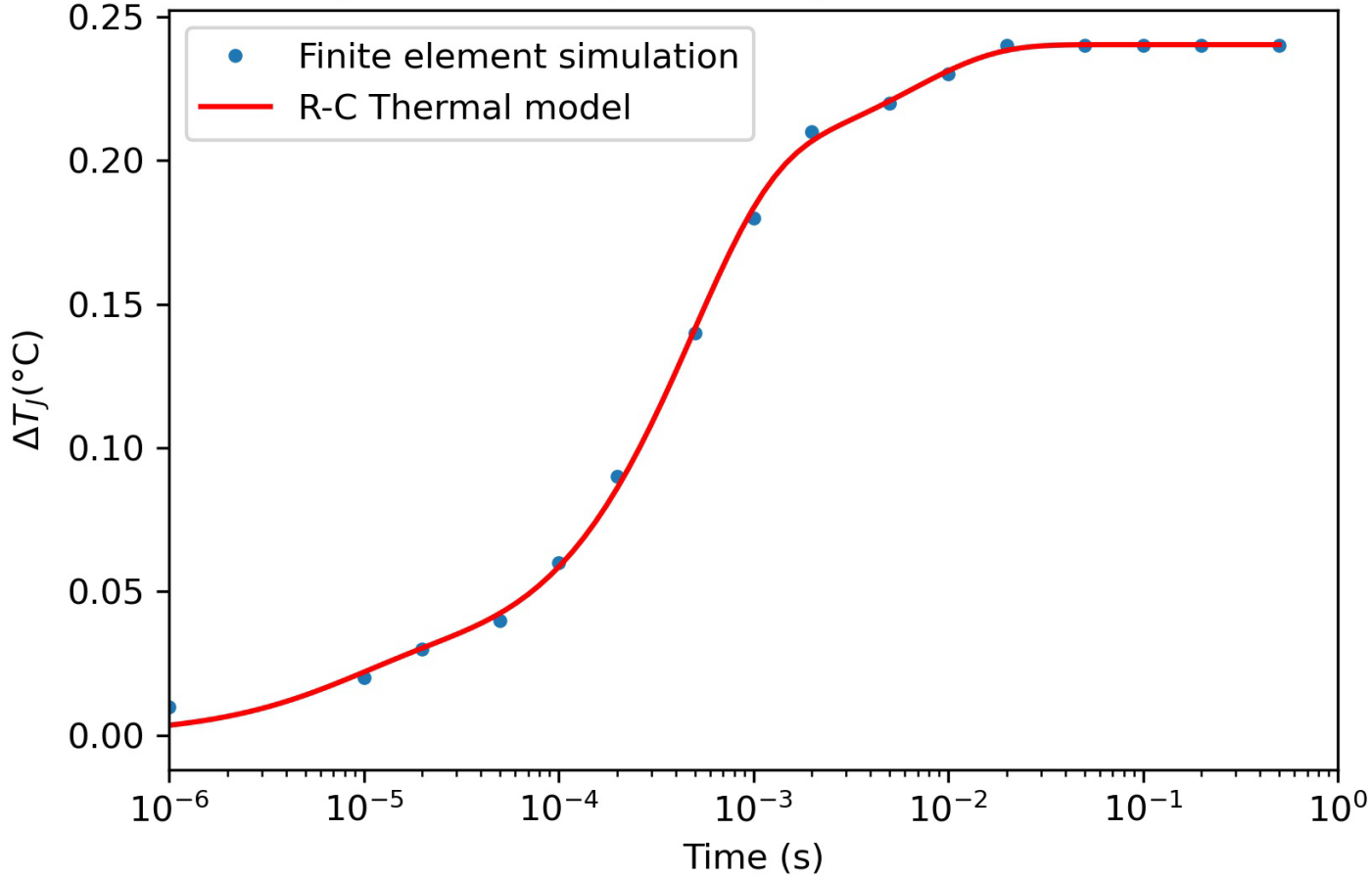


Model Parameter	Value	Unit
Rth1	6.83e-02	°C/W
Rth2	6.93e-01	
Rth3	7.49e-01	
Cth1	9.83e-04	J/°C
Cth2	1.04e-02	
Cth3	2.44e-02	

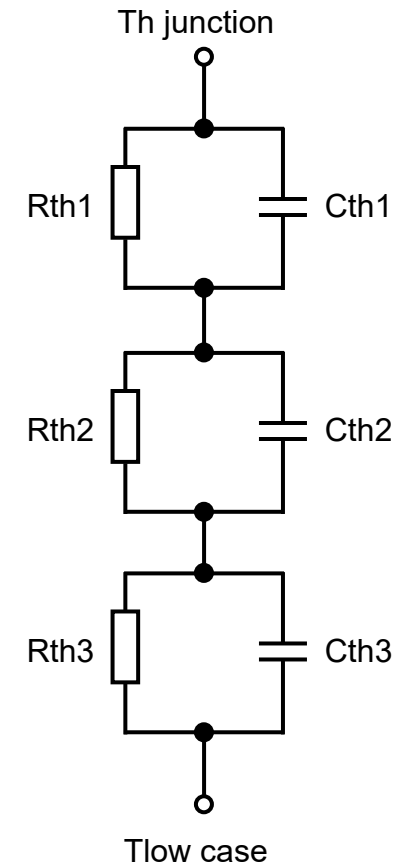


$Z_{\Theta JC}$ R-C thermal model

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



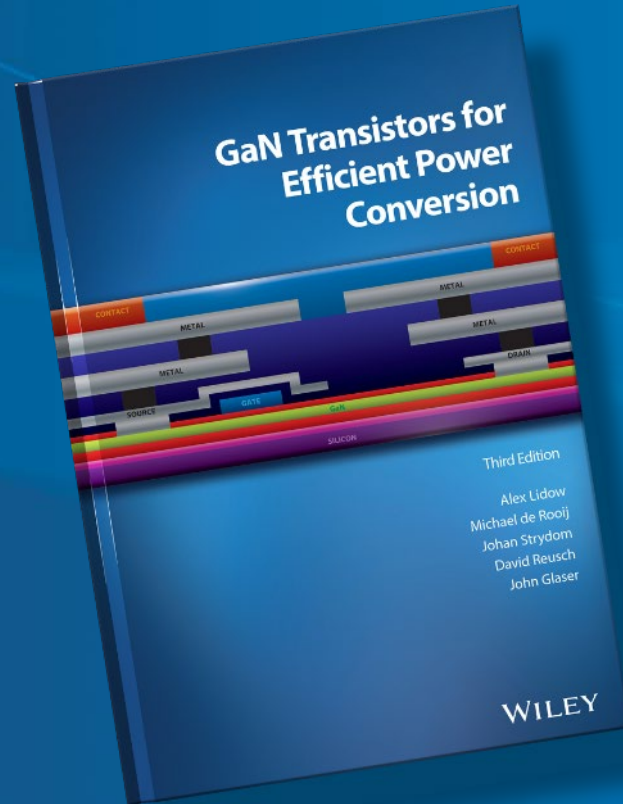
Model Parameter	Value	Unit
Rth1	2.47e-02	°C/W
Rth2	4.21e-02	
Rth3	1.73e-01	
Cth1	3.01e-04	J/°C
Cth2	1.55e-01	
Cth3	2.71e-03	



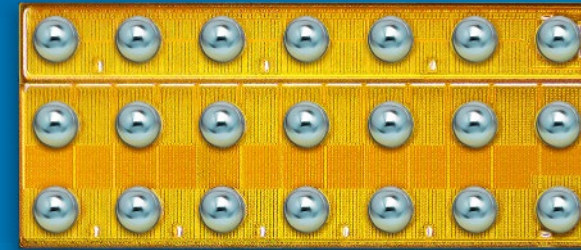


How To GaN Video Series

epc-co.com



3rd Edition Textbook



eGaN[®] FETs and ICs

Evaluation Kits

