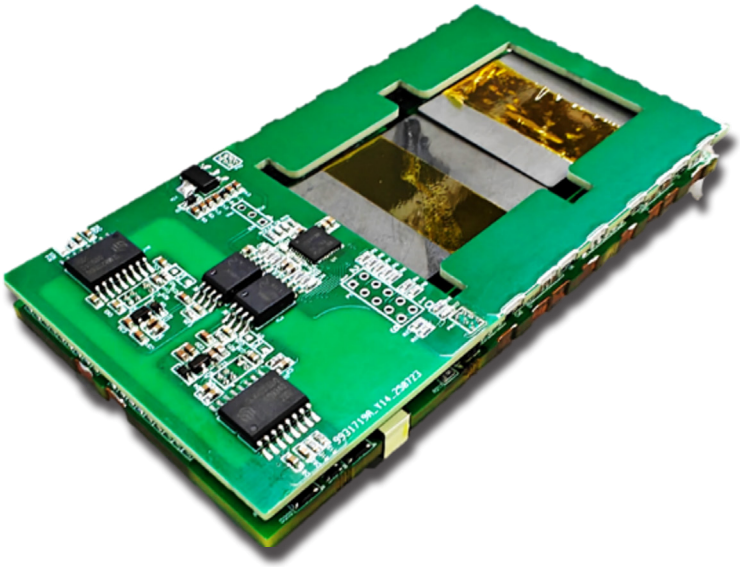
10 kW DC-DC Platform Delivering 98.5% for 800 V DC and +/-400 V Data Centers

Navitas
Electrify Our World™

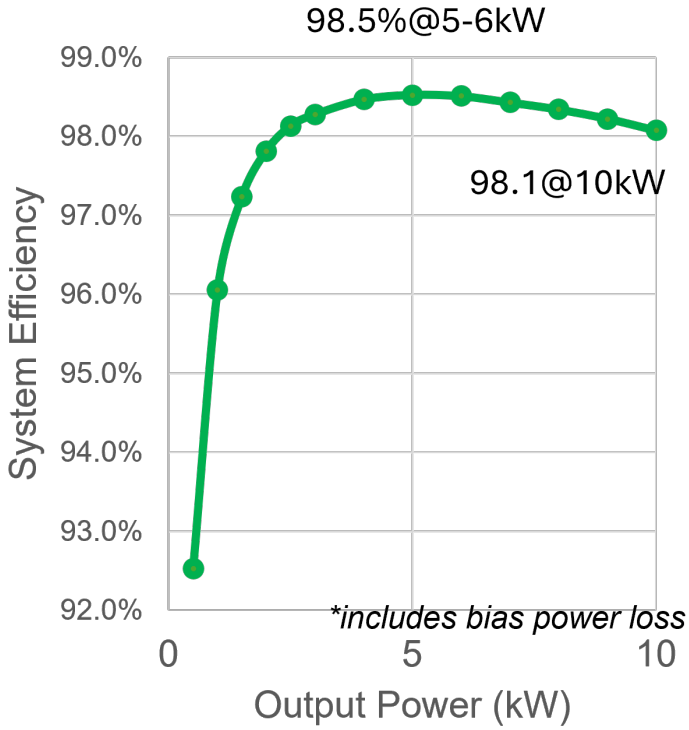
Navitas' breakthrough 10 kW DC-DC power platform delivering up to 98.5% peak efficiency and 1 MHz switching frequency, enabling unprecedented power density to support the rapid, large-scale expansion of next-generation AI data centers.

- ***All GaN design, switching at 1 MHz***
- ***98.5% Peak-efficiency***
- ***98.1% full load efficiency***
- ***2100 W/in³ power density***
- ***MCU and bias power included***

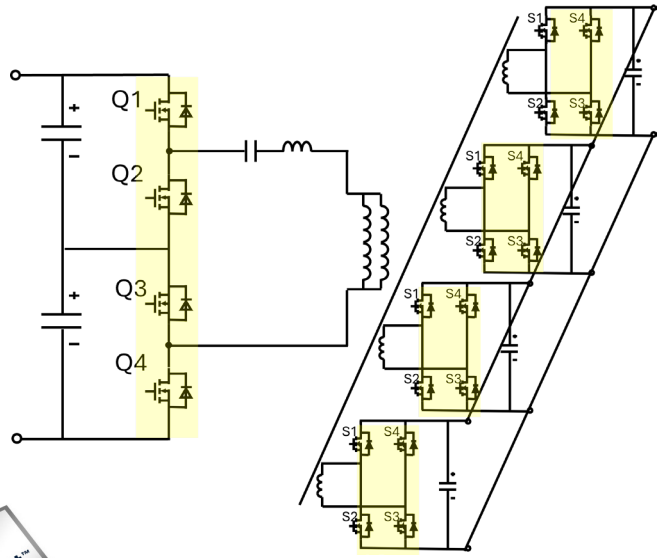


System Efficiency

The all-GaN 10 kW 800 V–to–50 V DC-DC platform employs advanced 650 V and 100 V GaNFast FETs in a three-level half-bridge architecture with synchronous rectification to deliver 98.5% peak efficiency and 98.1% full load efficiency in a full-brick (61 × 116 × 11 mm) package, achieving 2.1 kW/in³ power density.



- ***Half bridge, 8:1 Matrix transformers***
- ***4 switches on primary side***
- ***Brick power module (incl. aux power and control)***

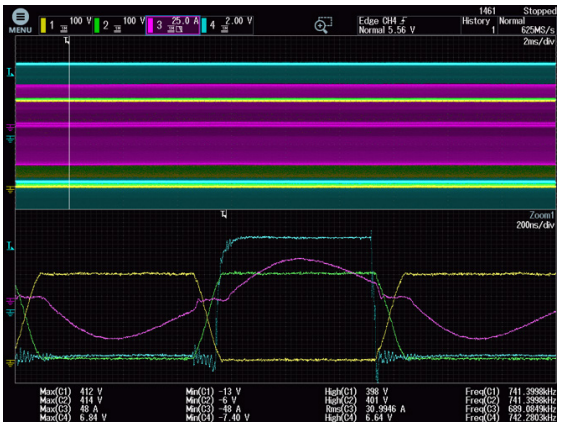


4 x GaNSafe: NV6066 (650 V, 11 mΩ, TOLT)

16 x GaNFETs: NVG011C10LC (100 V, 0.8 mΩ, RTQFN56-DC)

Breakthrough power density from 1 MHz switching enables scalable next-generation AI data centers.

Waveform @10kW



CH1: V_{ds_Q4} ***CH3: I_L***

CH2: V_{ds_Q2} ***CH4: V_{gs_Q4}***

Family	Part #	Blocking Voltage (V)	$R_{DS(ON)}$ Typical 25°C (mΩ)	Package
	NV6511	650	70	TOLL
	NV6512C		40	TOLL
	NV6513		32	TOLL
	NV6515		25	TOLL
	NV6514C		18	TOLL
	NV6522		40	TOLT
	NV6523		32	TOLT
	NV6525		25	TOLT
	NV6524		18	TOLT
	NVG011C10LC	100	0.8	RTQFN5x6 DC
	NVG015C10LC		1.1	RTQFN5x6 DC
	NVG033C10LC		2.2	RTQFN5x6 DC
	NV6064	650	17	TOLT
	NV6066		11	TOLT
	NV6036		17	DFN 8x8 DC
	NV6034		11	DFN 8x8 DC