

Thermal Model of EPC2308

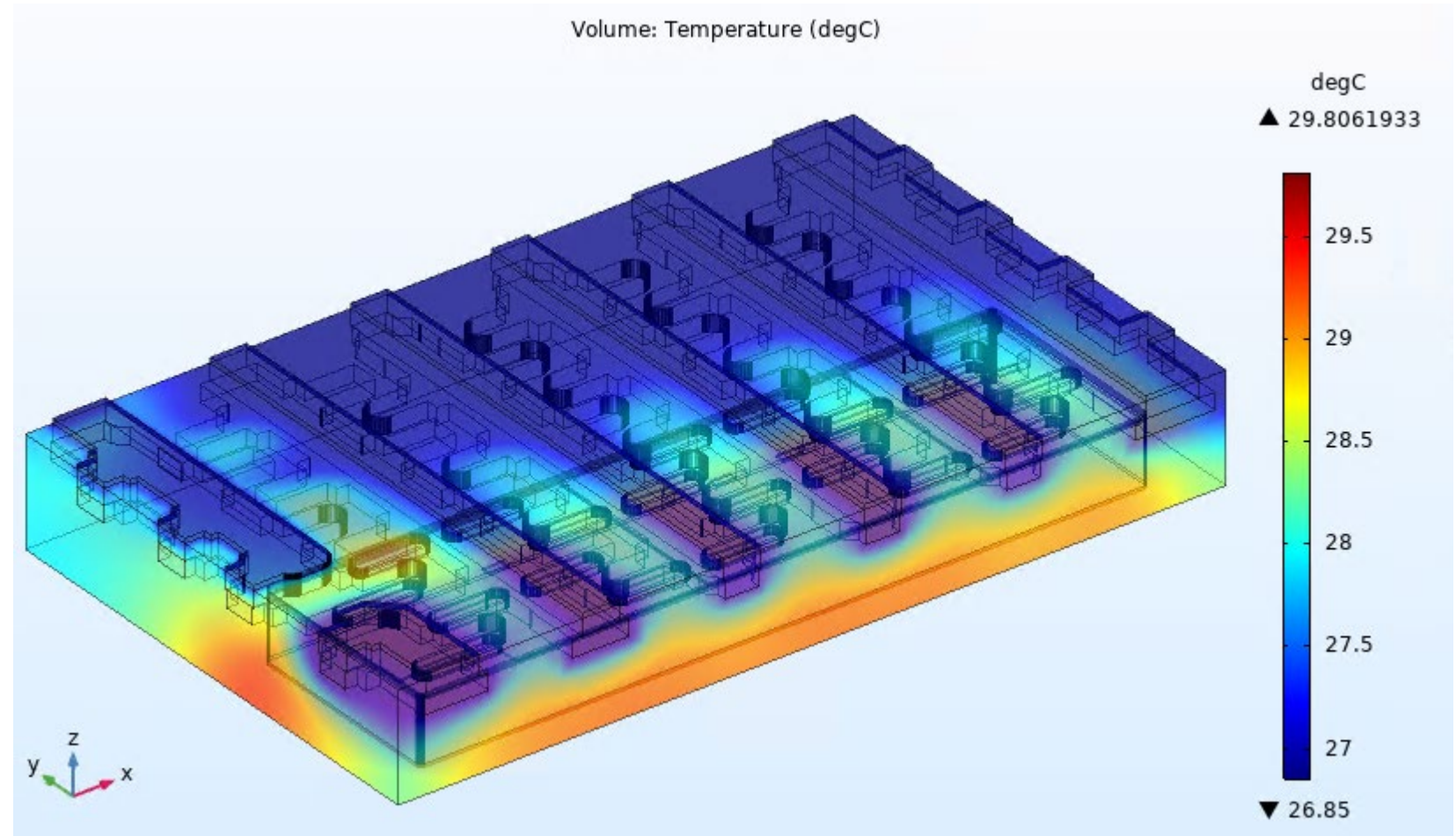
EPC2308 FEA thermal simulation



- The thermal model applies to EPC2308.
- 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.

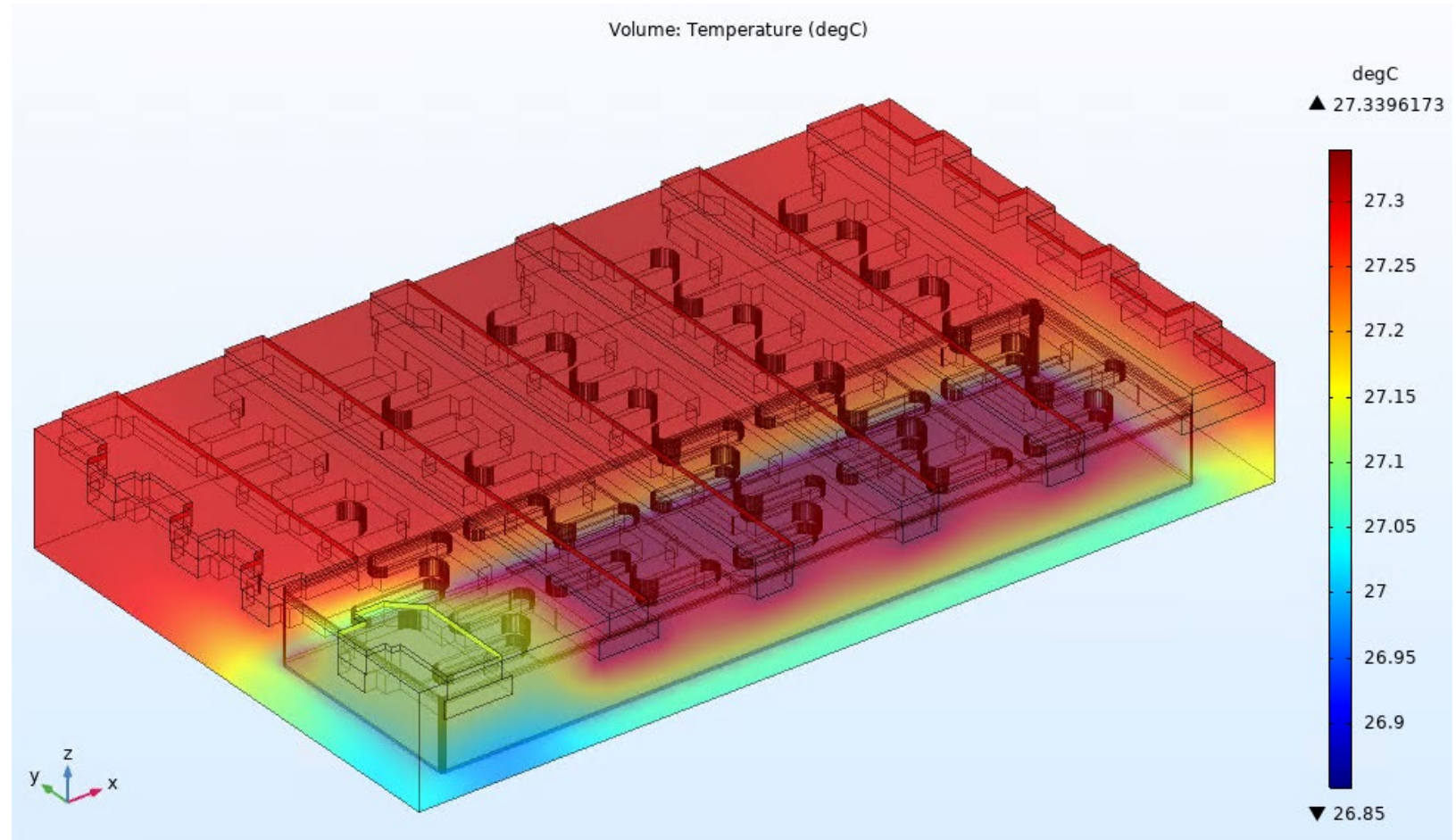
Steady-state $R_{\Theta JB}$

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



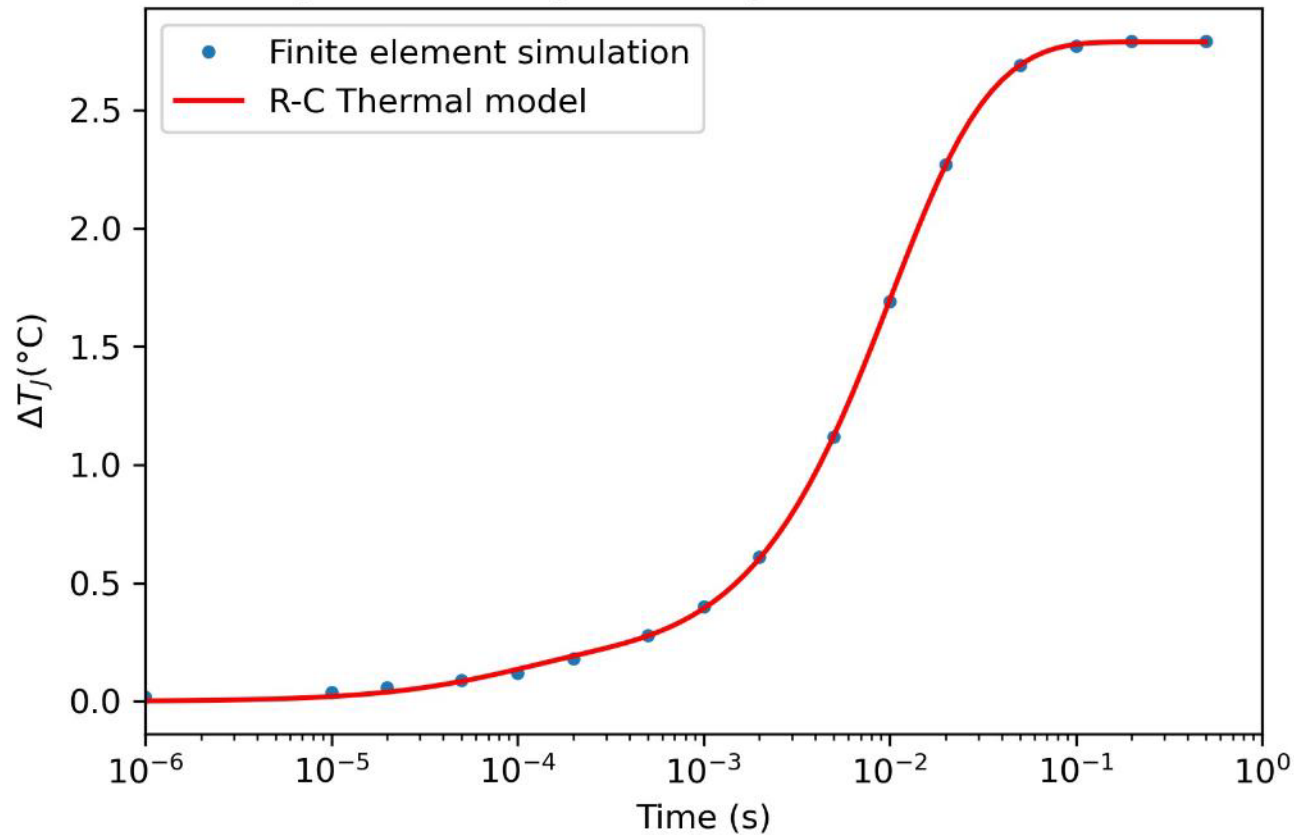
Steady-state $R_{\theta Jc}$

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

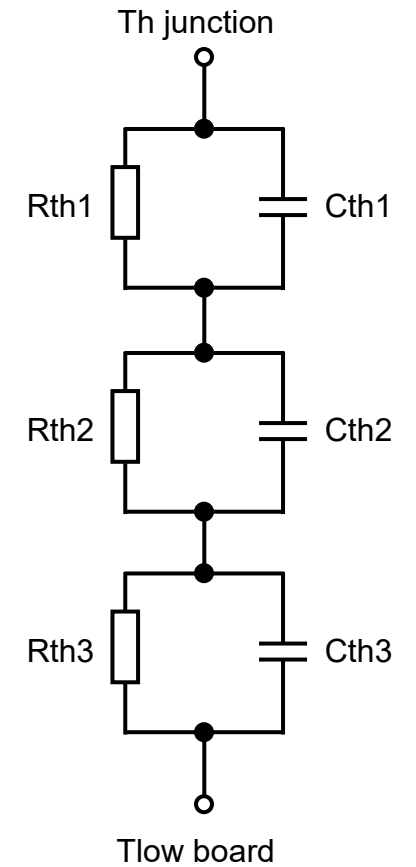


$Z_{\Theta JB}$ R-C thermal model

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

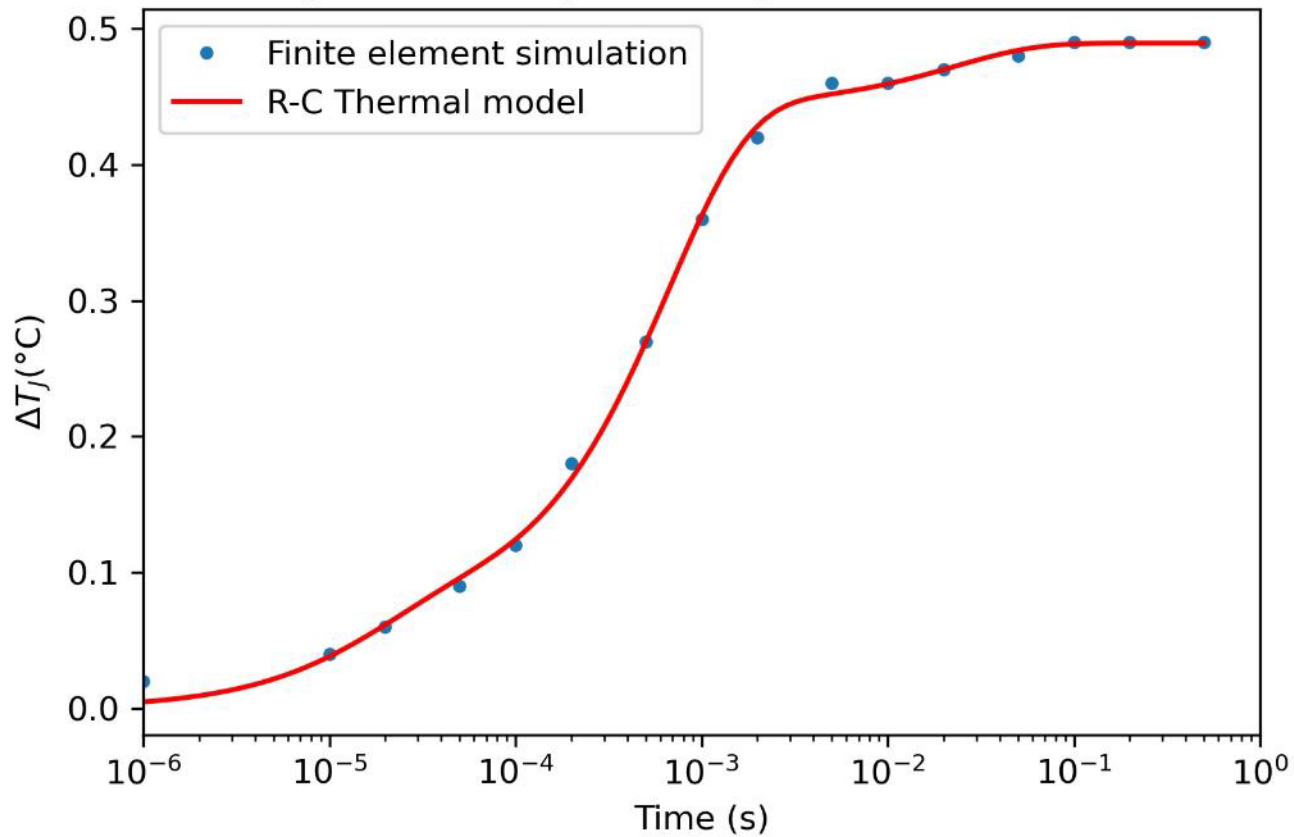


Model Parameter	Value	Unit
Rth1	1.56e-01	°C/W
Rth2	8.97e-01	
Rth3	1.73e+00	
Cth1	5.14e-04	J/°C
Cth2	2.47e-02	
Cth3	4.79e-03	

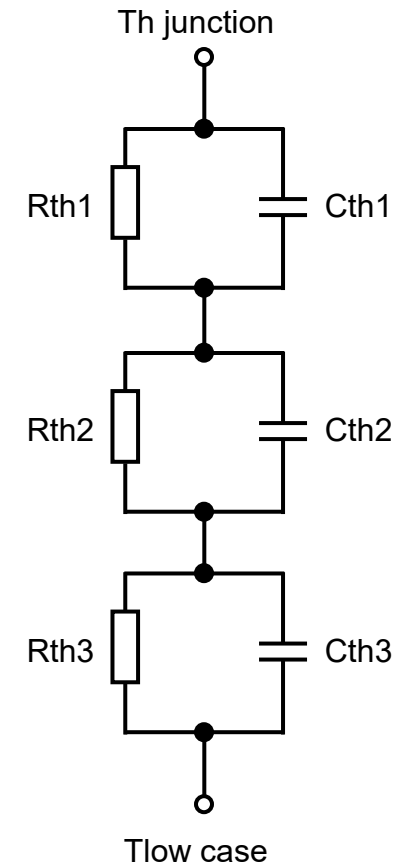


$Z_{\Theta JC}$ R-C thermal model

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



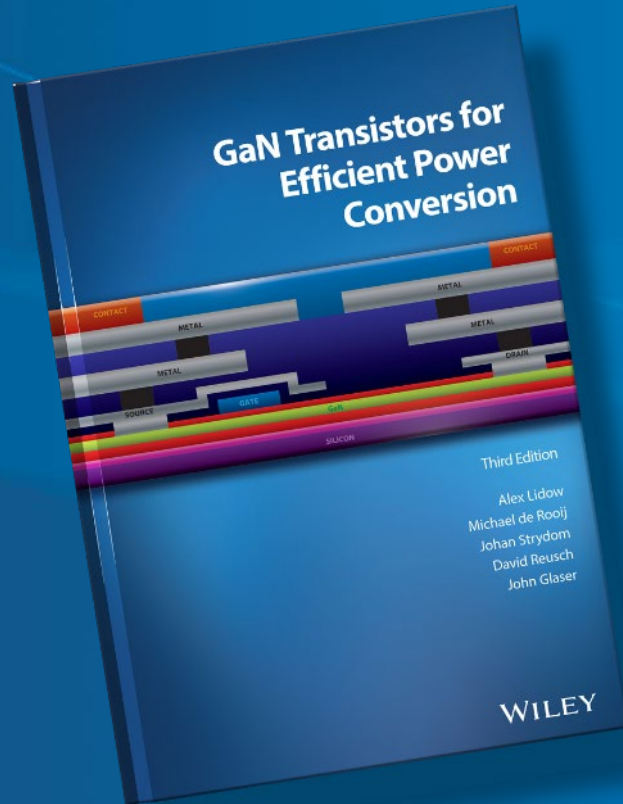
Model Parameter	Value	Unit
Rth1	7.26e-02	°C/W
Rth2	4.62e-02	
Rth3	3.71e-01	
Cth1	2.31e-04	J/°C
Cth2	5.00e-01	
Cth3	1.80e-03	



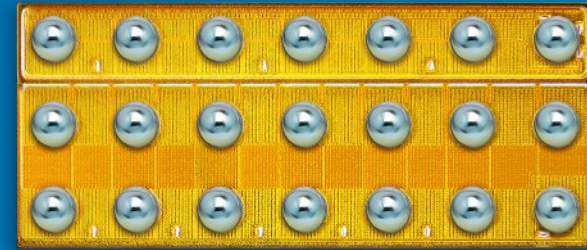


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