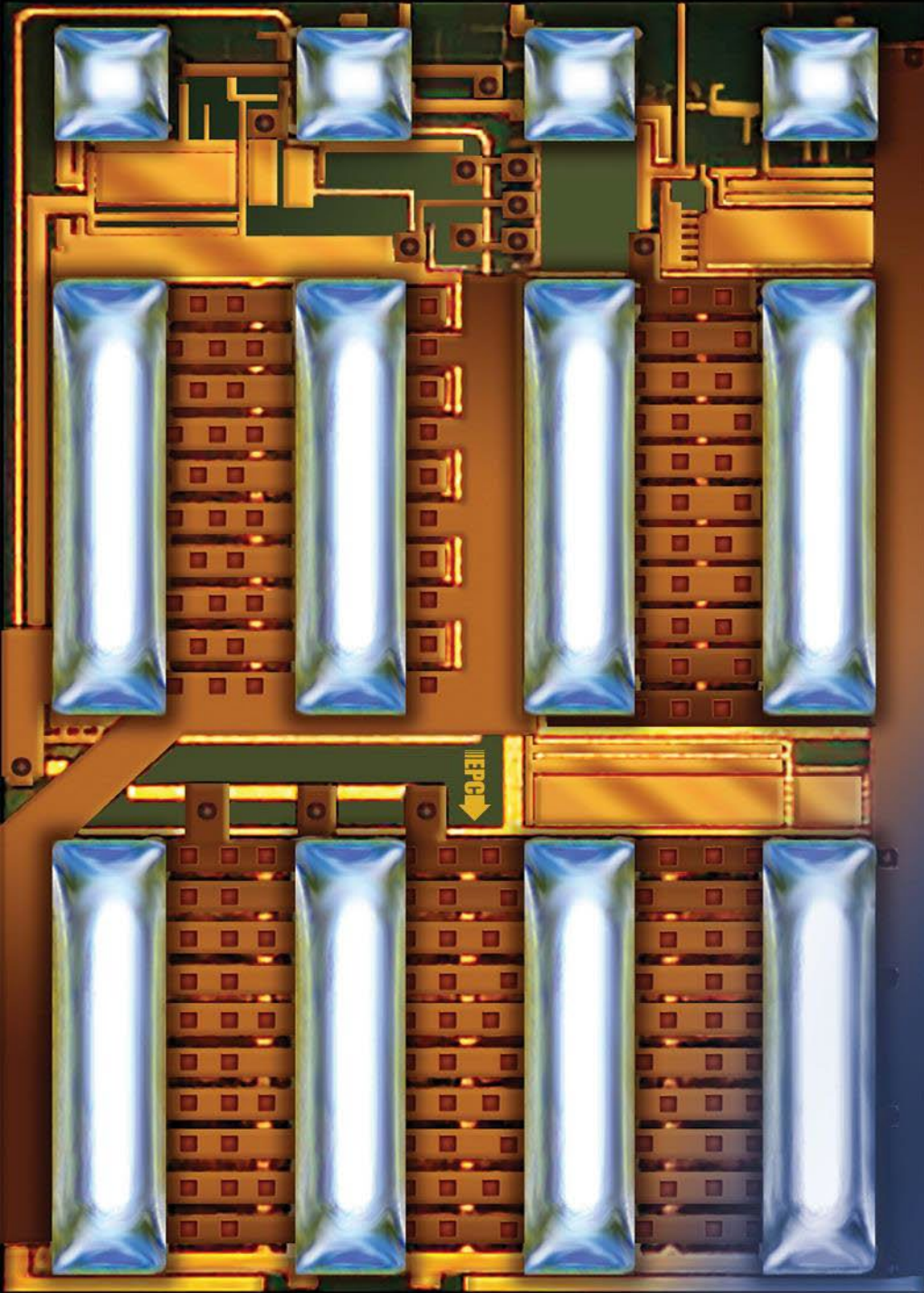




Thermal Model of EPC2370



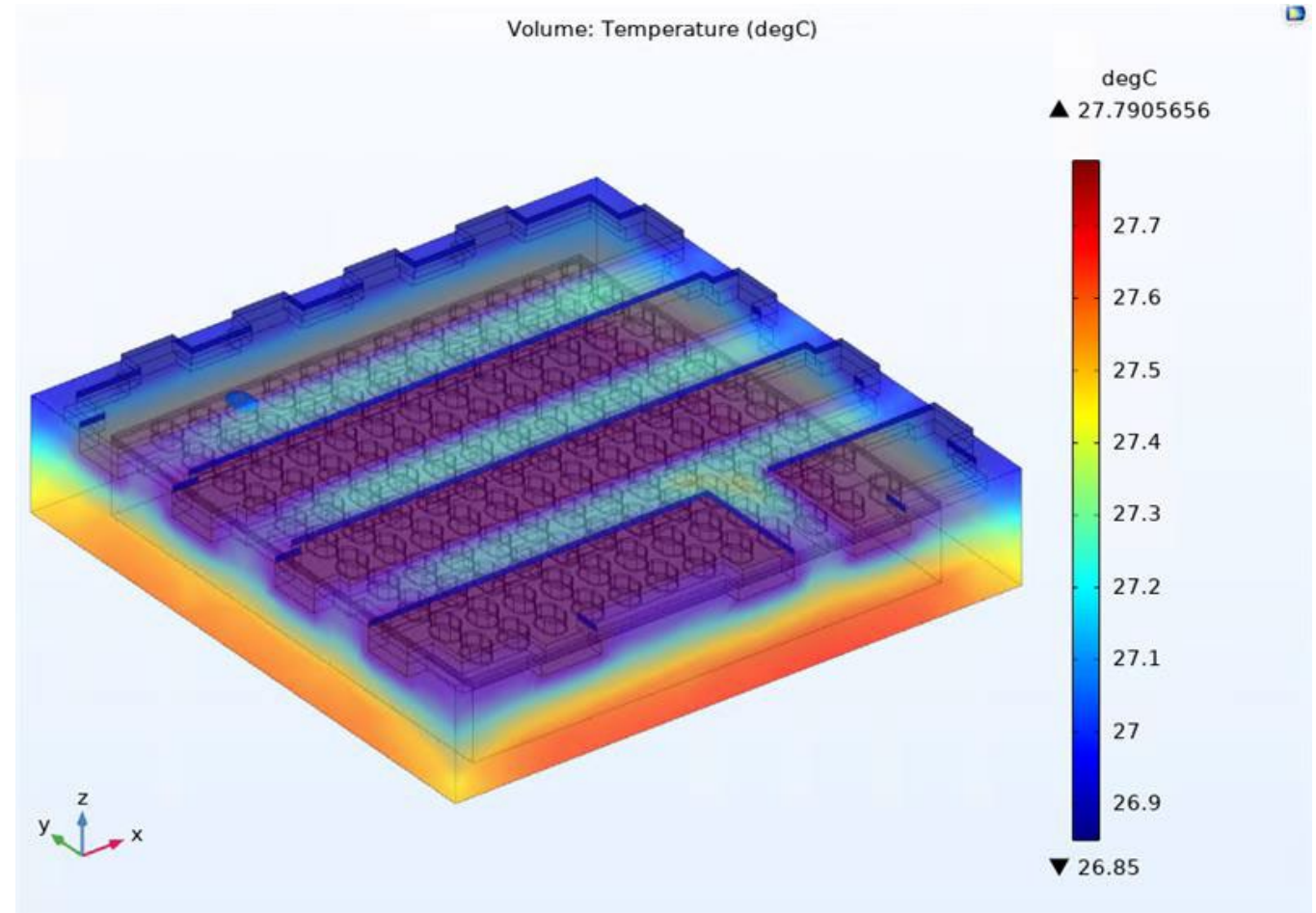
EPC2370 FEA thermal simulation



- The thermal model applies to EPC2370.
- 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.

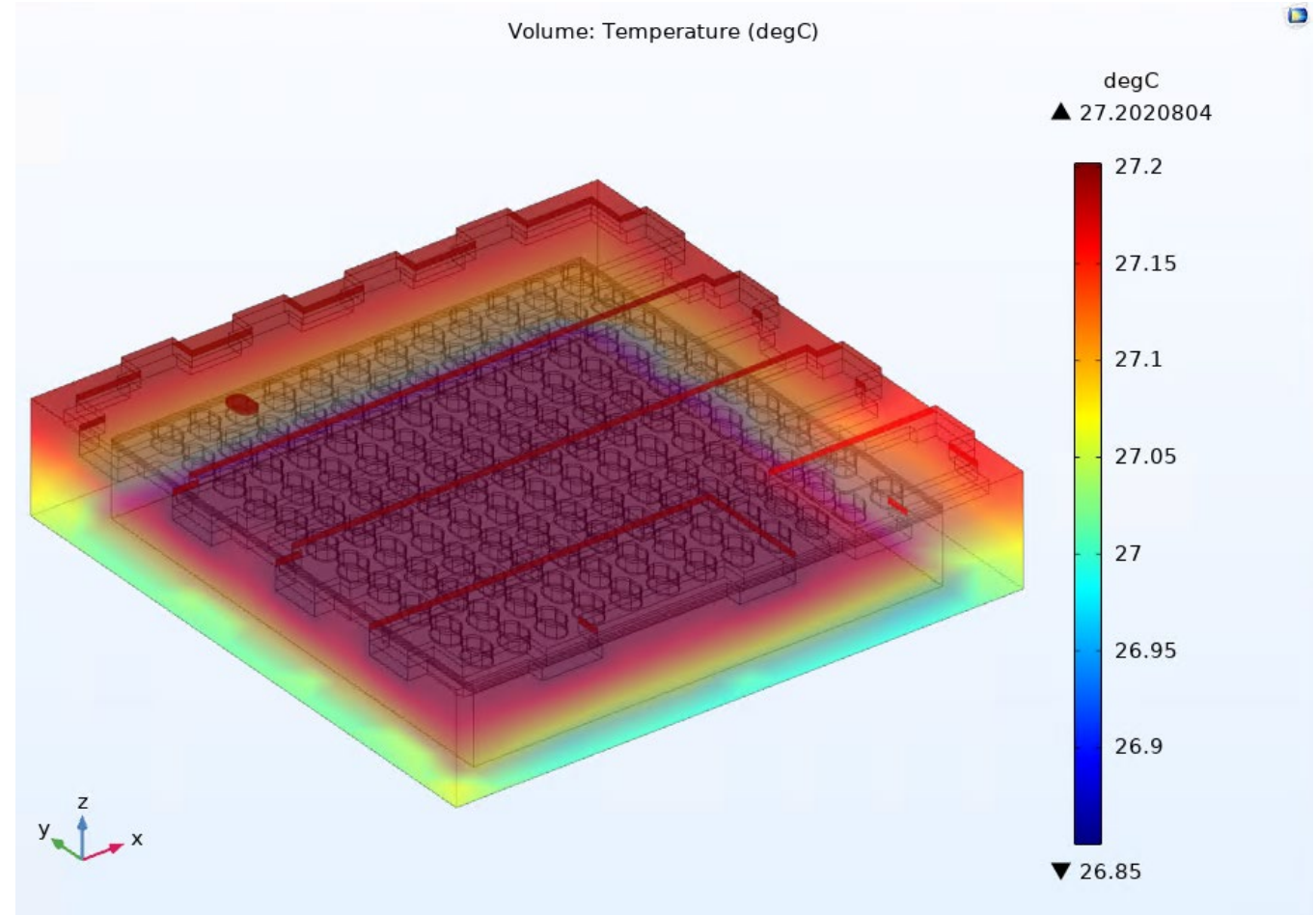
Steady-state $R_{\Theta JB}$

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



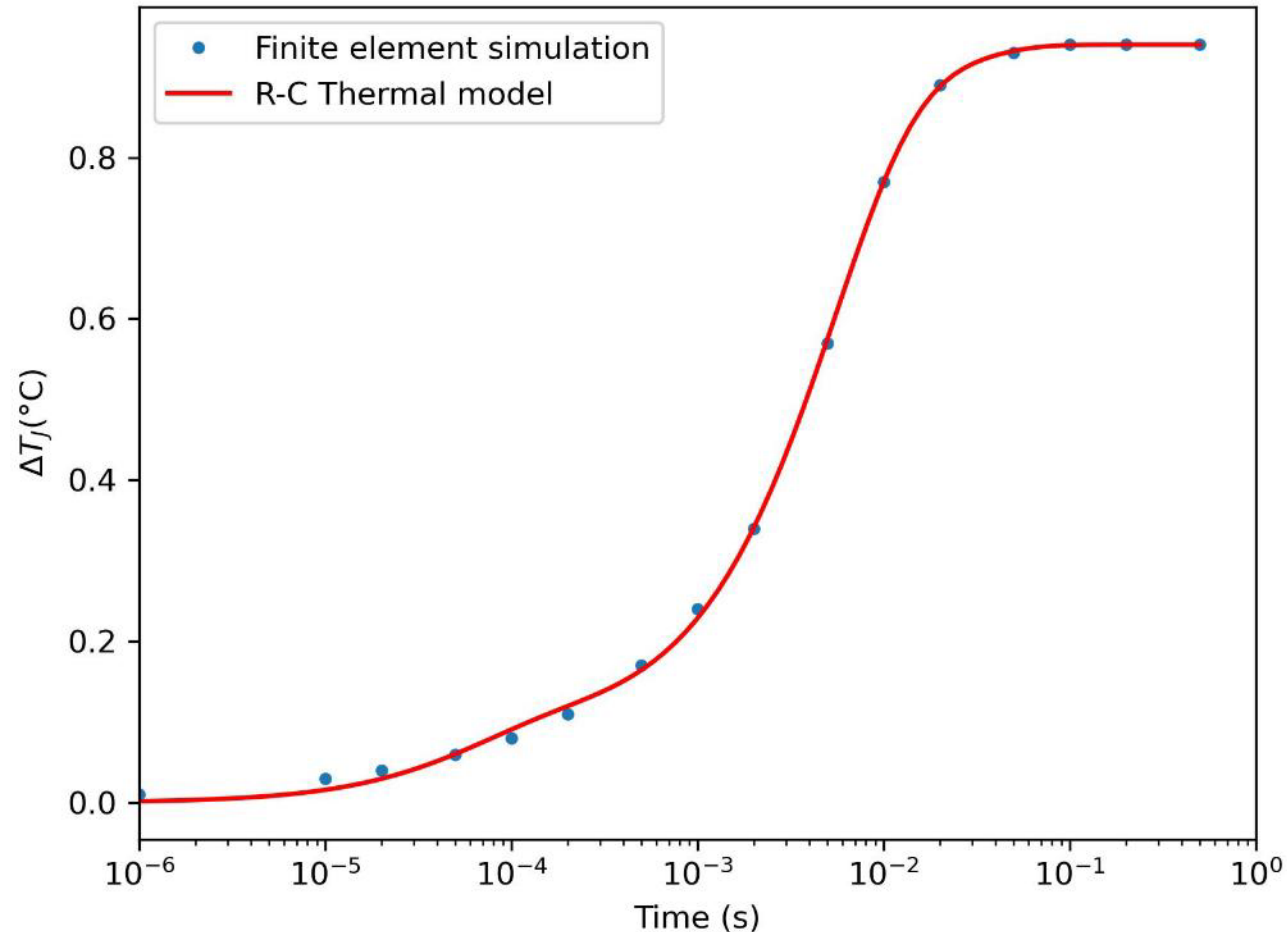
Steady-state $R_{\Theta JC}$

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

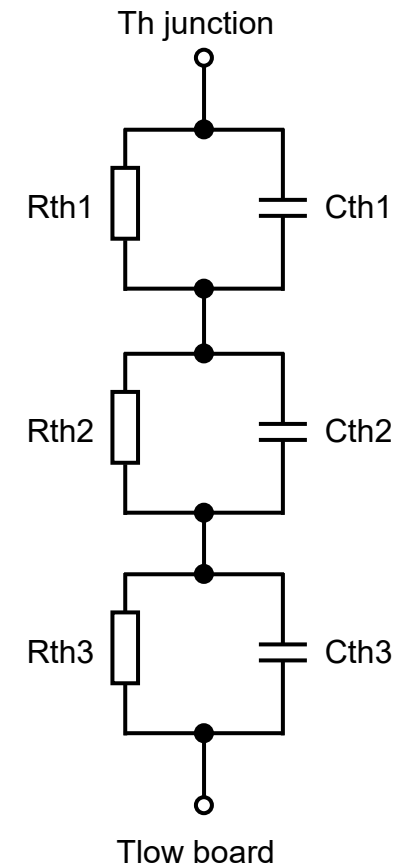


$Z_{\Theta JB}$ R-C thermal model

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

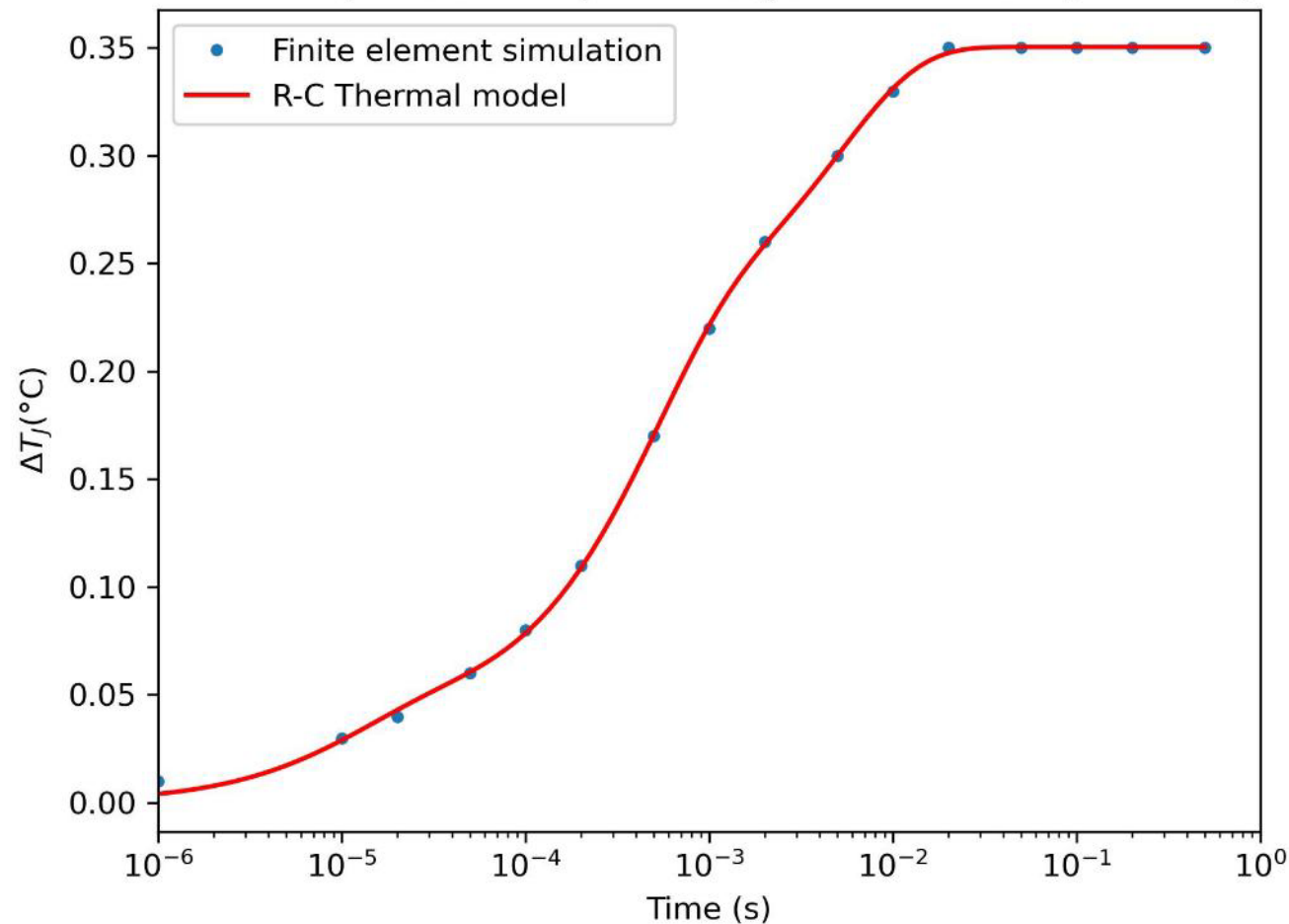


Model Parameter	Value	Unit
Rth1	9.39E-02	$^{\circ}\text{C}/\text{W}$
Rth2	9.91E-02	
Rth3	7.47E-01	
Cth1	6.41E-04	$\text{J}/^{\circ}\text{C}$
Cth2	1.97E-01	
Cth3	7.02E-03	

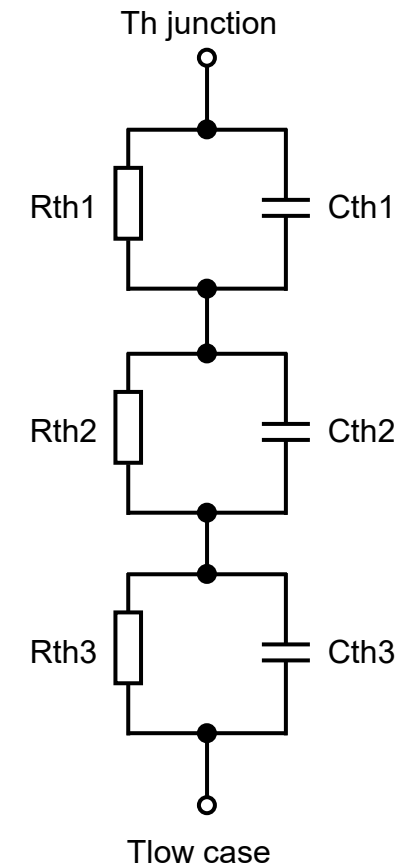


$Z_{\Theta JC}$ R-C thermal model

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



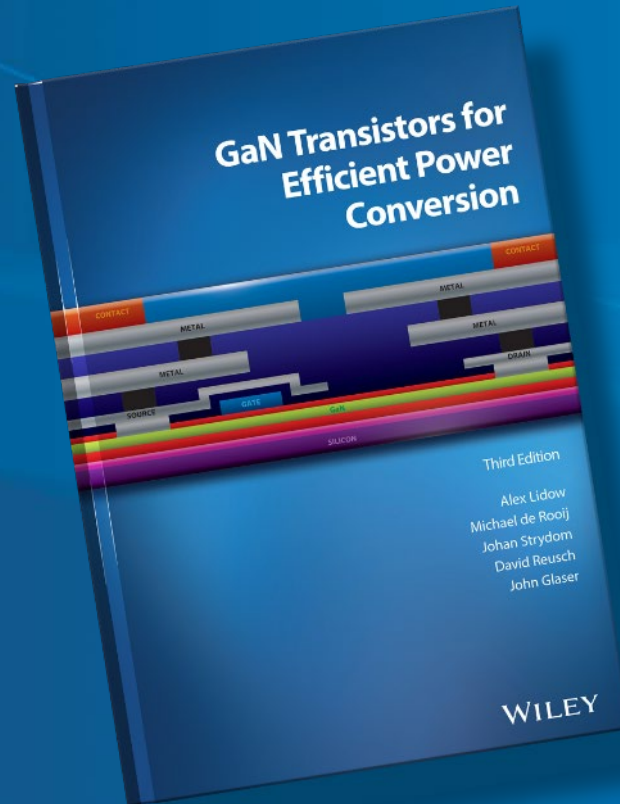
Model Parameter	Value	Unit
Rth1	4.17E-02	$^{\circ}\text{C}/\text{W}$
Rth2	1.31E-01	
Rth3	1.77E-01	
Cth1	2.63E-04	$\text{J}/^{\circ}\text{C}$
Cth2	3.97E-02	
Cth3	2.62E-03	



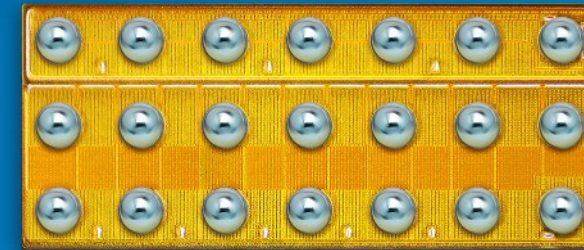


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