

Thermal Model of EPC2066

EPC



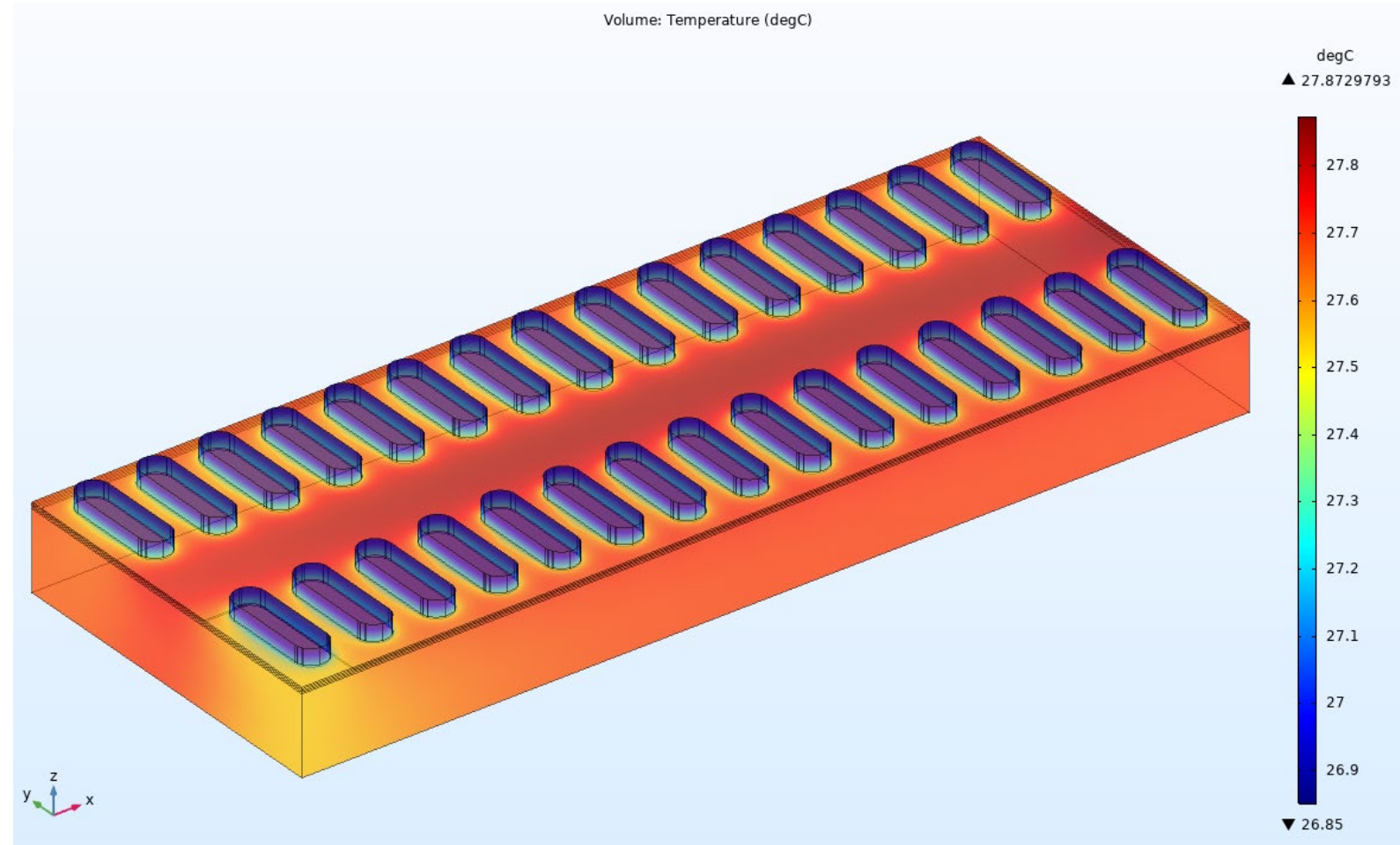
EPC2066 FEA thermal simulation



- The thermal model applies to EPC2066.
- 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.

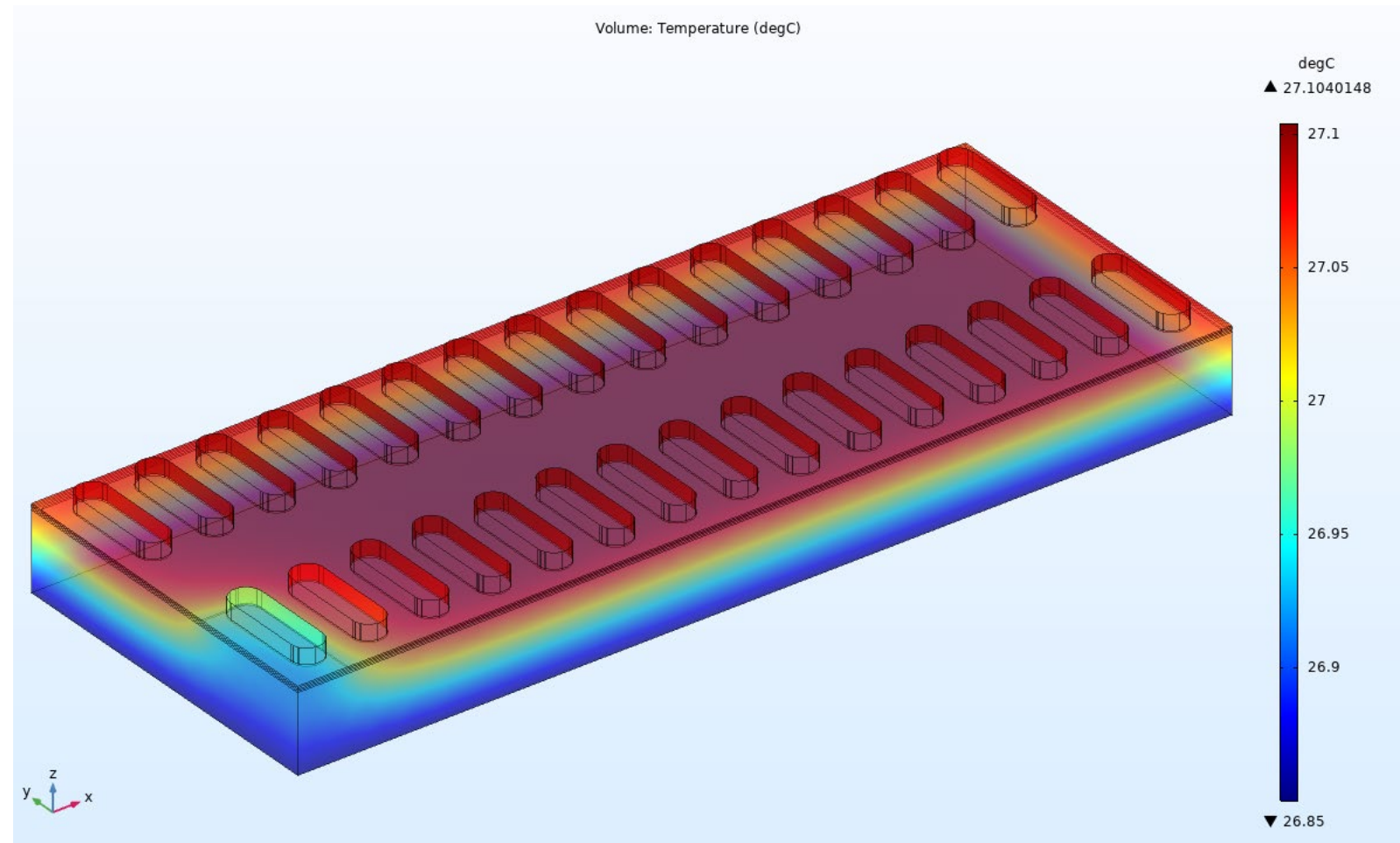
Steady-state $R_{\Theta JB}$

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



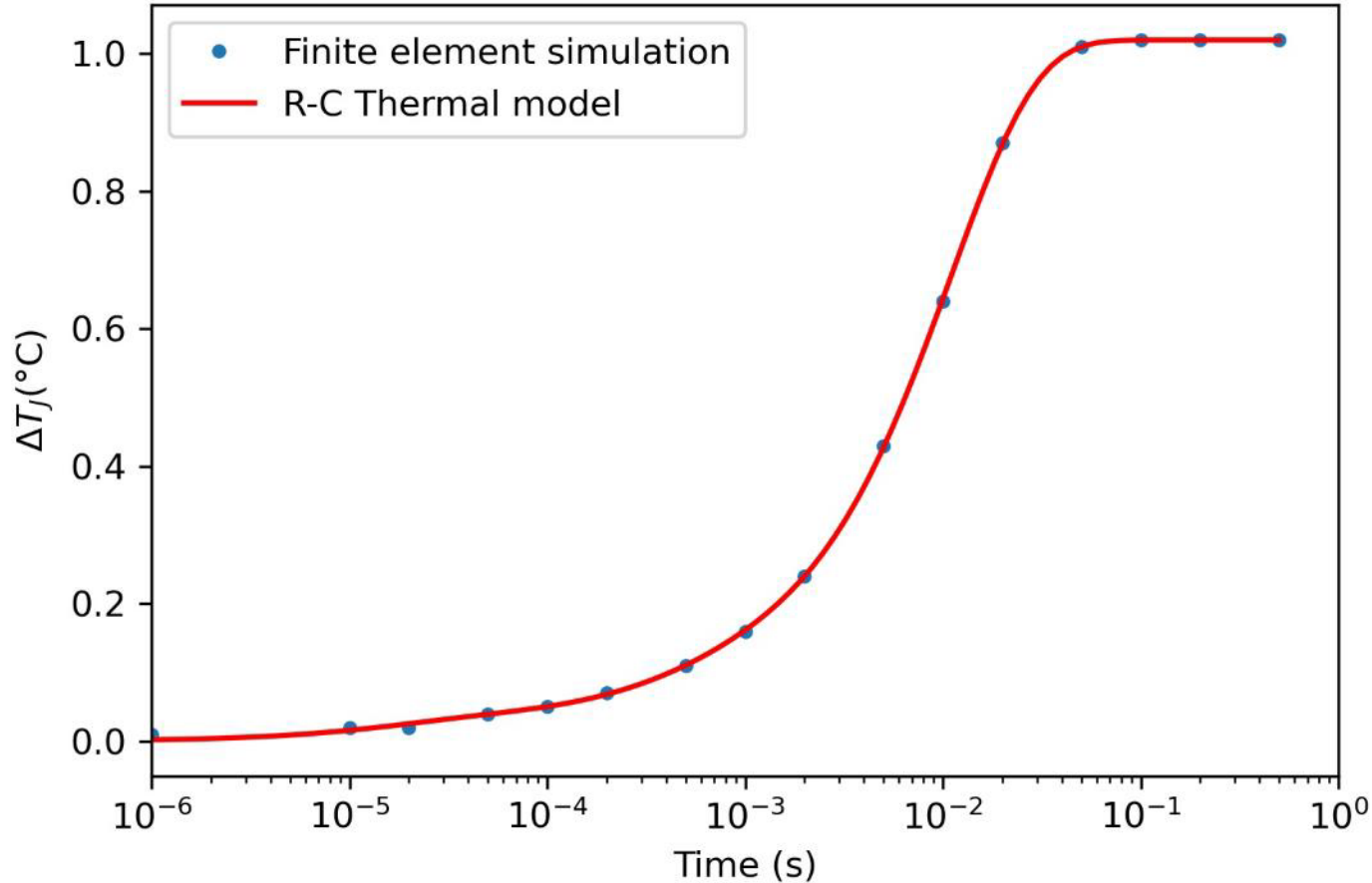
Steady-state $R_{\Theta Jc}$

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

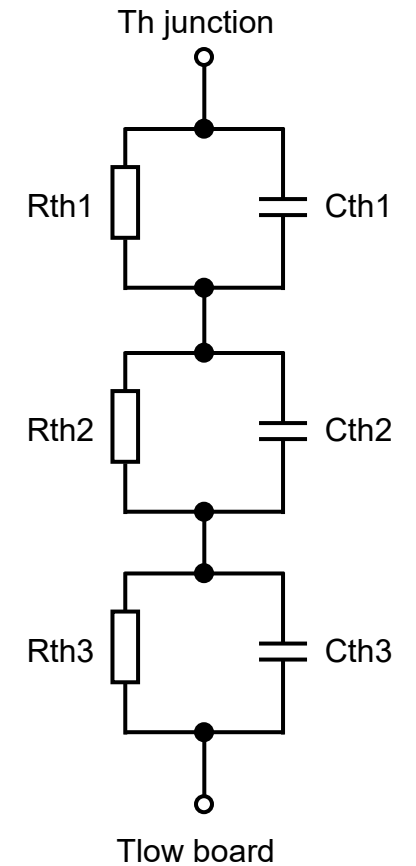


$Z_{\Theta JB}$ R-C thermal model

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

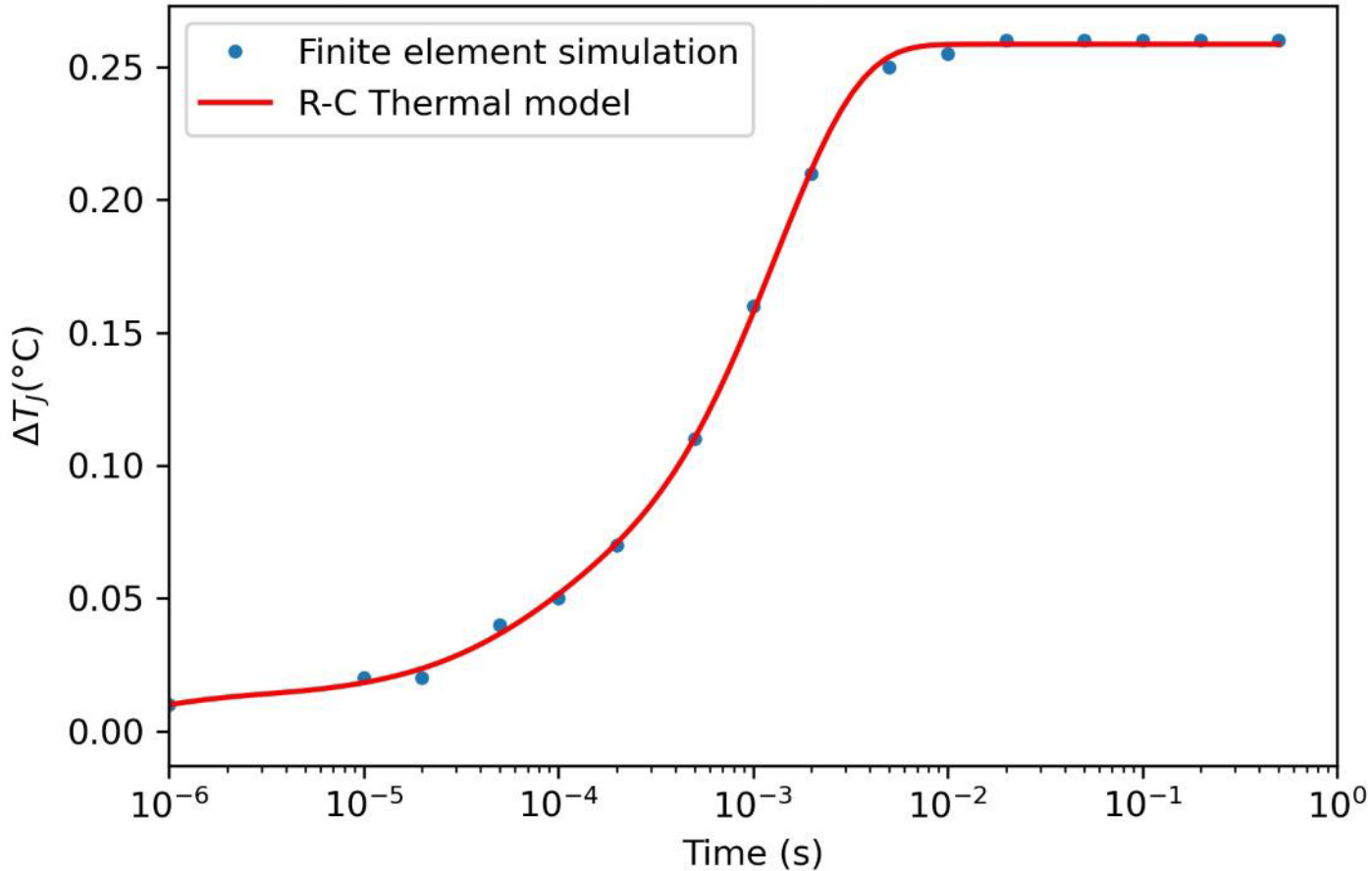


Model Parameter	Value	Unit
Rth1	3.01e-02	°C/W
Rth2	5.48e-02	
Rth3	9.35e-01	
Cth1	5.51e-04	J/°C
Cth2	7.49e-03	
Cth3	1.18e-02	

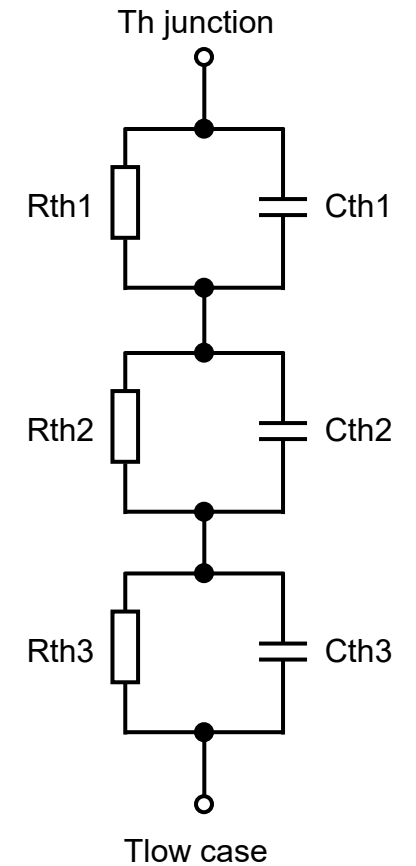


$Z_{\Theta JC}$ R-C thermal model

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



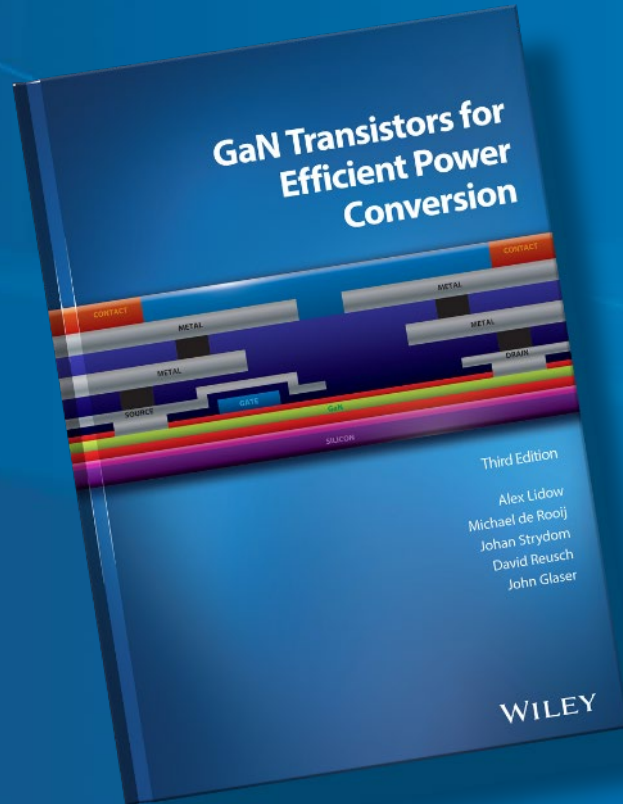
Model Parameter	Value	Unit
Rth1	1.22e-02	°C/W
Rth2	2.89e-02	
Rth3	2.18e-01	
Cth1	5.62e-05	J/°C
Cth2	2.09e-03	
Cth3	6.02e-03	



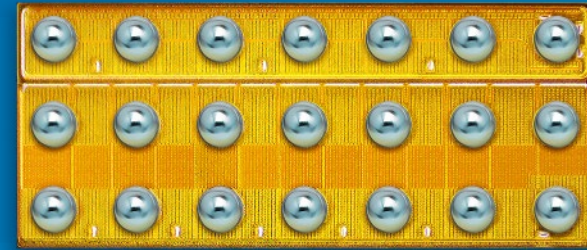


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