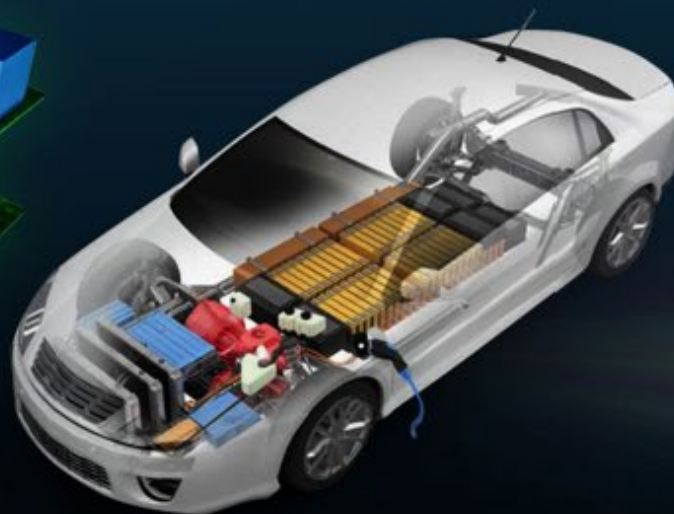


Low $R_{DS(ON)}$ GaN devices to deliver High Efficiency High Power



High power focus of VisIC

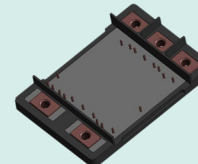
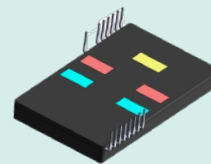
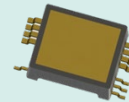
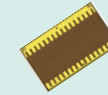
VisIC's D³GaN platform is well-positioned to meet the increasing demand in today's high-power density demands of well-established EV traction inverter (80kW -200kW; < 30 kHz) and emerging GenAI Data centers energy conversion (10-30 kW, 150 kHz – 500 kHz)

End Market Applications

- EV traction inverter (80kW -200kW; < 30 kHz): BEV, HEV/PHEV
- GenAI energy conversion (400V||800V||1000V / 48V||52V; up to 500 kHz)

Products

- Bare dice: 6 mOhm to 150 mOhm
- Discrete devices: 22 mOhm to 150 mOhm, 20 A to 100 A in TC /TG package; 6 mOhm in TC package
- Modules 1.7 mOhm to 4 mOhm, customer specific



Technology

- D3GaN: Direct Drive D-mode technology
- 6" and 8" 650V GaN
- 8" 1350V GaN in development
- LV MOSFET current sensing
Short Circuit Protection with detection time <100 ns

D3GaN : why D-mode

Not all GaN are Equal

I_D , A/mm	V_T , V
0.59	+0.65
0.37	+1.25
0.19	+1.81

E-mode

I_D , A/mm	V_T , V
0.6	-5.94
0.77	-7.12
1.1	-9.3

D-mode

Trade off between V_T and I_D is balanced at higher current for D-mode

D-mode can sustain active short circuit requirements:

3.7x operation current for D-mode vs 2.1 for E-mode)

- D-mode is more suitable for high current and $\rightarrow$ has lower \$/A
- Dynamic $R_{DS(ON)}$ of D-mode (properly designed) is <1%

