The eGaN® FET
Journey Continues

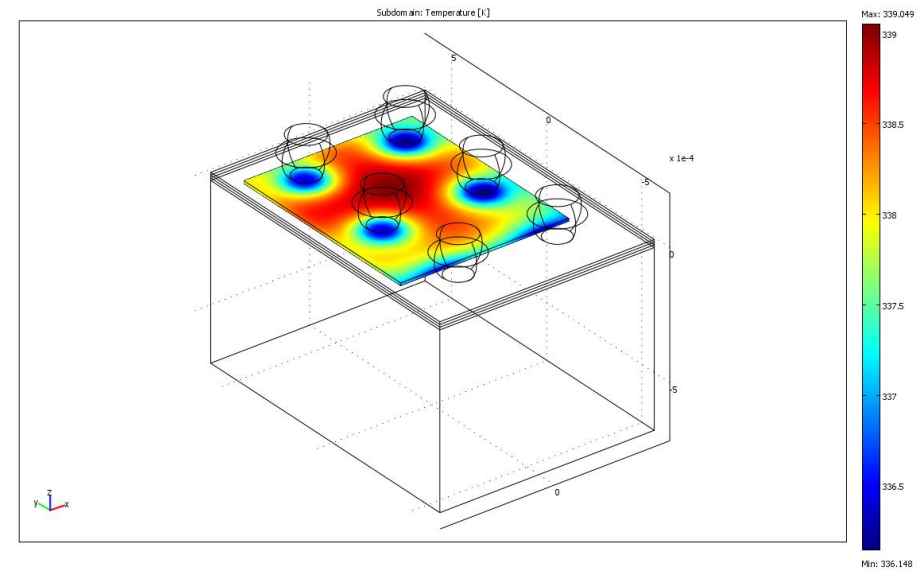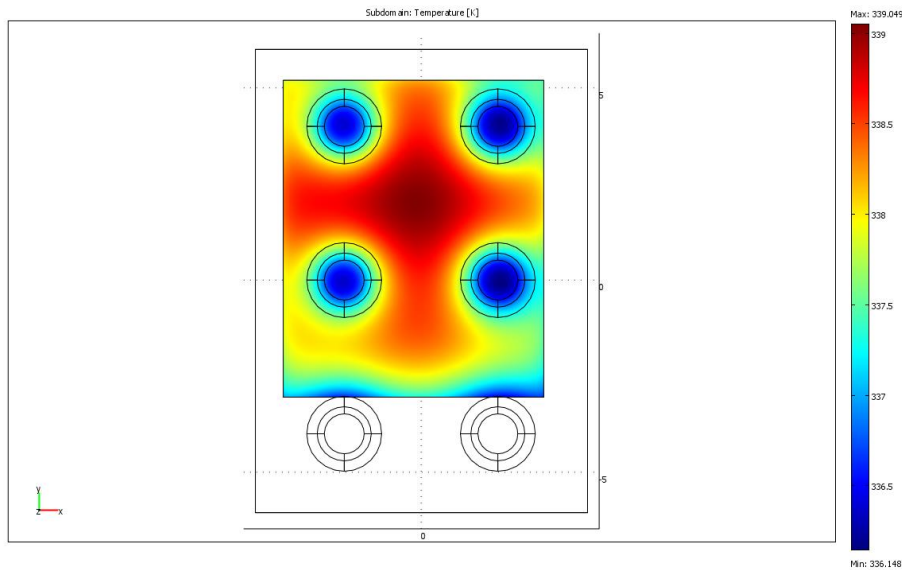IIIEPC

EFFICIENT POWER CONVERSION

EPC2216 Thermal Model

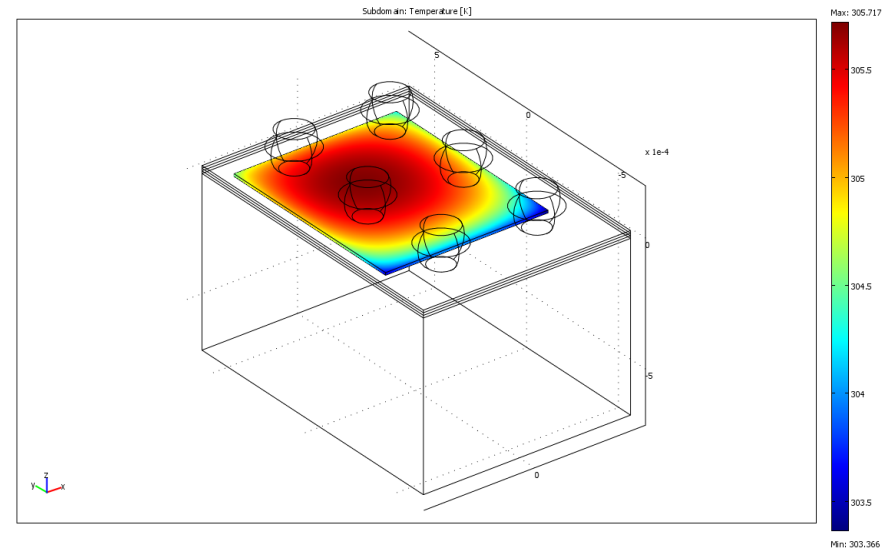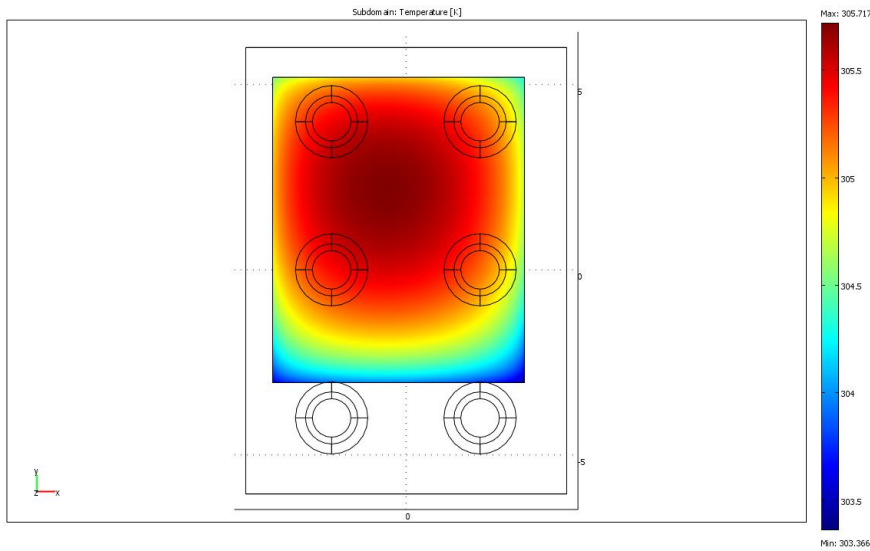*Efficient Power Conversion Corporation*

Steady State $R_{\Theta JB}$

- ## $R_{\Theta JB}$ = 39 °C/W

- 1 W dissipation in active volume
- Top of bumps at 300K

Steady State $R_{\Theta JC}$

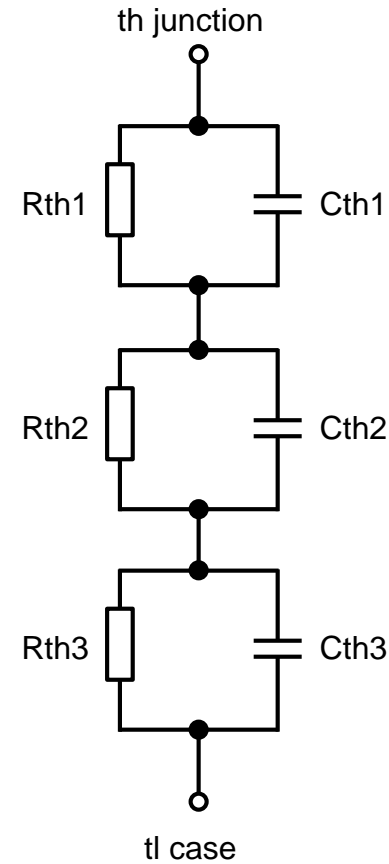- $R_{\Theta JC} = 5.7 \, °C/W$

- 1 W dissipation in active volume
- Backside Si at 300K

Transient $Z_{\Theta JB}$

- 1 W total is dissipated in the device

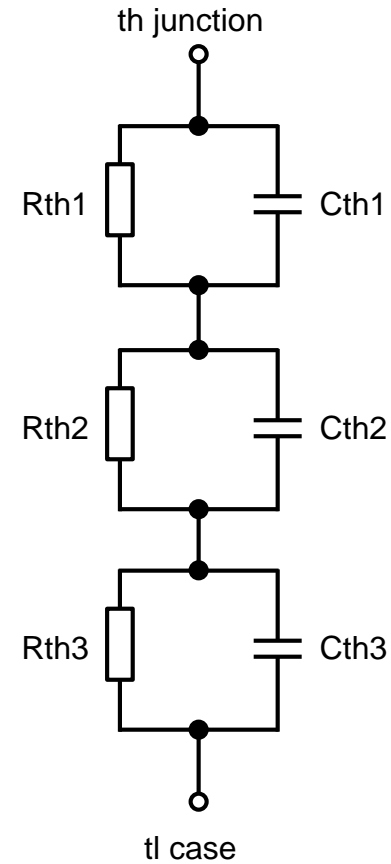| Fitting parameter	Value	Unit
Rth1	36.7	°C/W
Rth2	1.9	
Rth3	3.78E-1	
Cth1	1.52E-3	J/°C
Cth2	3.54E-4	
Cth3	2.62E-4	

th junction

Rth1 Cth1

Rth2 Cth2

Rth3 Cth3

tl case

Transient $Z_{\Theta JC}$

- 1 W total is dissipated in the device

Fitting parameter	Value	Unit
Rth1	3.99	°C/W
Rth2	1.6	
Rth3	1.08E-1	
Cth1	9.68E-4	J/°C
Cth2	1.98E-4	
Cth3	9.61E-4	

th junction

Rth1   Cth1

Rth2   Cth2

Rth3   Cth3

tl case

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The end of the road for silicon...

but a clear road ahead for GaN FETs and ICs!

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