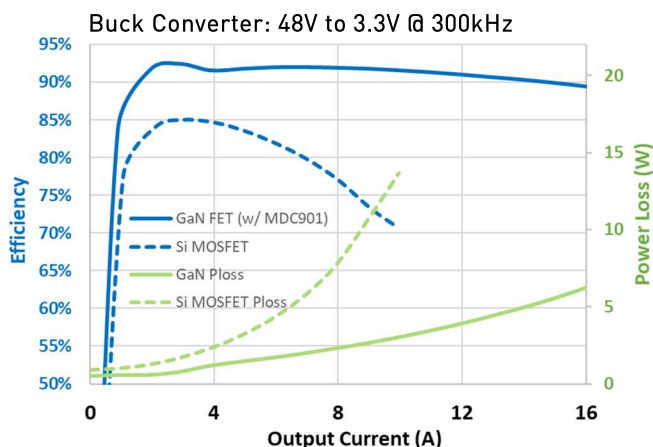


MDC901 200V GaN Gate Driver IC

GaN is the future - Silicon is at its limits



Gallium Nitride (GaN) HEMT (high-electron mobility transistor) dominates silicon with its superior material properties providing extremely high switching speed, low on-resistance and zero reverse recovery. These attributes translate to uncompromised performance with large efficiency gains for decreased magnetic component size and potentially heatsink-less designs.

With an equally matched gate driver to the cutting-edge GaN transistors, full device performance can be exploited.

High Performance, 200V High-Side and Low-Side Gate Driver IC



MDC901 is the most advanced 200V LS & HS GaN gate driver today, delivering unparalleled, integrated features for precise and reliable GaN HEMT operation. With the MDC901, complete optimization of electrical, thermal and safety aspects of high performance GaN is ensured.

MDC901 System-level Benefits



Higher Efficiency

- ✓ Low switching losses
- ✓ Excellent thermal performance



Reliable & Robust

- ✓ Integrated features → reduced BOM
- ✓ On-board protection features
- ✓ Easier design-in



Increased Power Density

- ✓ 5x smaller PCB footprint
- ✓ Smaller external components

MDC901 Application Examples



DC-DC
Converter



Audio
Class-D



BLDC
Motor Drive



LEV (eBikes, eMoped
& eScooters)



Server & Data Center
Point-of-Load



Photovoltaic
Microinverter



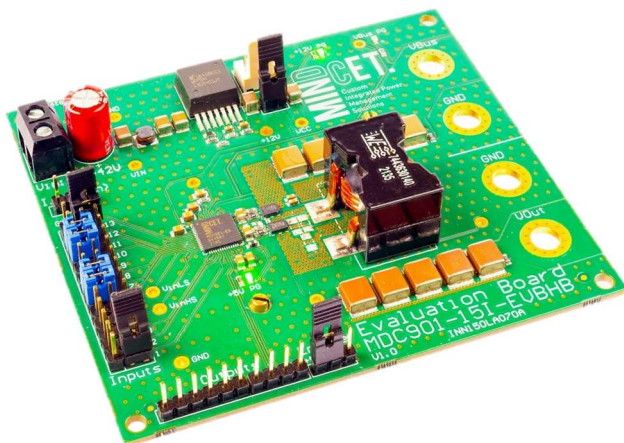
MDC901 200V GaN Gate Driver Features

- Unprecedented gate drive strength up to 9A
- Separate pull-up and pull-down outputs for gate drive tuning
- Programmable true floating regulators (5 or 6V), protecting the sensitive GaN gate against overcharging
- Integrated charge pump for 100% duty cycle applications
- 200V operation, supporting negative source-voltage transients down to -4V
- High efficiency integrated bootstrap diodes
- Automatic closed-loop dead-time or programmable dead-time
- Protection features:
 - Gate signal monitoring outputs
 - Die temperature monitoring
 - UVLO outputs
- Integrated 5V regulator enables single supply voltage operation

The complete MDC901 documentation (including datasheet) can be found at mindcet.com/asic-products

MDC901 Half-bridge Evaluation Kits

Evaluation kits are available to allow the user to simply and flexibly evaluate the MDC901 200V GaN gate driver in a half bridge configuration, forming a buck converter for step-down conversion. The kit provides complete out-of-the-box testing capabilities for quick implementation. At a PCB size of 80x90mm², the evaluation board is compact and accompanied by all required components to quickly begin testing. MDC901 Half-bridge Evaluation Kits are available in the following GaN HEMT device variations:



- (1) MDC901-EVKHB
100V GaN Systems HEMTs (GS61008P)



- (2) MDC901-15I-EVKHB
150V Innoscence FETs (INN150LA070A)



- (3) MDC901-15N-EVKHB
150V Nexperia FETs (GAN7R0-150LBE)



- (4) MDC901-2E-EVKHB
200V EPC eGaN FETs (EPC2215)



Scan for more info

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