GaNSafe™

The World's Safest GaN Power Semiconductor

Corporate Introduction

David Carroll

Sr. VP Worldwide Sales

Taipei, September 2023

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Disclaimers

This presentation includes “forward-looking statements” within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements may be identified by the use of words such as “we expect” or “are expected to be,” “estimate,” “plan,” “project,” “forecast,” “intend,” “anticipate,” “believe,” “seek,” or other similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, but are not limited to, statements regarding estimates and forecasts of other financial and performance metrics and projections of market opportunity and market share. These statements are based on various assumptions, whether or not identified in this presentation. These statements are also based on current expectations of our management and are not predictions of actual performance. Such forward-looking statements are provided for illustrative purposes only and are not intended to serve as, and must not be relied on by any investor as, a guarantee, an assurance, a prediction or a definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions and expectations. Many actual events and circumstances that affect performance are beyond our control. Forward-looking statements are subject to a number of risks and uncertainties, including the possibility that the expected growth of our business will not be realized, or will not be realized within expected time periods, due to, among other things, the failure to successfully integrate acquired businesses into our business and operational systems; the effect of acquisitions on customer and supplier relationships or the failure to retain and expand those relationships; the success or failure of other business development efforts; our financial condition and results of operations; our ability to accurately predict future revenues for the purpose of appropriately budgeting and adjusting our expenses; our ability to diversify our customer base and develop relationships in new markets; our ability to scale our technology into new markets and applications; our ability to realize our potential pipeline opportunities; the effects of competition on our business, including actions of competitors with an established presence and resources in markets we hope to penetrate, including silicon carbide markets; the level of demand in our customers’ end markets, both generally and with respect to successive generations of products or technology; our ability to attract, train and retain key qualified personnel; changes in government trade policies, including the imposition of tariffs; the impact of the COVID-19 pandemic on our business, results of operations and financial condition; the impact of the COVID-19 pandemic on the global economy, including but not limited to our supply chain and the supply chains of customers and suppliers; regulatory developments in the United States and foreign countries; and our ability to protect our intellectual property rights. These and other risk factors are discussed in the Risk Factors section beginning on p. 15 of our annual report on Form 10-K for the year ended December 31, 2022, which we filed with the Securities and Exchange Commission (the “SEC”) on April 3, 2022 and as thereafter amended, and in other documents we file with the SEC, including our quarterly reports on Form 10-Q. If any of these risks materialize or our assumptions prove incorrect, actual results could differ materially from the results implied by these forward-looking statements. There may be additional risks that we are not aware of or that we currently believe are immaterial that could also cause actual results to differ materially from those contained in the forward-looking statements. In addition, forward-looking statements reflect our expectations, plans or forecasts of future events and views as of the date of this presentation. We anticipate that subsequent events and developments will cause our assessments to change. However, while we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so. These forward-looking statements should not be relied upon as representing our assessments as of any date subsequent to the date of this presentation.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Neither we nor any other person makes any representation as to the accuracy or completeness of such data or undertakes any obligation to update such data after the date of this presentation. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

For further information with respect to our company, we refer you to our most recent annual report on Form 10-K and our most recent quarterly report on Form 10-Q, filed with the SEC. In addition, we are subject to the information and reporting requirements of the Securities Exchange Act of 1934, as amended, and, accordingly, we file periodic reports, current reports, proxy statements and other information with the SEC. These periodic reports, current reports, proxy statements and other information are available for review at the SEC’s website at http://www.sec.gov.

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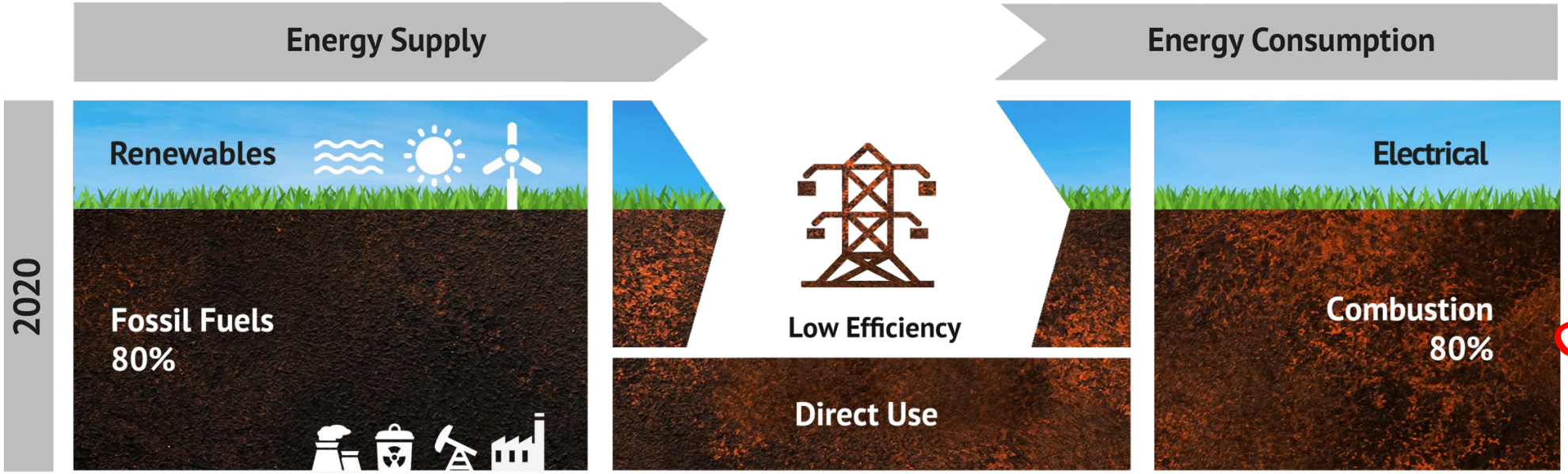
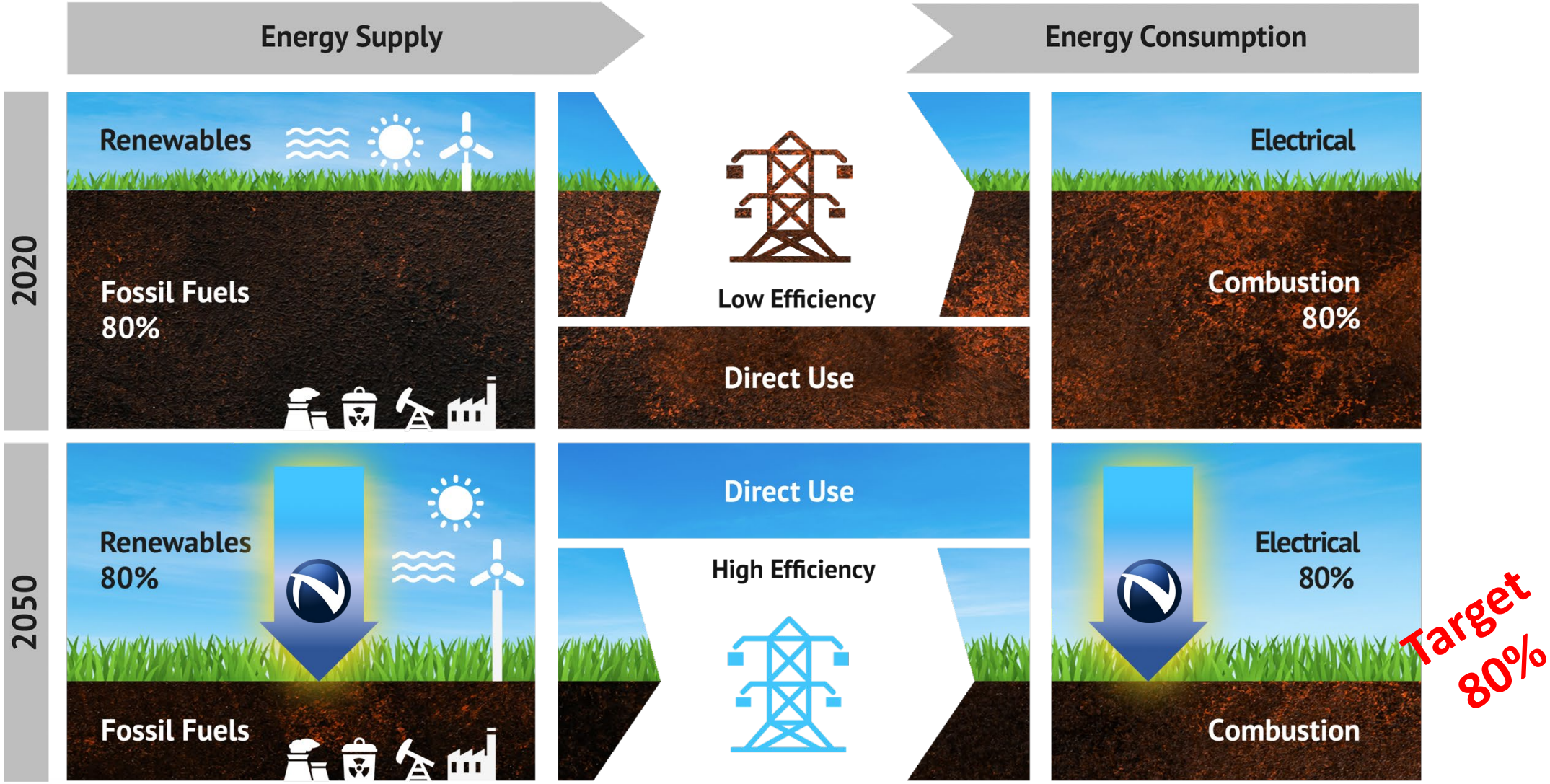
The Fossil Fuel Challenge

Navitas



Electrify Our World™

Navitas



Pure-Play, Next-Gen Power Semiconductors

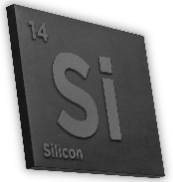
Navitas

Navitas

GaNFast™

GeneSiC™

Up to 20x	Up to 3x	Up to 40%	Up to 3x	Up to 3x	Up to 25%
Faster Switching(1)	Smaller & Lighter(1)	Energy Savings(1)	Higher Power Density(1)	Faster Charging(1)	Lower System Cost(2)



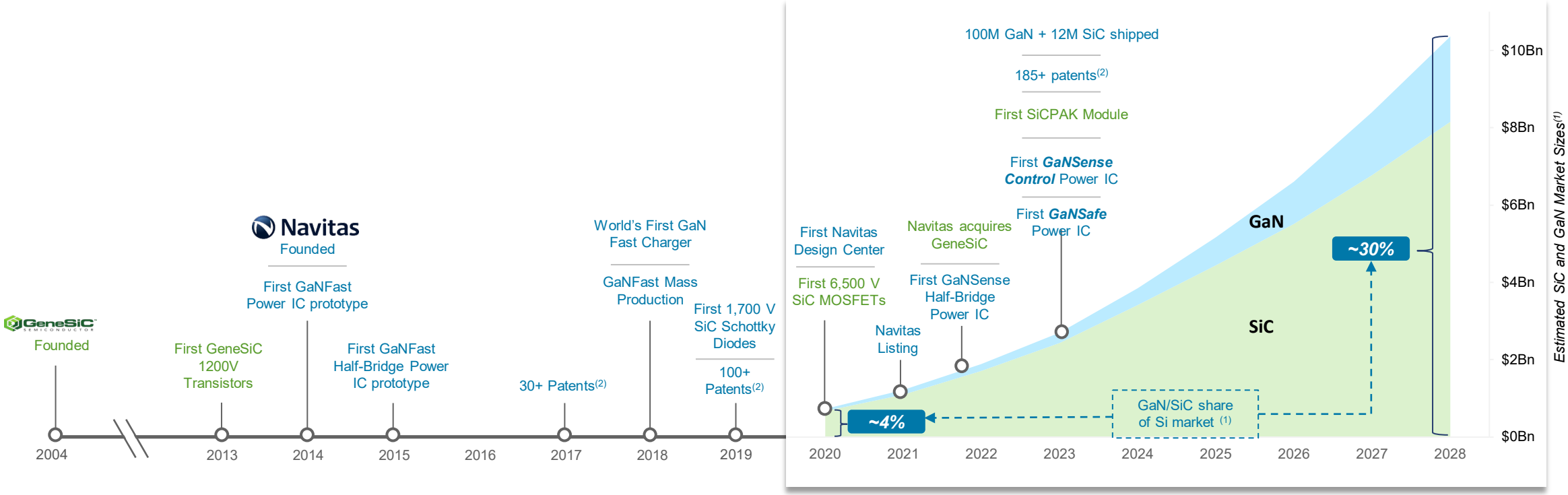
GaN and SiC replacing Si in next-generation power applications

1. Statistical data is based on Navitas estimates of GaN-based systems compared to Si-based estimates in the 2024-2025 timeframe. Based on Navitas measurements of select GaN-based mobile wall chargers compared to Si-based chargers with similar output power, incl. 2019 study of 65W fast chargers, 2022 customer statement re 2.7 kW data center AC-DC
2. Navitas estimates based on customer feedback as the expected system cost saving overtime as of April 2023

Right Time, Right Technology, Right Company

Navitas

Technology Development | **Validation** | **Mass Adoption**

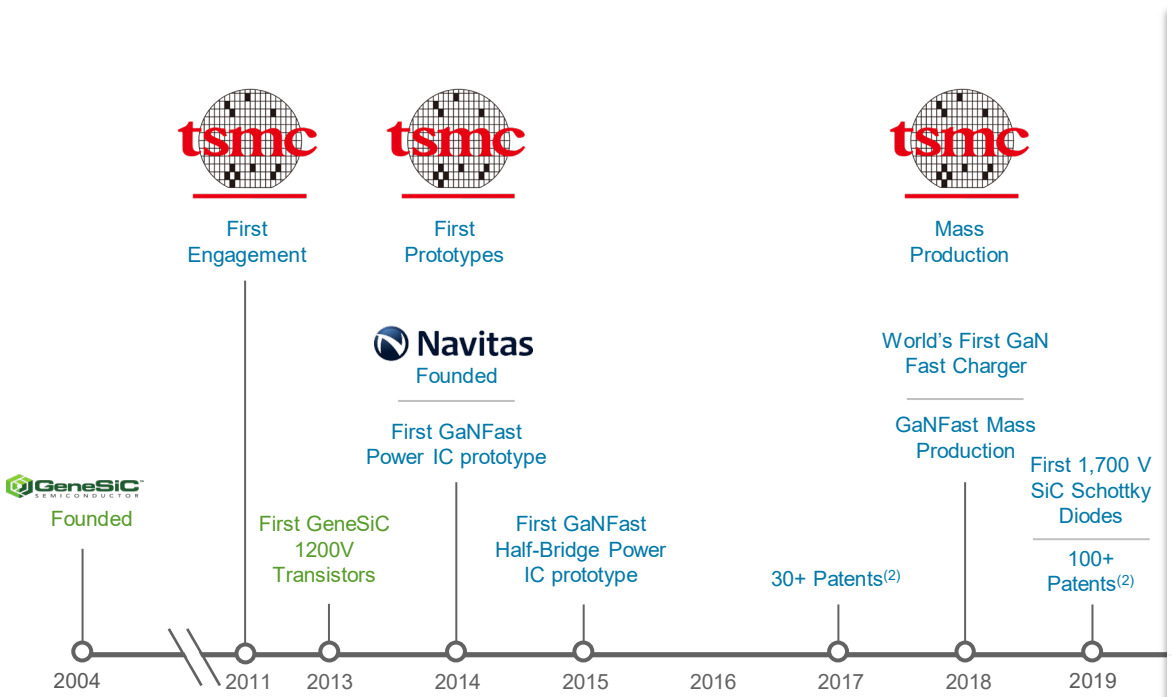


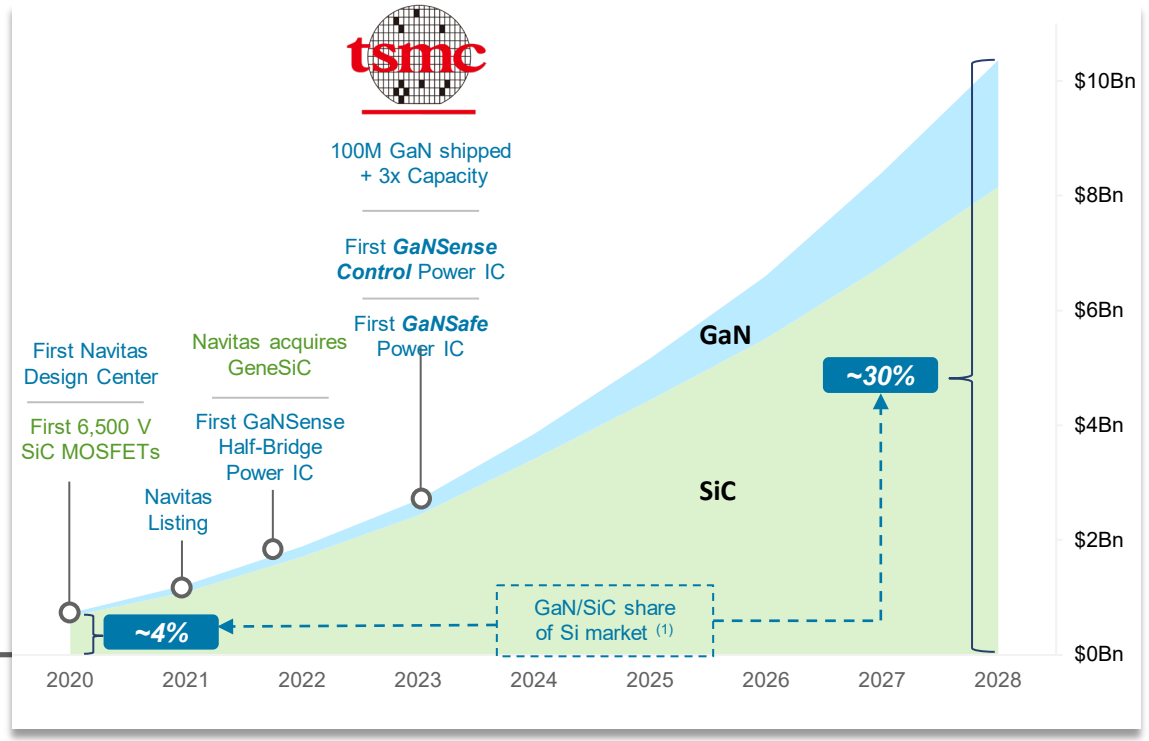
1. Estimated based on Power SiC/GaN Compound Semiconductor Market Monitor, Q1 2023, Yole Intelligence
2. Granted or pending

Right Partnership: Navitas + TSMC

Navitas

Technology Development | **Validation** | **Mass Adoption**

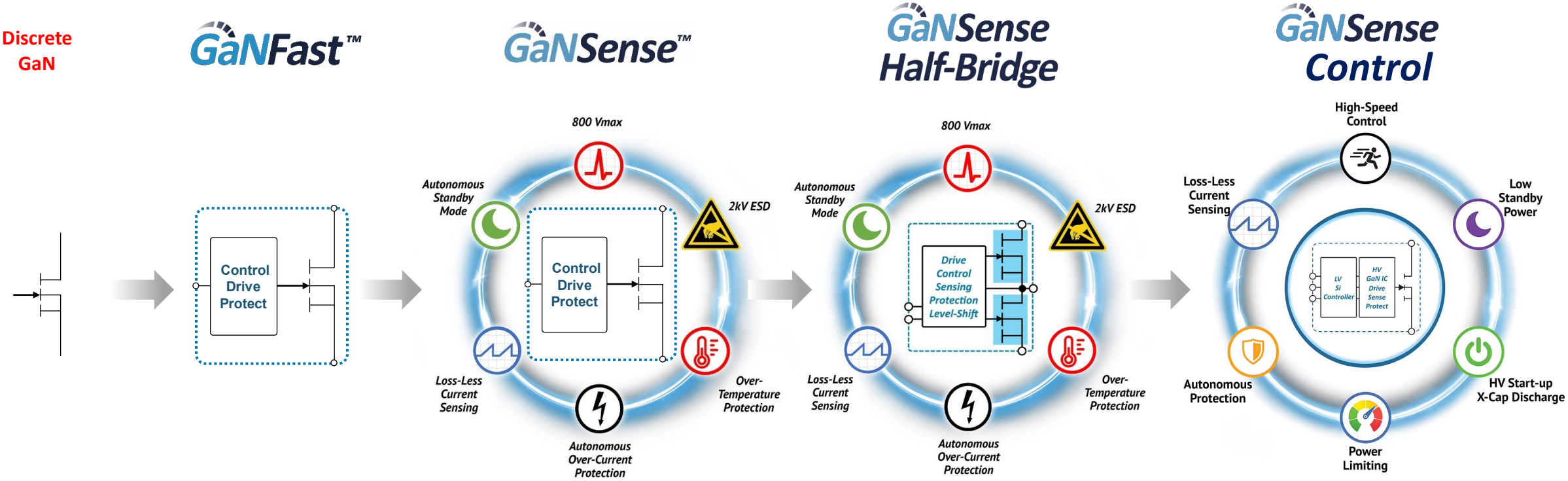




1. Estimated based on Power SiC/GaN Compound Semiconductor Market Monitor, Q1 2023, Yole Intelligence
2. Granted or pending

GaNFast™ Technology Leader, Market Leader

Navitas



- Vulnerable
- Difficult to use
- Unknown reliability

- ✓ Robust
- ✓ Easy to use
- ✓ Proven reliability

GaNFast plus:
- ✓ Autonomous protection
- ✓ Loss-less current sensing

GaNSense plus:
- ✓ Integrated HS, LS, level-shift isolation
- ✓ Complete protection

GaNSense plus:
- ✓ LV silicon system controller
- ✓ Fewest components

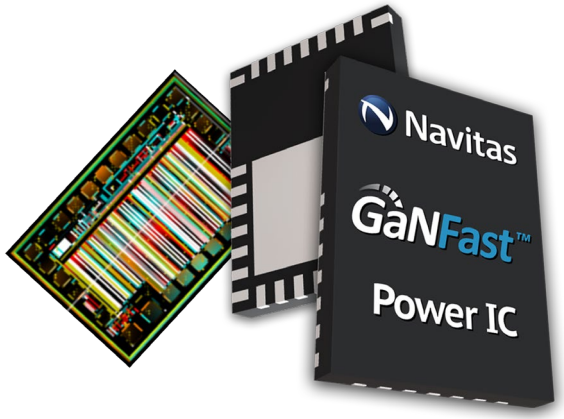
Efficiency

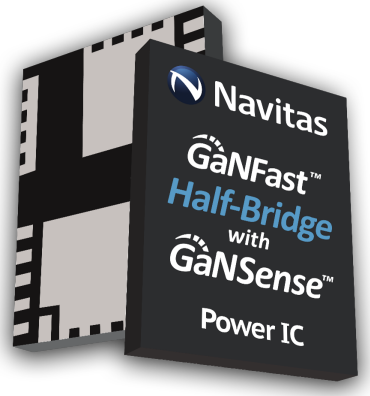
Reliability

Speed

Integration

100,000,000+ Shipped!





Highest Performance, Voltage Range & Ruggedness

Up to 6.5 kV

Fast Switching

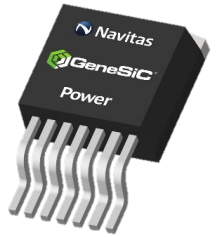
Cool Operation

Cool.
Fast.
Rugged.

100%-Tested Robust Avalanche

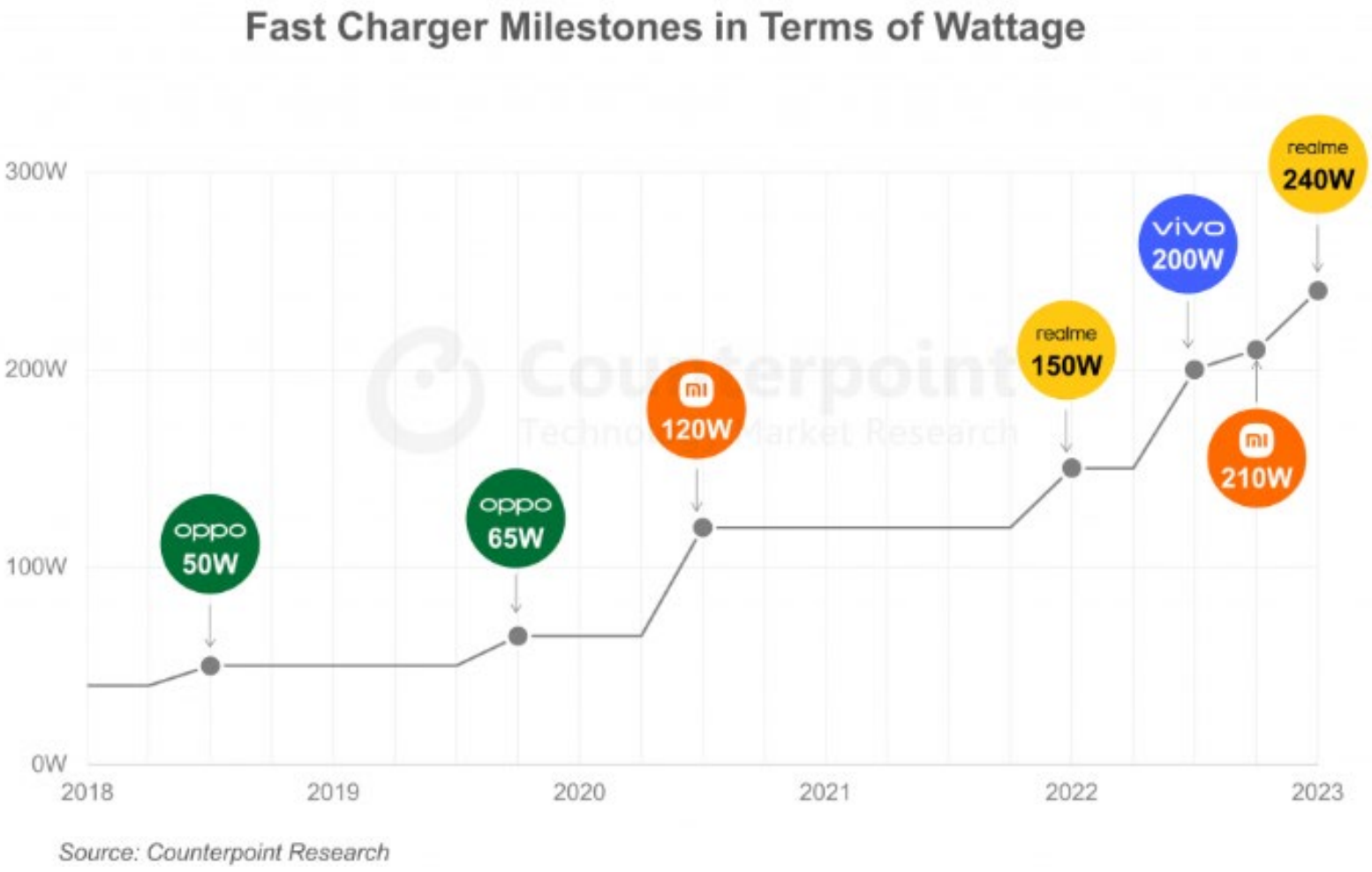
Long Short-Circuit Withstand Time

High-Power Paralleling



Accelerating Mobile: Navitas wins 100% Milestones[1]

Navitas



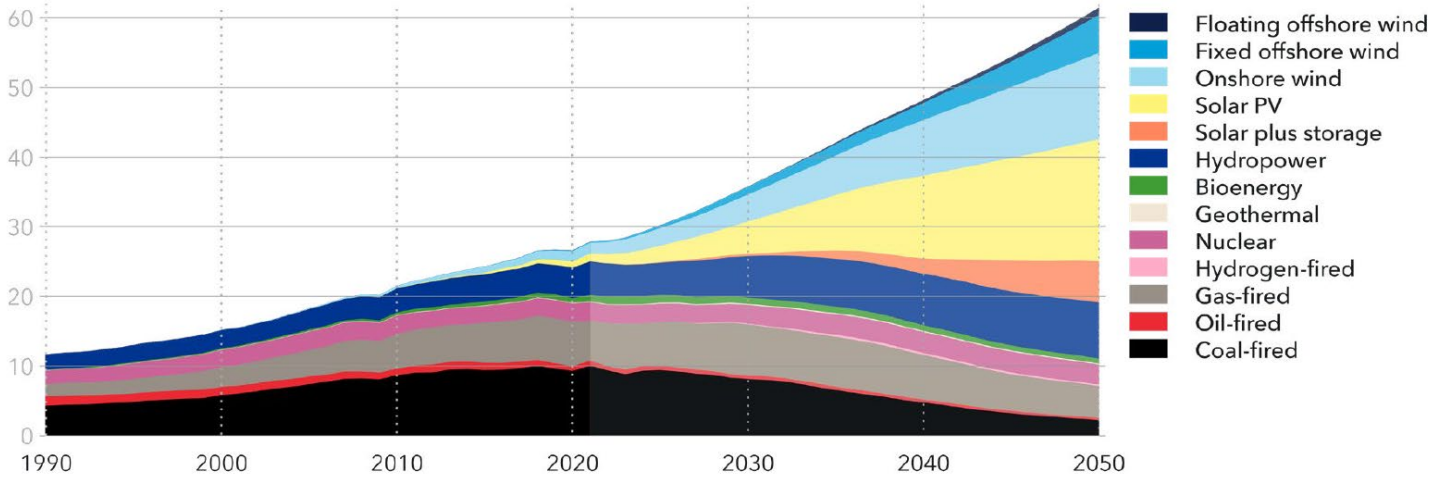
1. Chart from Counterpoint Technology Market Research, published July 2023 (https://www.counterpointresearch.com/insights/fast-charging-global-smartphone-sales-q1-2023/). Design wins claim per Navitas press releases.

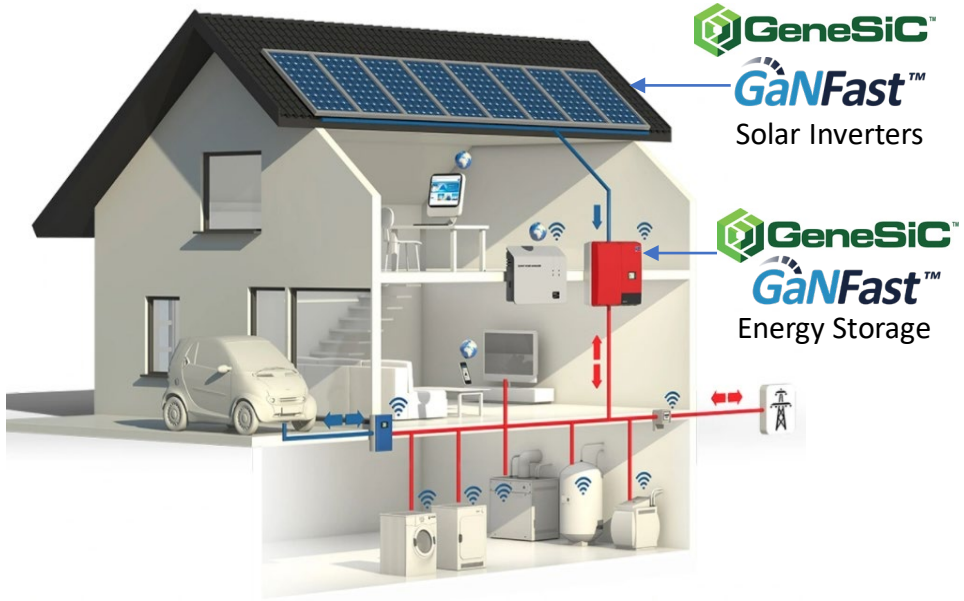
Accelerating Energy Demand, Accelerating Solar/Storage

Navitas

World grid-connected electricity generation by power station type[1]

Units: PWHr/year



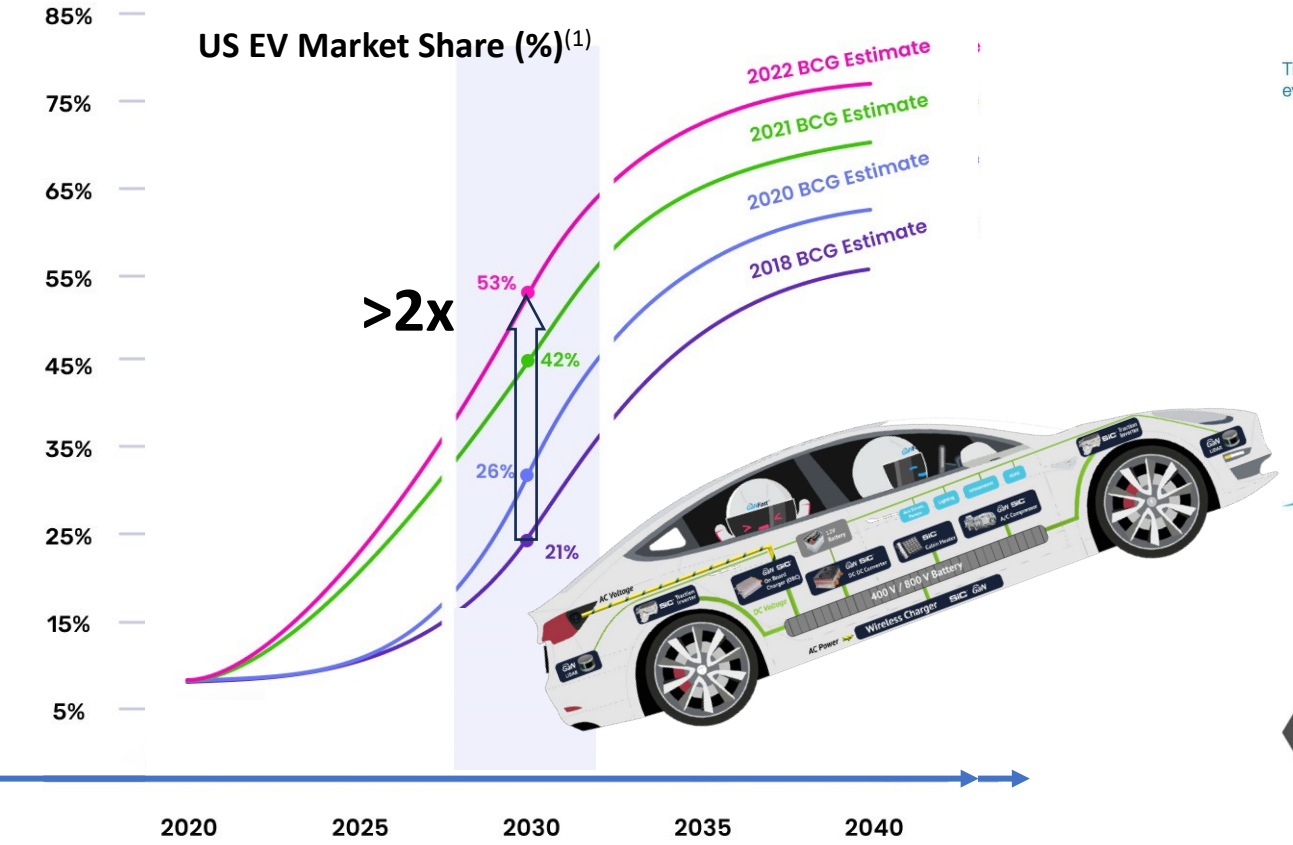


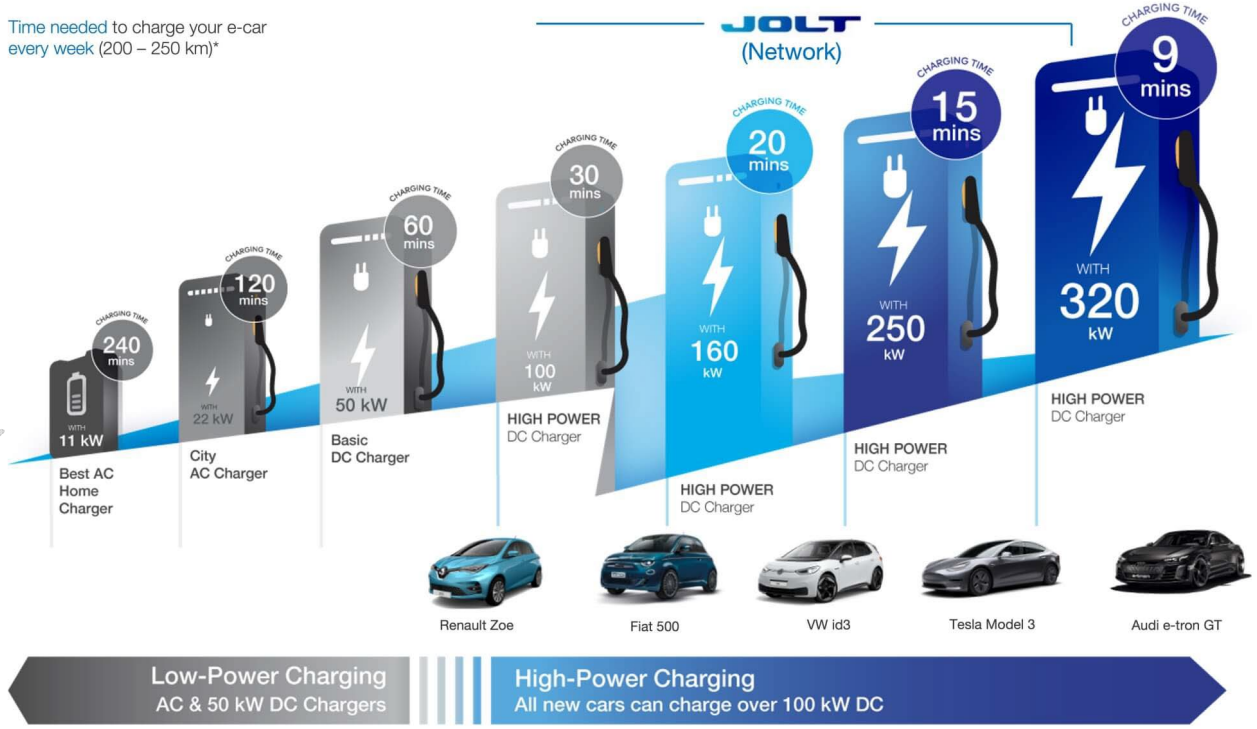
- Global electricity supply +2.3x by 2050(1)
- Solar / energy-storage systems (ESS) up from ~2% to 38%(2)
- Energy storage critical to balance supply / demand

1. DNV Energy Transition Outlook 2022, updated January 2023. Grid-connected energy supply estimated to increase from 27 to 62 PWH/year.
2. DNV: Solar/ESS grows to 38% of supply by 2050. Historical data per IEA WEB (2022), GlobalData (2022)

Accelerating EV: Faster Charging (OBC and Roadside)

Navitas





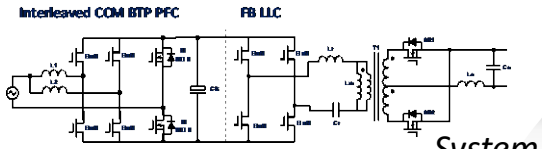
1. Chart BCG, via https://www.recurrentauto.com/research/ev-adoption-us
2. https://jolt.energy/whats-the-difference-between-ac-dc-and-ultra-fast-charging/

Accelerating Time-to-Market: Unique System Design Centers

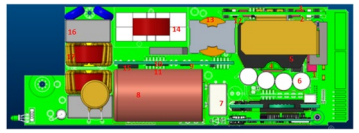
Navitas

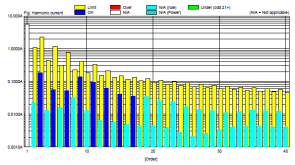
Power System *Platform* Design

High Frequency, High Efficiency, High Density, High Integration

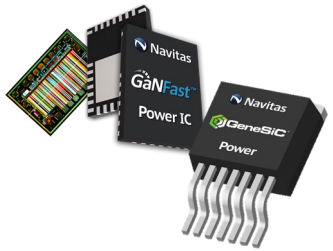


System design evaluation & feedback





Electrical, thermal, mechanical, EMI, BOM cost, manufacturing and yields

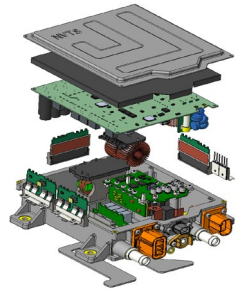


Semi Design

Application-specific GaN / SiC

Customer Co-Development

Joint Labs / Joint Development

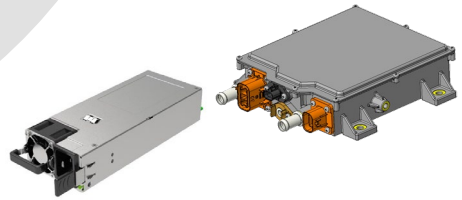


System know-how drives innovation

Close customer co-op for qualification, certifications, production readiness

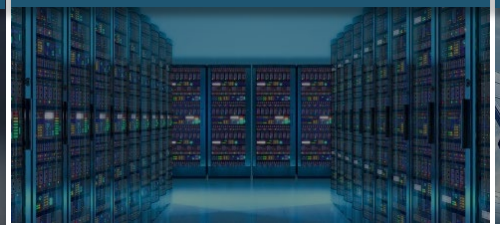
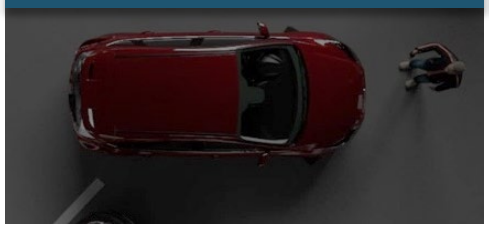
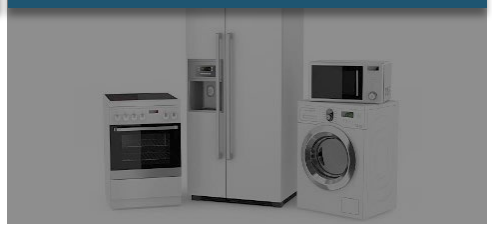
Mass Production

Fast time to market



Accelerating $1B[2] Customer Pipeline, Diverse markets

Navitas

Mobile / Consumer	Data Center	Solar / Energy Storage Systems	EV / eMobility	Appliance / Industrial
				
Top 5/5 smartphone OEMs and top 5/5 notebook OEMs in development or production[1] ANKER, DELL, Lenovo, oppo, SAMSUNG, xiaomi	**Tier-1 PSU ODMs in development[1]** *Power System Engagements*: DELL, LITEON, Chicony *End Customer Targets*: aws, Google Cloud, Azure	**Majority of top 10 OEMs engaged[1]** steca A KATEK Brand, CanadianSolar, solis, SUNGROW Clean power for all, GROWATT, Bloomenergy, APsystems ALTENERGY POWER	**Tier-1 customers and engagements[1]** BorgWarner, HYUNDAI MOBIS, ABB, GEELY, chargepoint, AMG, LG-MAGNA, BYD	**Top 7/10 OEMs engaged[1]** In Development

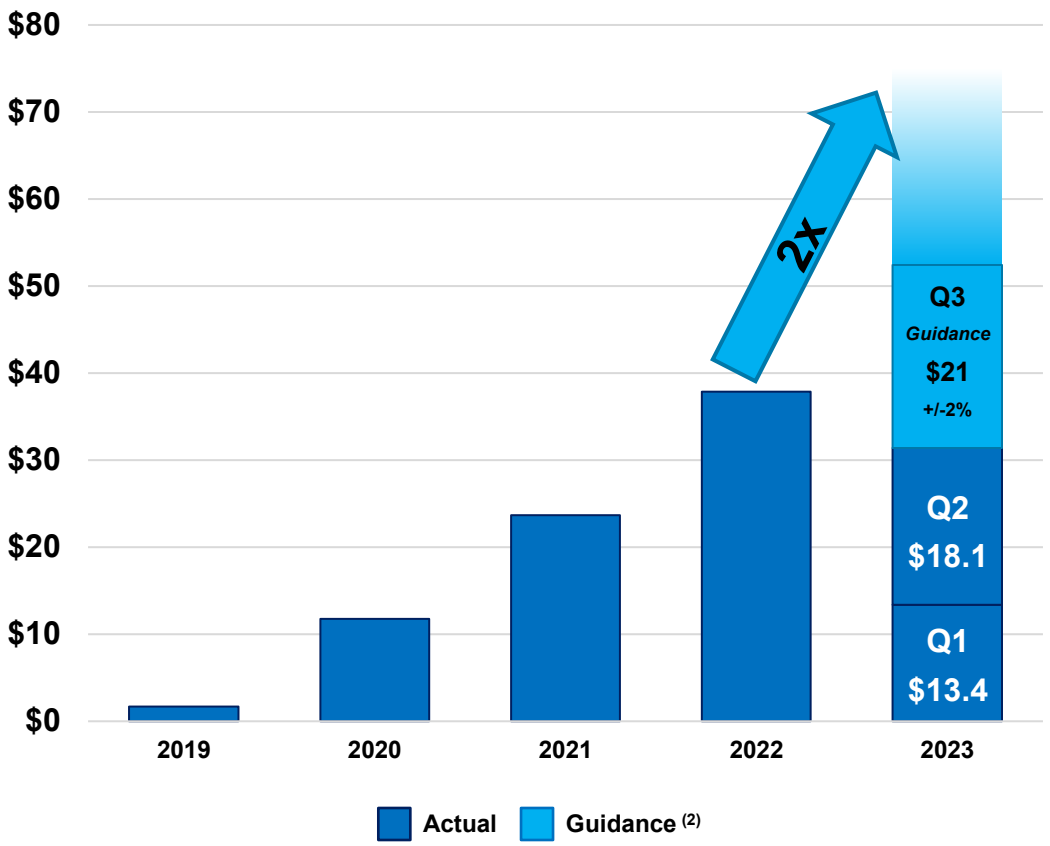
- Q2 2023: Pipeline up 30% to $1 billion, with more projects, more $ potential in all markets

1. Navitas estimates of top OEMs in each respective market and their existing customer engagements. Appliance/Induustrial 'top 10' based on Navitas estimate
2. "Pipeline opportunity" reflects estimated potential future business based on interest expressed by potential customers for qualified programs, stated in terms of estimated revenue that may be realized in one or more future periods. Pipeline opportunity is not a proxy for backlog or future revenue or other measure or indicator of financial performance. Rather, Navitas uses customer pipeline as a statistical metric to indicate relative changes in future potential business across various product markets. Time horizons vary accordingly, based on product type and application. Actual business realized depends on ultimate customer selection, program share and other factors
3. Navitas estimates for potential customer revenue across GaN or SiC in the market stated

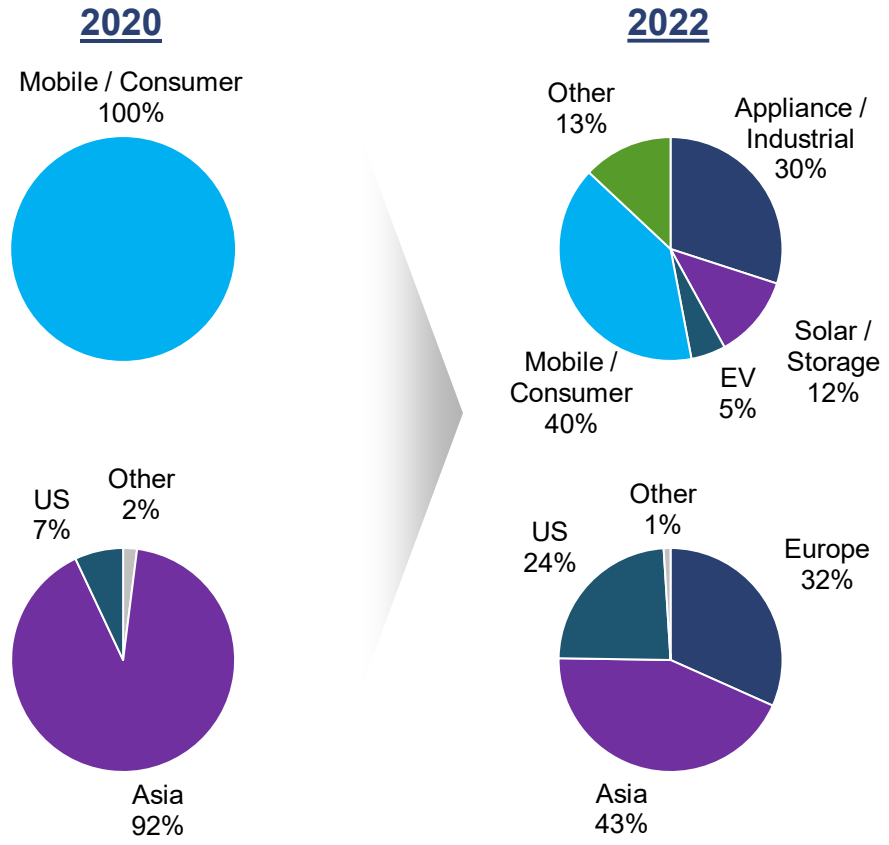
Accelerating Growth & Diversity

Navitas

Reported Revenue[1] ($M)



Revenue Mix[1]



- Q2 '23 revenue
  +110% from Q2 '22
  +35% from Q1 '23
- Gross Margin: 41.5%
- Cash: $177.7M (no debt)
- Shares: 175M

- Significant diversification in markets, geography

1. Reported revenue not pro forma for GeneSiC financials for the period prior to the close of the acquisition of GeneSiC on 8/15/2022. Only includes GeneSiC revenue for the period post transaction close (8/15/2022 – 12/31/2022)
2. Q3'23 and CY2023 guidance as of 8-14-23 only. Not updated

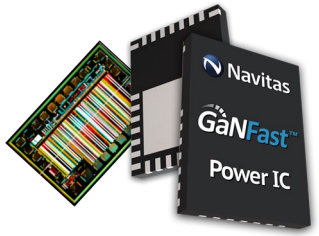
Accelerating Sustainability

Navitas

February '22 First GaN sustainability report based on global standards.

Every GaNFast™ IC saves

4 kg CO_2



4x-10x lower component CO_2 footprint than silicon

28% lower lifetime CO_2 footprint for chargers / adapters

Accelerates transition from ICE to EV by **3 years**, saving **20%/yr** of road-sector emissions by 2050

GaN + SiC save up to **6 Gton / year** by 2050

May '22 World's first semiconductor company CarbonNeutral® certified

August '22 First 100,000 tons CO_2 saved
(Over 170,000 as of August 2023)

October '22 Recognized for industry-leading sustainability reporting

GaNSafe™

The World's Safest GaN Power Semiconductor

Technology Introduction

Charles Bailley

Sr. Director Business Development

Taipei, September 2023

ir@navitassemi.com

Accelerating Data Center Power, Efficiency

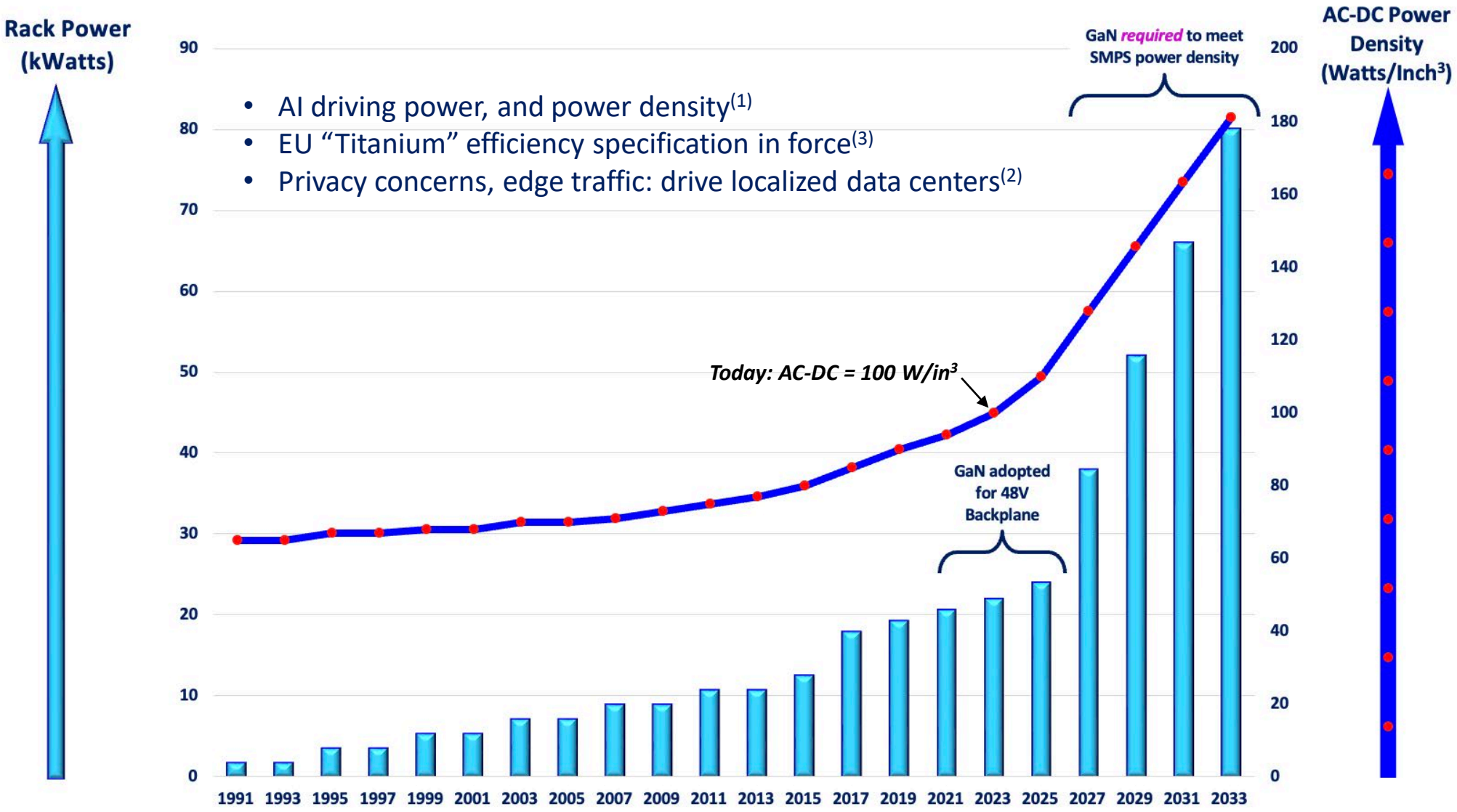
Navitas

OpenAI

Bing

AUTONOMOUS VEHICLES
4000GB

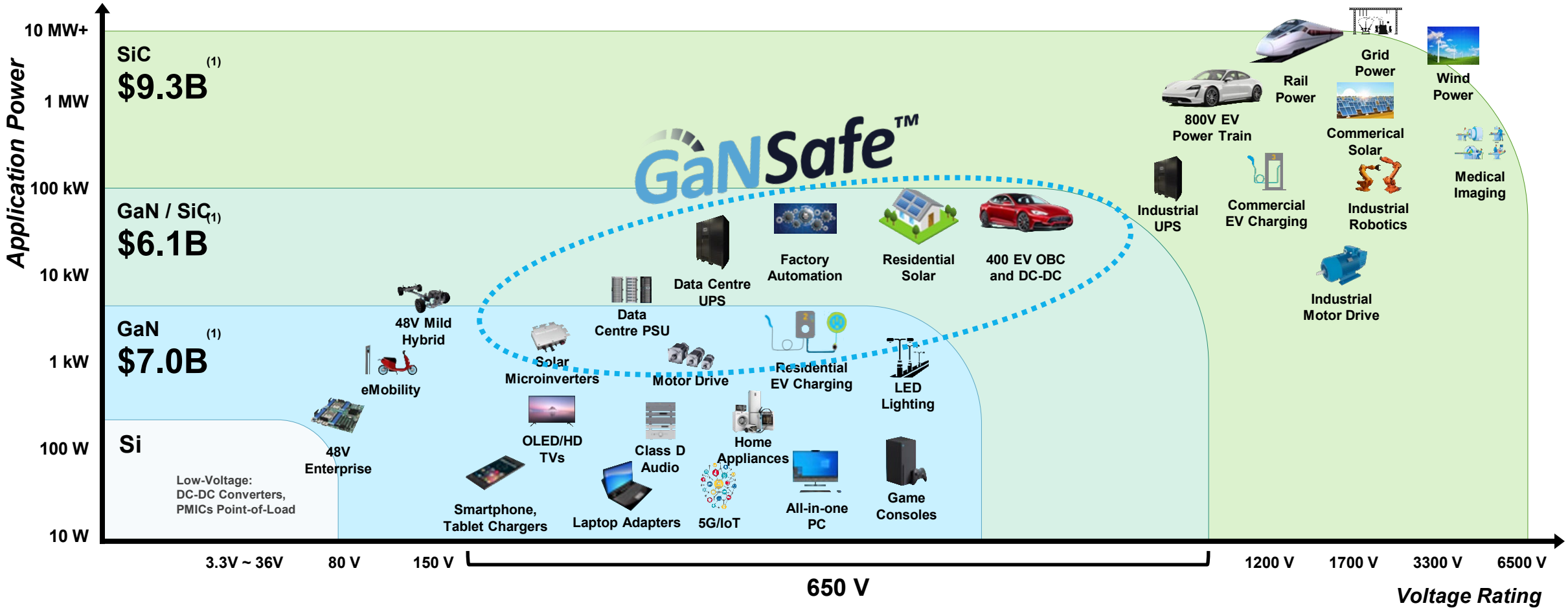
- AI driving power, and power density[1]
- EU "Titanium" efficiency specification in force[3]
- Privacy concerns, edge traffic: drive localized data centers[2]



1. Cerebras white paper / website
2. TD Cowen, per "AI to drive data center investments", LightReading.com, 4-26-23
3. European Union 'Directive 2009/125/EC, 2019 Annex', power supplies must be >96% efficiency peak, as of 1-1-23

GaNSafe™: Accelerating GaN to High Power

Navitas

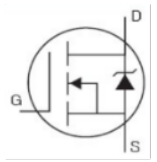


1. Navitas company estimates, potential market opportunity in 2026 is $22B+ for GaN and SiC, replacing certain of the silicon market share. Axes not to scale

GaNSafe™: Ultimate Performance and Reliability

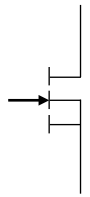
Navitas

Discrete Silicon



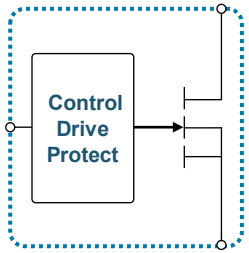
- Old
- Slow
- Low efficiency

Discrete GaN



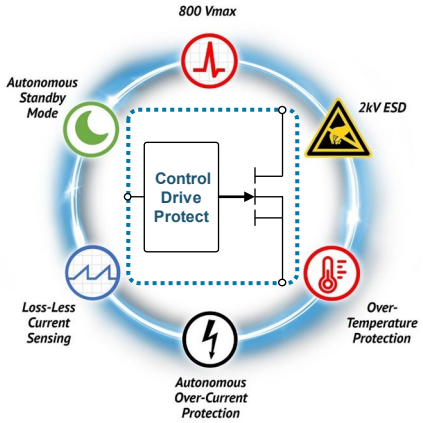
- Vulnerable
- Difficult to use
- Unknown reliability

GaNFast™



- ✓ Robust
- ✓ Easy to use
- ✓ Proven reliability

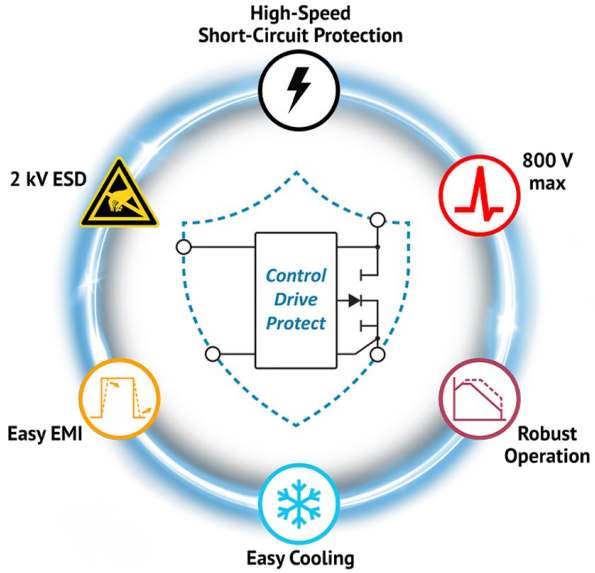
GaNSense™



GaNFast plus:

- ✓ Autonomous protection
- ✓ Loss-less current sensing

GaNSafe™



GaNSense plus:

- ✓ Short-Circuit Detection
- ✓ Ultra-fast autonomous protection
- ✓ Robust, cool packaging
- ✓ Programmable dV/dt turn-ON and OFF

Efficiency

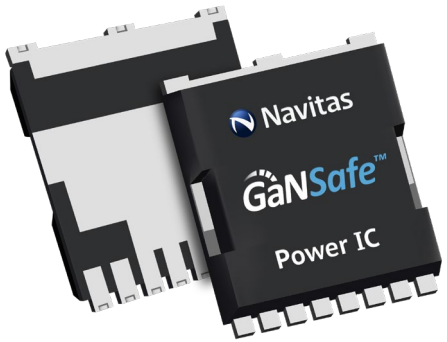
Reliability

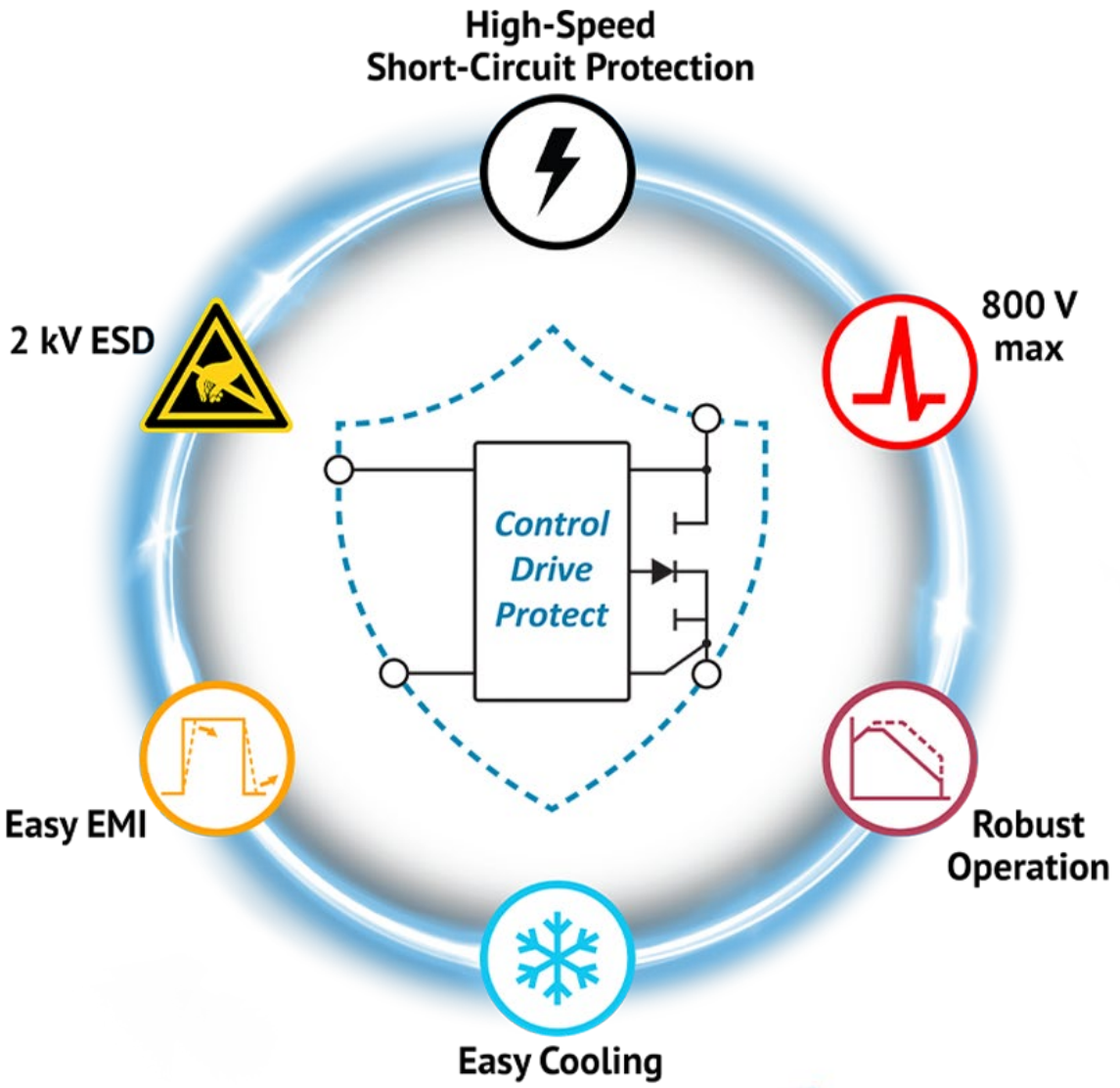
Speed

Integration

GaNSafe™ : The World's Safest GaN Power Semiconductor

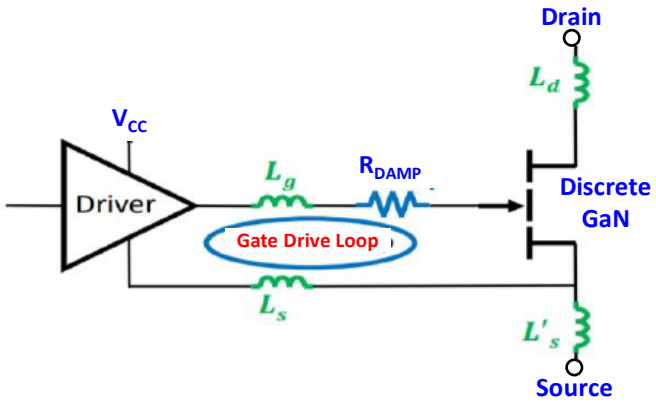
Navitas



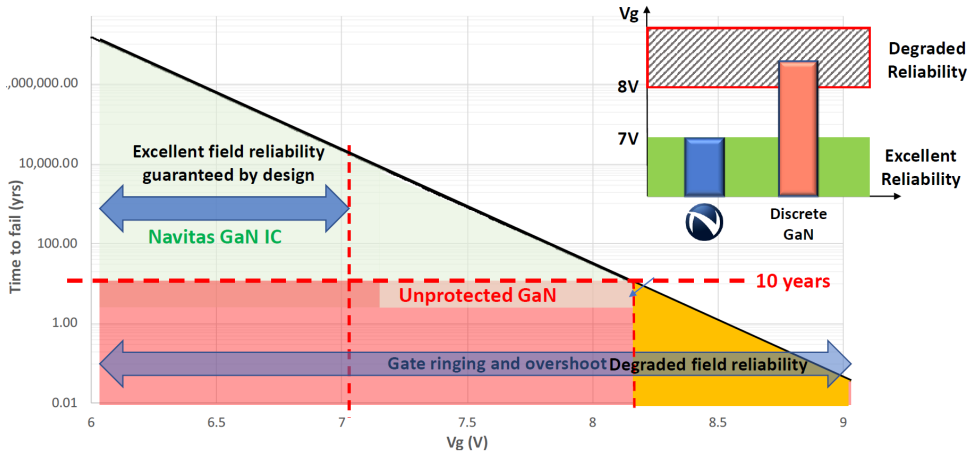


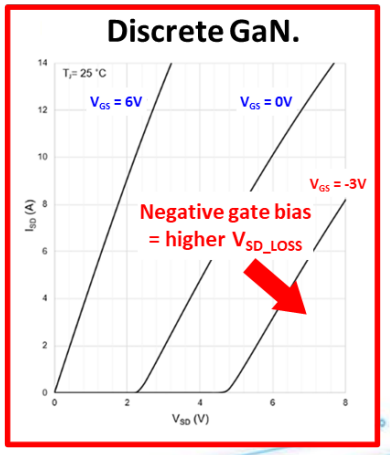
From GaNFast™ to GaNSafe™, Max 4th-Gen Reliability

Navitas

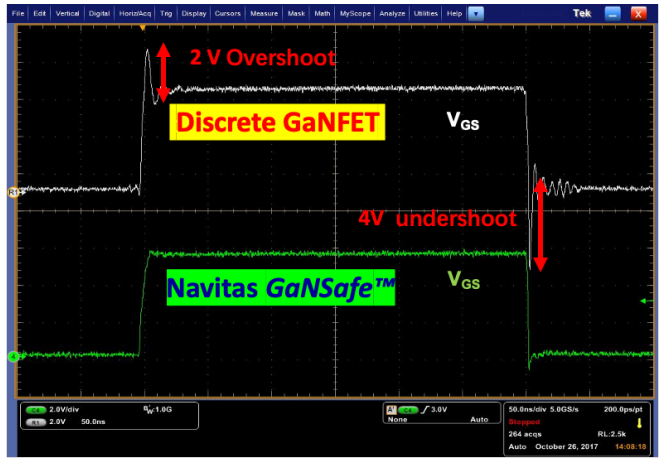


- ***Discrete*** GaN = ***high risk***
  - Weak gate, high loop inductance
  - Shoot-thru risk multiplied by increased di/dt in high-power applications
- GaNFast™ integrated, regulated gate drive, zero loop inductance
  - Fewer components, smaller PCB,
  - Higher efficiency, lower system cost
- GaNSafe™ optimized for high power
  - More protection (300 ns Desat SCP, OTP, UVLO, ESD, etc.)
  - More control (dV/dt ON & OFF, etc.)
  - Industry-standard, robust, cool packaging



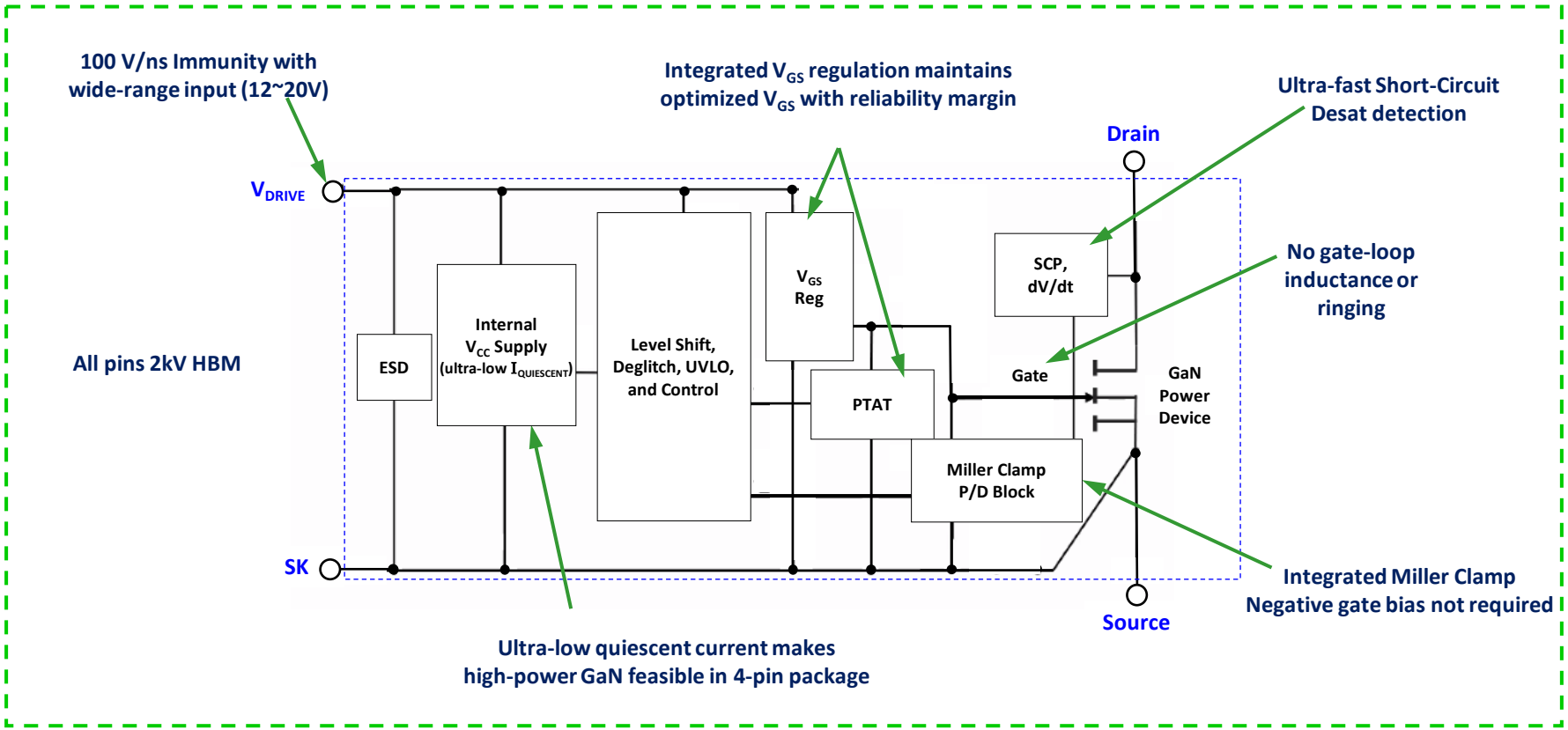


Discrete GaNFET



GaNSafe™: Reliable high-power in only 4 pins

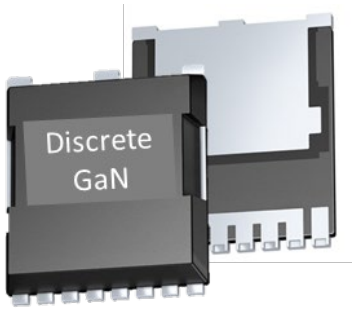
Navitas



GaNSafe™ Delivers High-Power Reliability

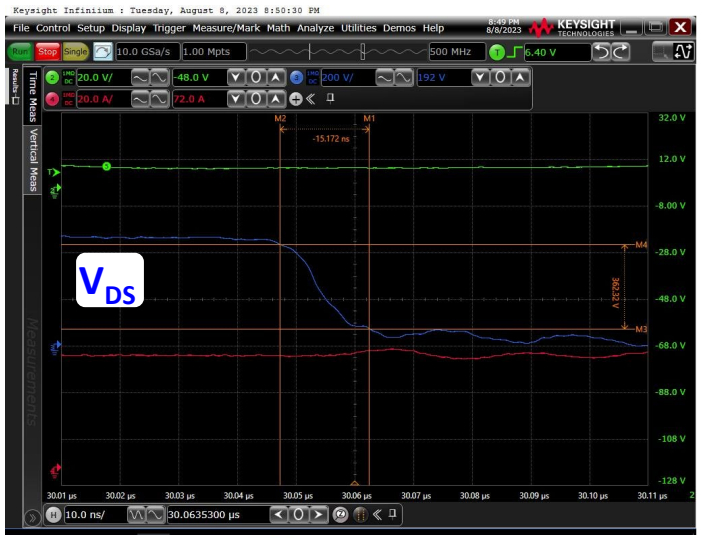
Navitas

- Double-pulse test:
  400 V, 70 A, R_{SERIES} = 11 mΩ



Discrete GaN
42 mΩ max

Significant spikes
Excessive turn-ON ringing
250 V undershoot



GaNSafe™

45 mΩ max
(NV6513)

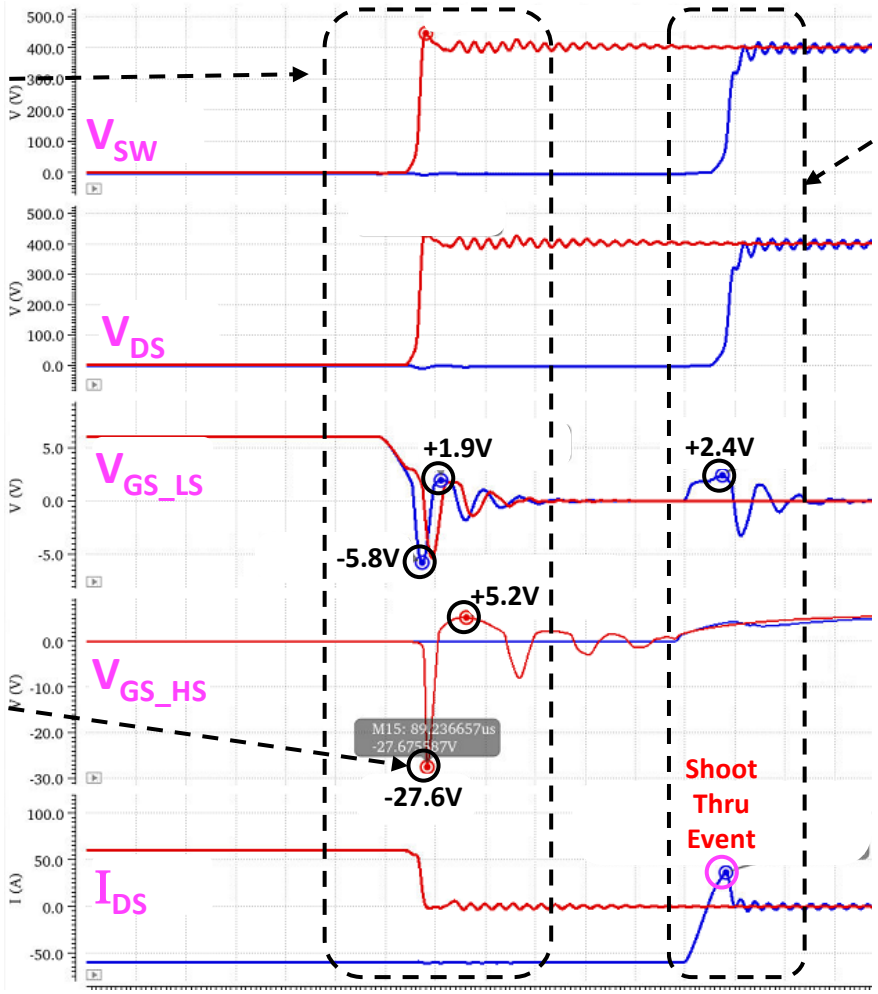
No voltage spikes
No ringing
No undershoot

Discrete GaN Has Major Problems in High Power

Navitas

Boost Mode:
LS Turn-OFF causes sever HS & LS V_{GS} ringing due to gate loop inductance coupled with higher di/dt when operating in high power applications

Buck Mode:
LS gate is pulled-up as Switch Node rises, with simultaneous surge in I_{DS}



V_{GS} rating violated:
Negative spike on LS Turn-OFF goes beyond -20V limit

400V 60A Simulation:

- Discrete GaN
- 25mΩ
- TOLL

GaNSafe™: TOLL = Robust, Reliable Packaging

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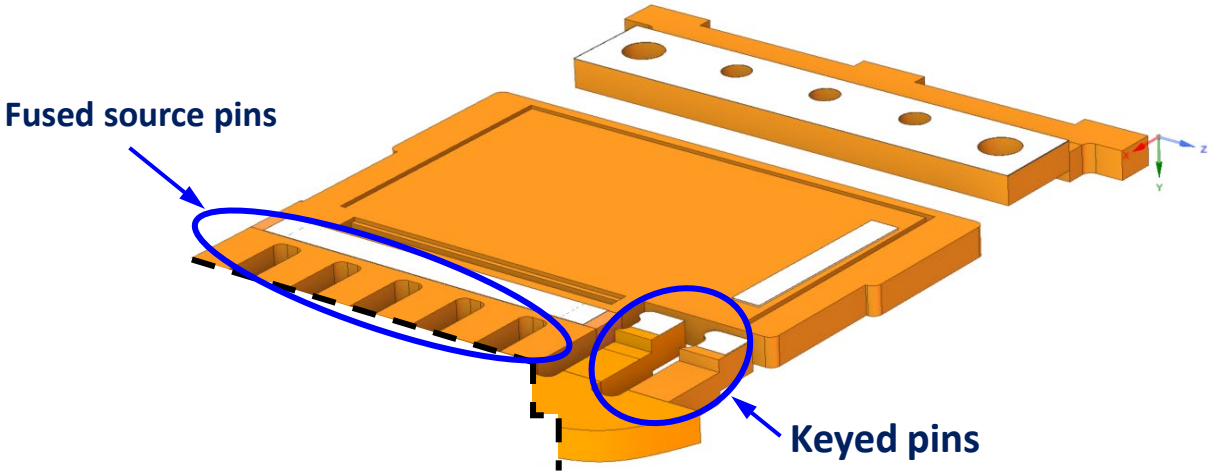


- TOLL = "Transistor Outline Lead-Less"
- 10 x 10 mm
- Mechanically robust, novel leadframe
  - Keyed V_{DRIVE} and SK pins
    - Improved mechanical performance
  - Fused source pins
    - Improved thermals)
  - Passed IPC-9701 for long mechanical lifetime

IPC BUILD ELECTRONICS BETTER

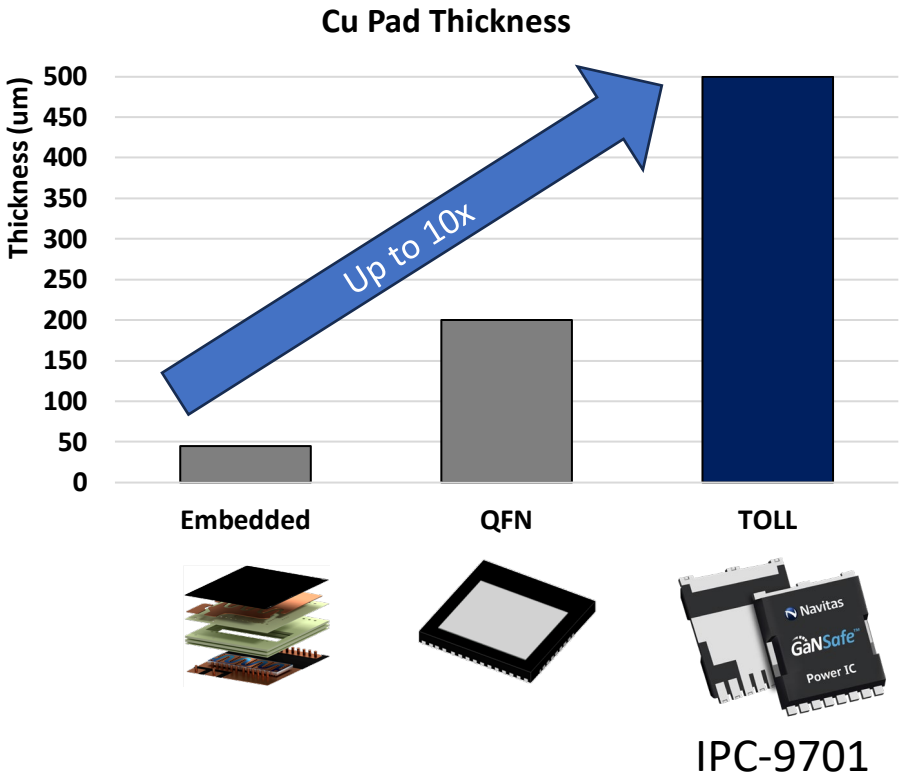
GaNSafe™

Integrated GaN gate drive, protection and features, in 4-pin industry-standard thermally-enhanced package…

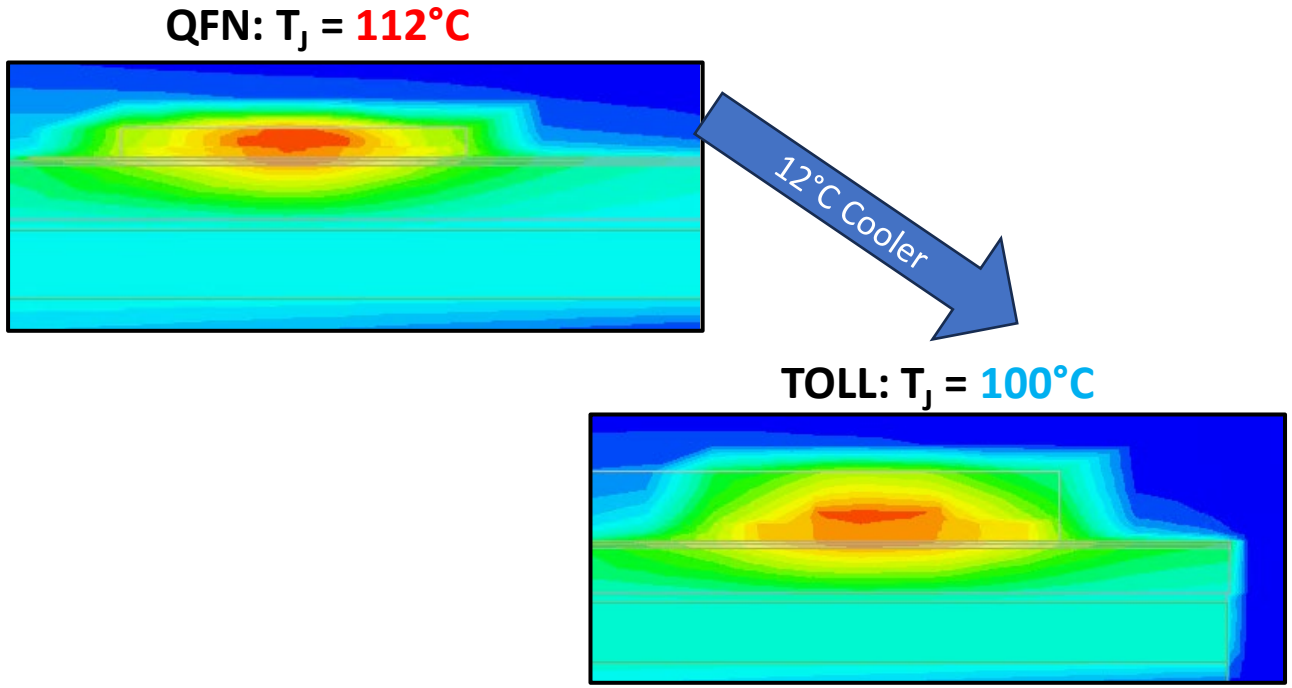
1. IPC-9701 "Thermal Cycling Test Method for Fatigue Life Characterization of Surface Mount Attachments"

GaNSafe™ Optimized System-Level Cooling

Navitas



IPC-9701



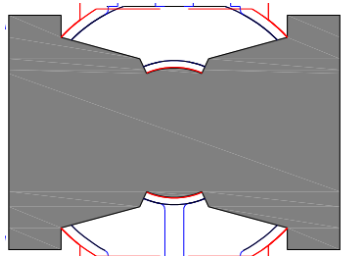
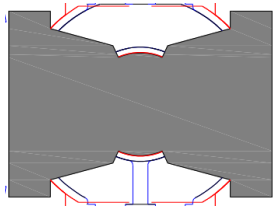
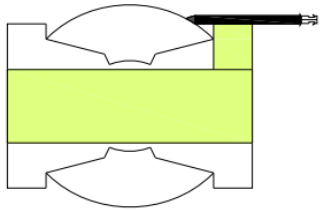
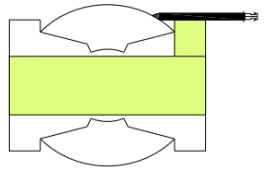
GaNSafe™

- Optimized, system-level cooling ($R_{\Theta\_J\text{-}A}$)
  - Larger, thicker Cu pad
  - High-conductivity die attach

1. Navitas' simulated temperature gradients for TOLL and QFN under identical system thermal design and 200 LFM airflow

GaNSafe™ Yields Higher Density, Lower System Cost

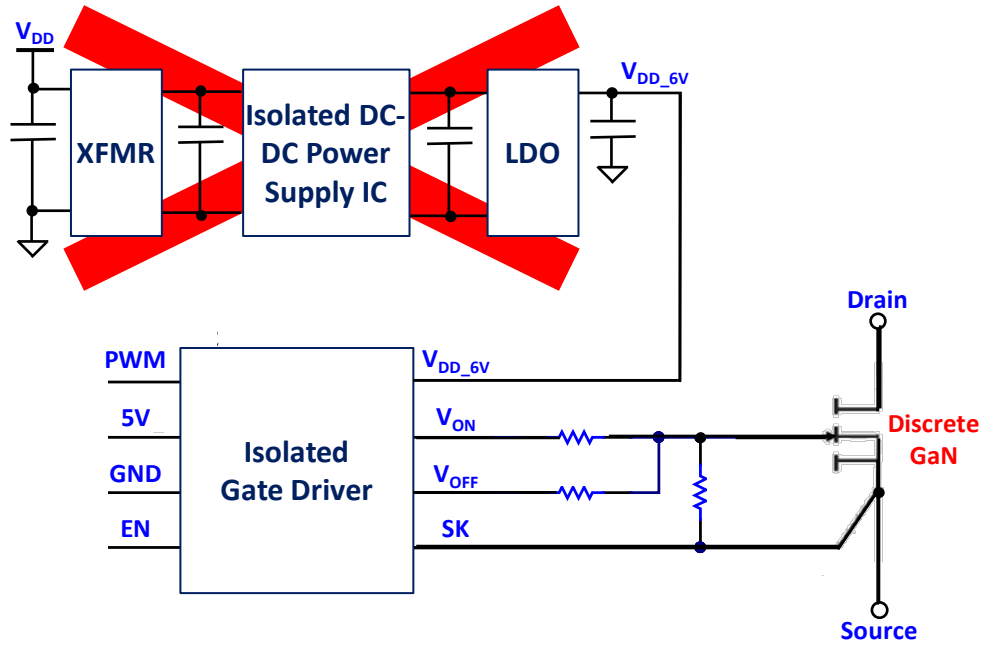
Navitas

	Si 150 kHz LLC	3.2 kW	GaNSafe™ 300 kHz LLC
Main Transformer	 **PQ3628** Size: 36 x 28 x 24 mm	→	 **PQ3033 = 14% smaller** Size: 30 x 33 x 21 mm
Resonant Choke	 **PQ2618:** Size: 26 x 18 x 19 mm	→	 **PQ2018 = 43% smaller** Size: 20 x 18 x 14 mm
Resonant Capacitor & Output MLCC	 **630 V, 10 nF 1206 *40pcs** **16 V, 10 uF 1206 *64pcs**	→	 **630 V, 10 nF 1206 *12pcs** **16 V, 10 uF 1206 *50pcs** **= 40% fewer**
Primary Switch	 **IPT60R055CFD7 *4pcs**	→	 **NV6512C *4pcs**
Protections & Features	 **1 kV ESD**		 **SCP, 2 kV ESD, dV/dt Control**

GaNSafe™: Lower System Cost than Discrete GaN

Navitas

Typical GaN discrete high-side schematic for use in high-power applications:



Eliminate costly DC-DC supply

- GaNSafe™
  - Use Boot Strap for high power applications:
    $1 saved per half-bridge
  - Integrated Miller Clamp, no negative gate drive (V_{GS})
  - Includes SCP protection and 2 kV ESD

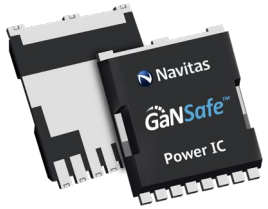
GaNSafe™: Clear Leader in High Power

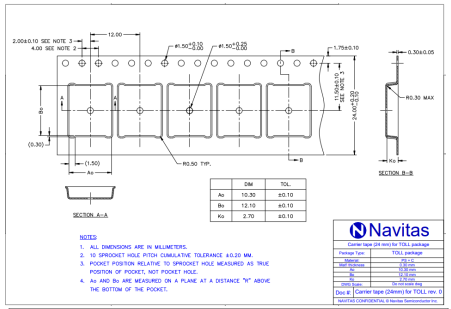
Navitas

Reference	Type	Robust Package	Minimum Pin-Count	Large Cooling Pad	Easy Cooling (Low R_{th})	Robust High Voltage (V_{DS})	Robust Integrated Gate Drive	Robust Gate Voltage	Over Temp Protection	Short-Circuit Protection	Robust ESD (HBM)	Robust ESD (CDM)	Robust dV/dt	Easy EMI
GaNSafe™	GaN Power IC	TOLL	4	50 mm^2	0.36 K/W	800 V	Y	20 V	Y	50 ns	2 kV	1 kV	100 V/ns	(ON,OFF)
Company A	Discrete GaN	TOLL												
B	Discrete GaN	QFN												
C	Discrete GaN	QFN												
D	Discrete GaN	TOLL												
E	Discrete GaN	GaNPX												
F	MCM GaN	High-pin QFN												
G	MCM GaN	High-pin QFN												

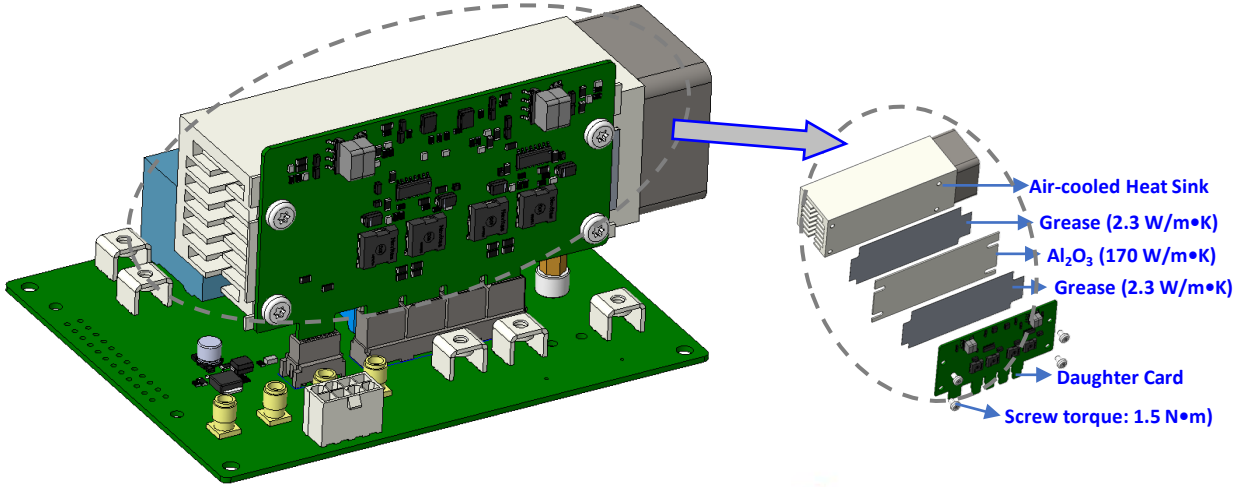
GaNSafe™: Immediate Availability(1)

Navitas

Part#	V_{DS} (Cont, Max) (V)	V_{DS} (Dyn, Max) (V)	$R_{DS(ON)}$ (Max 25°C) (mΩ)	I_D (Max) (A)	Package	Evaluation Kit
NV6515	650	800	35	57	TOLL 10x10 Bottom-cool 	Power Board, Full Bridge Daughter Card, and FanSink/TIM ~ configurable for DPT or Half-Bridge testing
NV6513			45	48		
NV6512			55	34		
NV6511			98	22		



TnR Ordering	
Mini-Reel (7" dia)	Qty500 Pcs "-MR" suffix
Standard (13" dia)	Qty2,000 Pcs

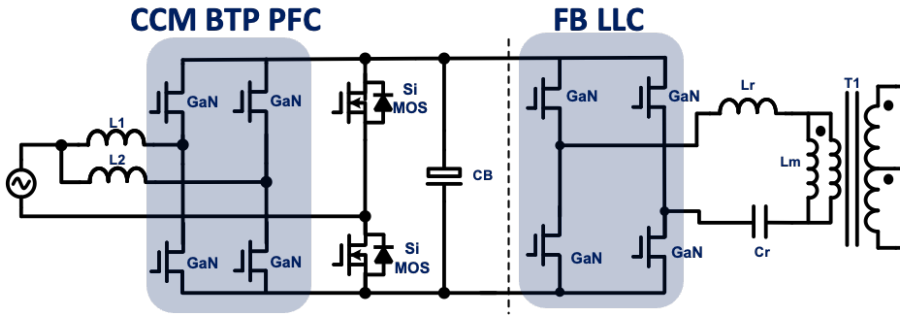


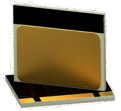
1. Samples and collateral available immediately to qualified customers

GaNSafe™: Maximum Performance in Data Center Power

Navitas

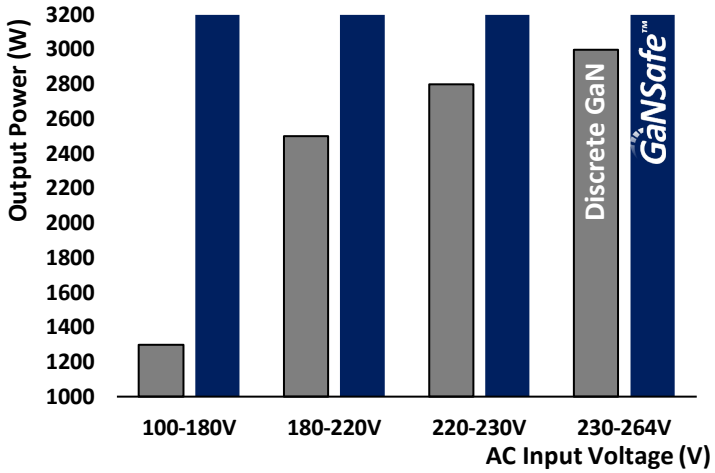
- Data center AC-DC 'silver box' (12V)
- CRPS185 form factor



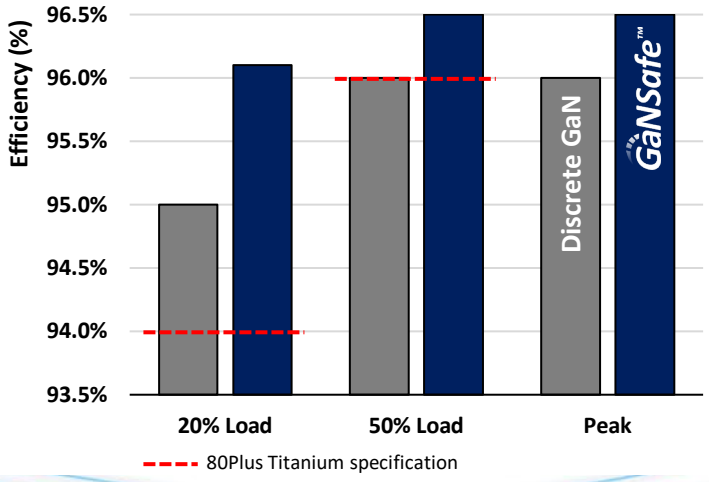
Power	2,800 W	3,200 W
PFC	8 x 32 mΩ	4 x 45 mΩ
DC-DC	4 x 32 mΩ	4 x 55 mΩ
Total	**12** x GaNPX 	**8** x TOLL 

GaNSafe™
33% fewer power components

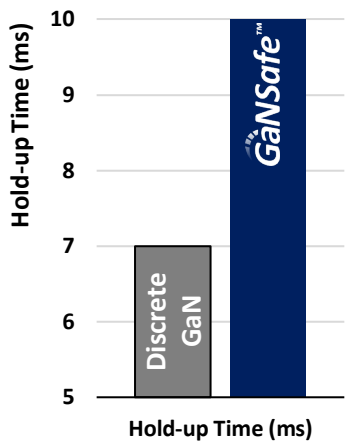
GaNSafe™ True 3,200W CRPS185



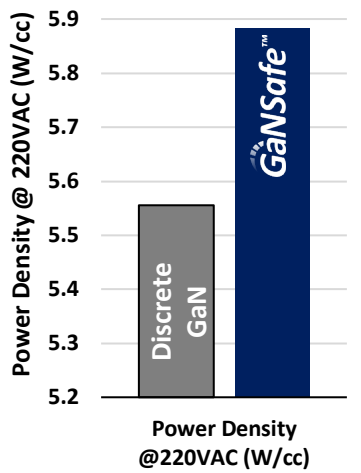
GaNSafe™ Titanium Plus, *with margin*



GaNSafe™ +40% Hold-up



GaNSafe™ ~100W/in³



GaNSafe™ : Higher Efficiency than Si in 3.2kW CRPS

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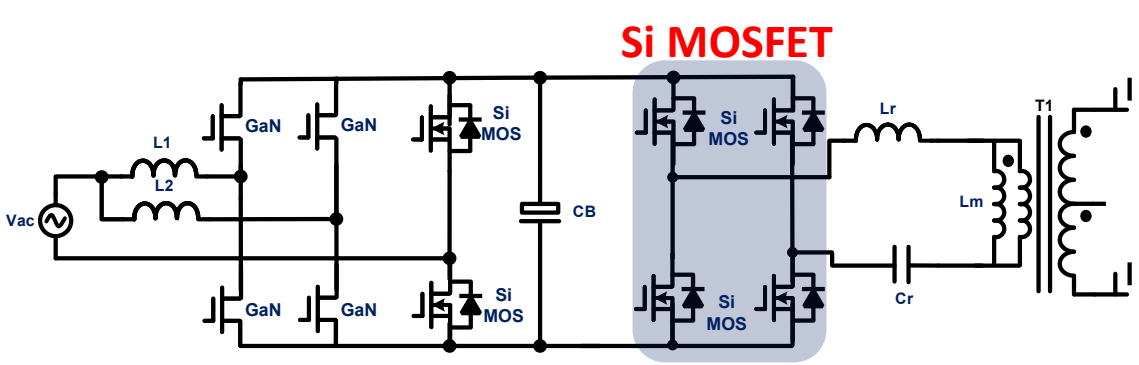
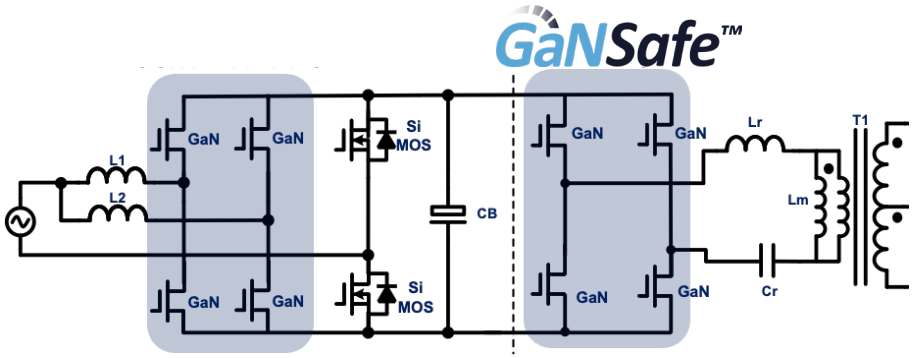
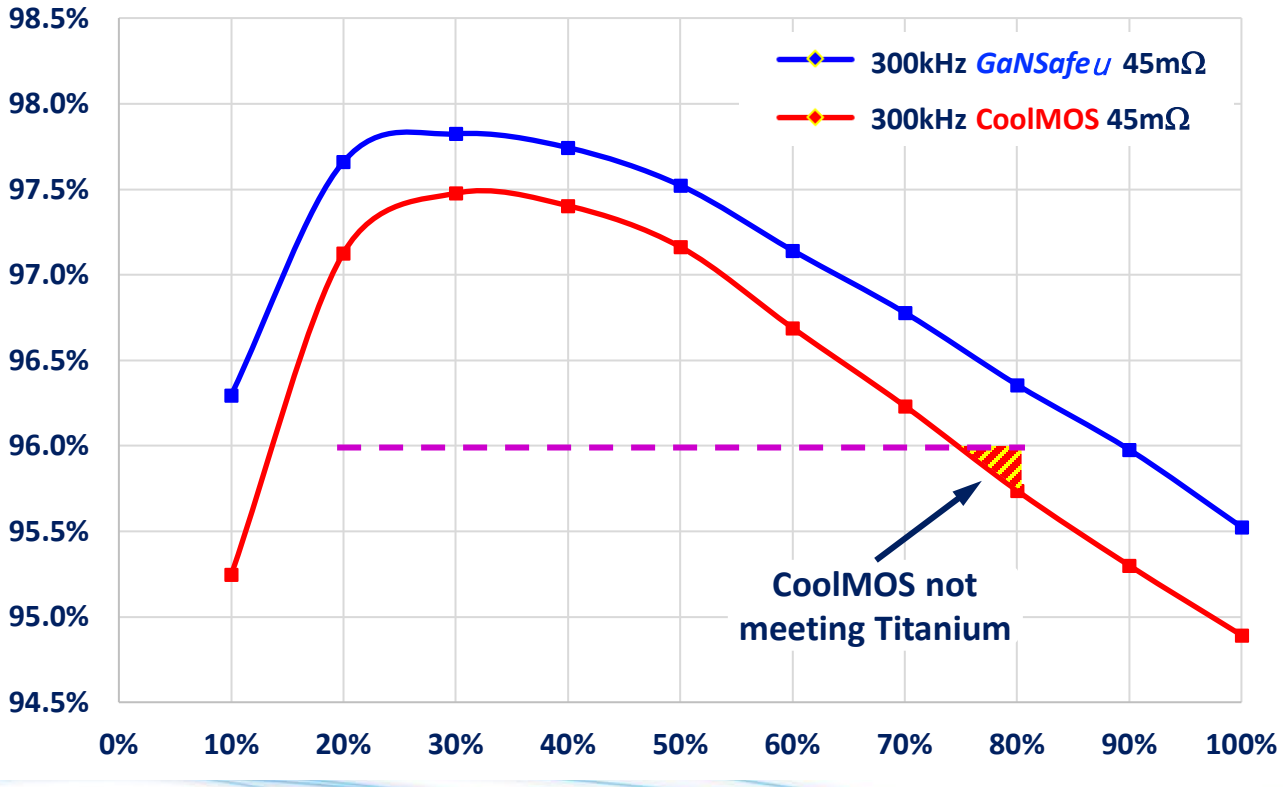






- GaNSafe™ meets Titanium with higher power density at 300kHz
- CoolMOS does not meet Titanium at 300kHz F_{SW} in LLC stage
- GaNSafe™ meets EN55022 / CISPR22 Class A (CE and RE)

GaNSafe™ Delivers Highest Power Density in EV OBC

Navitas

Combination 6.6 kW OBC + 3 kW DC-DC:

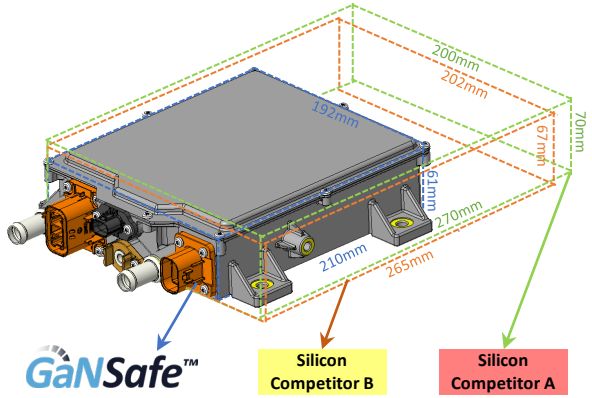
- **AC Input:** 90~265 V_{AC} up to 32 A
- **DC Output:** 470~860 V_{DC}, full load
- **Power Output:** 6.6 kW charging, 6.0 kVA discharging
- **Efficiency:** ≥ 95% @ Full Load
- **DC-DC Output:** 9~16 V_{DC}

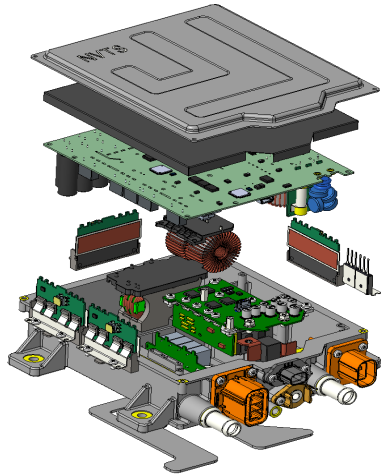
Mechanical:

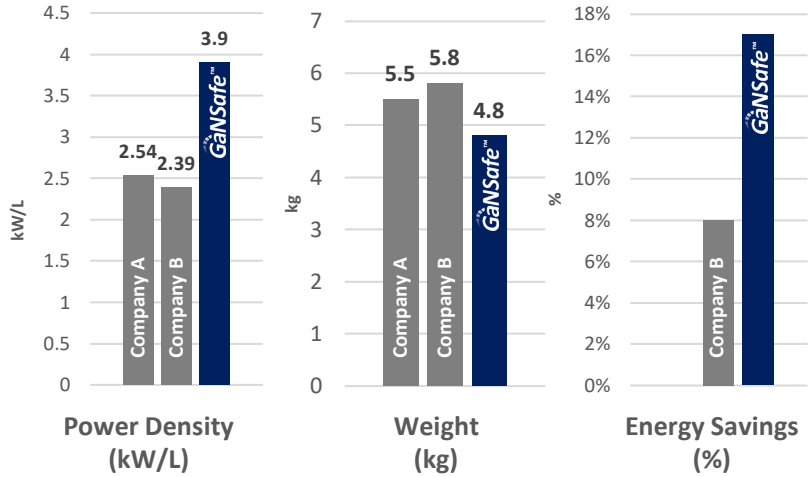
- **Dimensions:** 210 x 192 x 61mm (≤ 2.5 litre)
- **Cooling:** -40 to +65˚C (Cold Plate)
- **Communication:** IP 67, CAN Bus interface

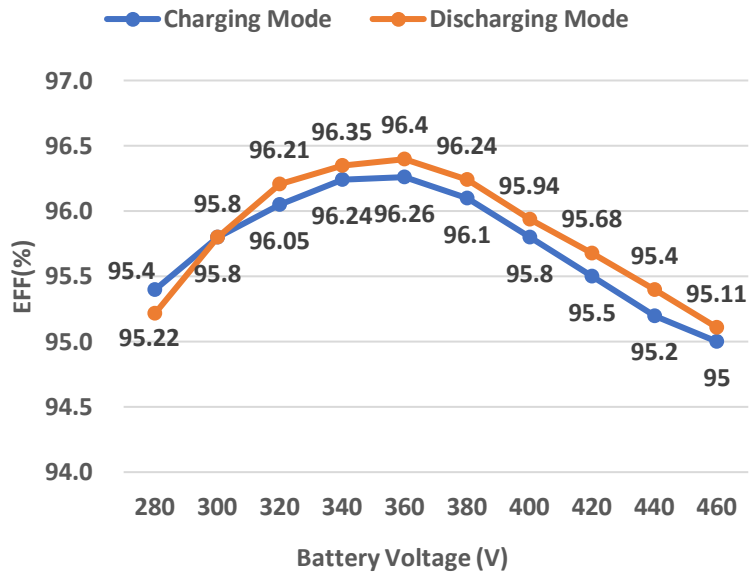
GaNSafe™

Power density +50%
to 3.9 kW/litre









GaNSafe™: World's Safest GaN Power Semiconductor

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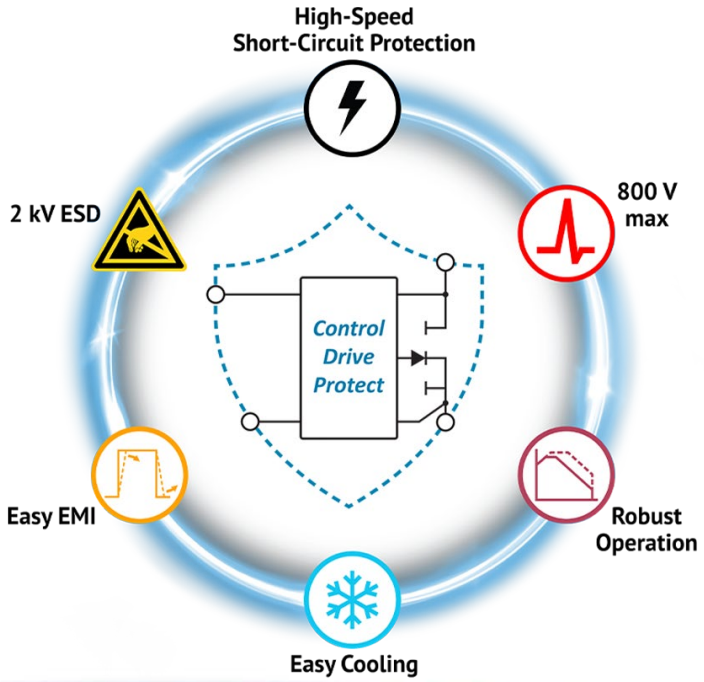

- Navitas is the industry leader in GaN
- GaNFast™:
  - 100M+ shipped, 20-year warranty
- GaNSafe™ :
  - Most protected, most reliable, safest GaN power semi
  - Benchmark efficiency, power density, reliability
  - Robust, 4-pin TOLL
  - Easy to use, fast time-to-market
  - Demonstrated performance for AI, EV, Solar and more
  - Strong customer pipeline
  - ***Driving GaN into high power***

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