

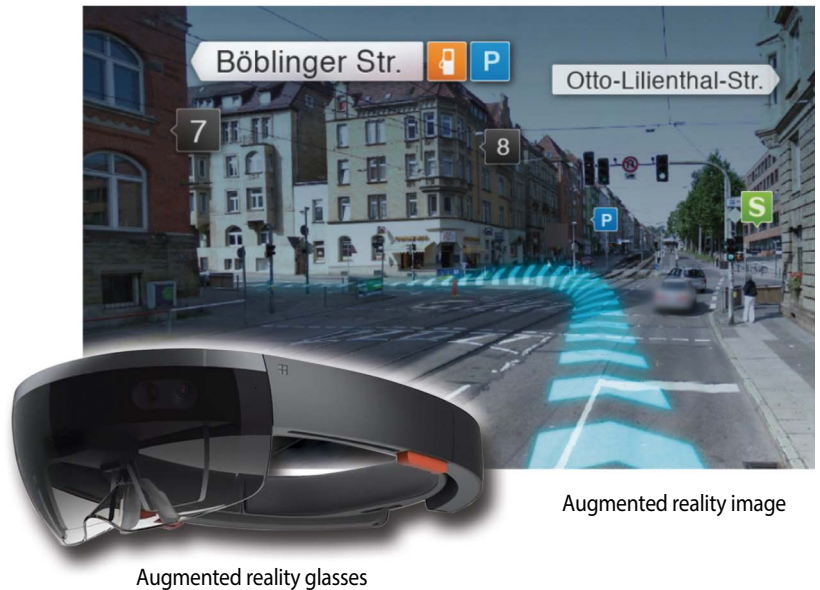
eGaN® FETs and ICs for Augmented Reality



Lidar (Light Distancing and Ranging) is used in augmented reality to create a three dimensional image or map of a surrounding area.

Today's eGaN FET's ability to switch ten times faster than the aging power MOSFET gives Lidar systems superior resolution, faster response time, and greater accuracy. The low temperature coefficient of the gate threshold gives consistent results

These characteristics enable higher resolution and lower laser diode power.

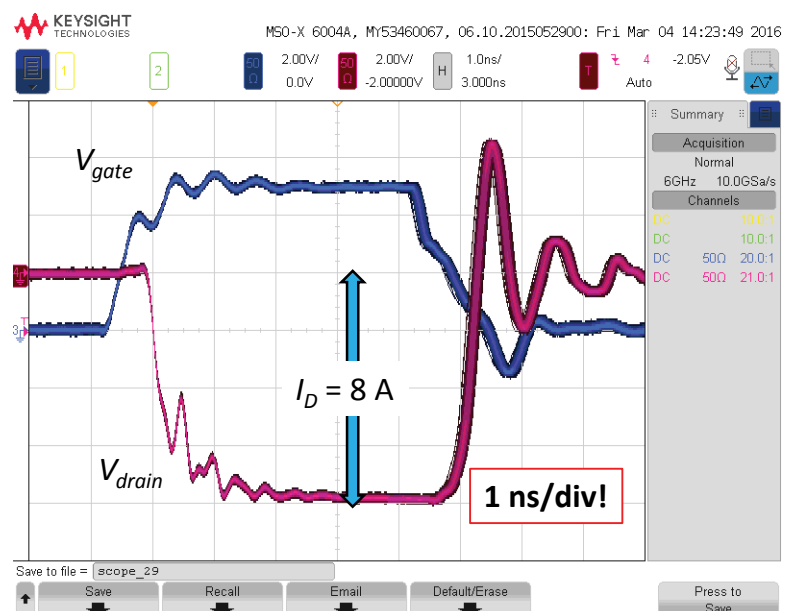


Augmented reality image

Augmented reality glasses

Benefits of eGaN FETs and ICs in Augmented Reality:

- **Narrow Pulses** – lower laser diode heat
- **Higher Efficiency** – lower laser diode driver heat
- **Smaller Footprint** – compact systems
- **Stable with Temperature** – consistent operation



EPC9126HC: 8 A load, 5 ns pulse width, 200 ns rise, 500 ns fall
eGaN FETs enable faster and higher current laser pulses

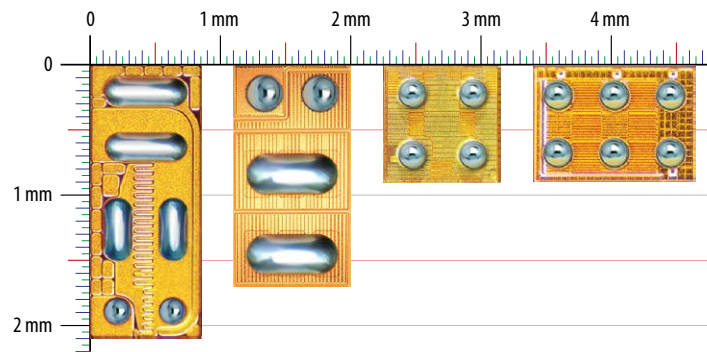
eGaN FETs and ICs

High Current, Narrow Pulse Width Demo Boards

Part Number	Description	V _{BUS} (max)	V _{INPUT} (max)	T _{PIV} (min)	Max Pulse (A)
EPC9144	15 V High Current Pulsed Laser Diode Driver Demo Board	12	5	1 ns	28
EPC9126	100 V High Current Pulsed Laser Diode Driver Demo Board	80	5	6 ns	75
EPC9126HC		80	5	6 ns	150

Recommended Devices for Augmented Reality Lidar

Part Number	Configuration	V _{DS}	Max R _{DS(on)} (mΩ) @ 5 V _{GS}	Q _G typ (nC)	Q _{GS} typ (nC)	Q _{GD} typ (nC)	Q _{OSS} typ (nC)	Q _{RR} (nC)	I _D (A)	Pulsed I _D (A)	Package (mm)	Half-Bridge Development Board
EPC2040	Single	15	30	0.745	0.23	0.14	0.42	0	3.4	28	BGA 0.85 x 1.2	n/a
EPC2216	Single - AEC-Q101	15	26	0.87	0.21	0.13	0.53	0	3.4	28	BGA 0.85 x 1.2	n/a
EPC8004	Single	40	110	0.37	0.12	0.047	0.63	0	4	7.5	LGA 2.05 x 0.85	EPC9024
EPC2014C	Single	40	16	2	0.7	0.3	4	0	10	60	LGA 1.7 x 1.1	EPC9005C
EPC2035	Single	60	45	0.88	0.25	0.16	2.6	0	1.7	24	BGA 0.9 x 0.9	EPC9049
EPC8009	Single	65	130	0.37	0.12	0.055	0.94	0	4	7.5	LGA 2.05 x 0.85	EPC9029



Design Support Materials @ www.epc-co.com

eGaN FETs for Lidar Applications
 DC-DC Converter Handbook
 Wireless Power Handbook - Second Edition
 Reliability Reports

Device Models
 Assembly Guides
 Demo Boards

For More Information

Please contact info@epc-co.com
 or your local sales representative
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