

eGaN® FETs and ICs for Augmented Reality

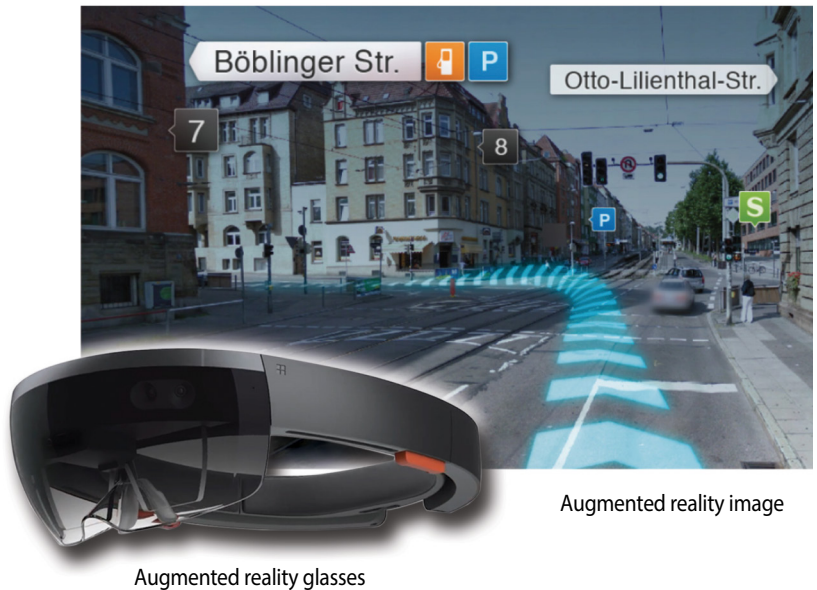


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Lidar (Light Distancing and Ranging) is used in augmented reality to create a three dimensional image or map of a surrounding area.

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.

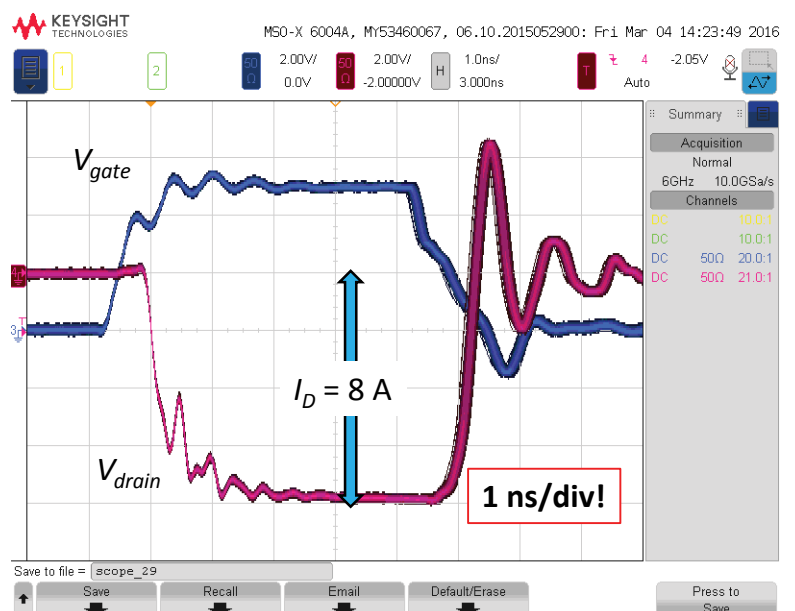


Augmented reality image

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 Eval Boards

Part Number	Default Configuration	Description	V _{BUS} (max)	V _{INPUT} (max)	T _{PIN} (min)	Max Pulse (A)	Featured Product
EPC9144	Indirect Time of Flight (IToF)	High Current Pulsed Laser Diode Driver Eval Board	12	5	1 ns	28	EPC2216
EPC91116	Indirect Time of Flight (IToF)	High Current Pulsed Laser Diode Driver Eval Board	40	5.5	5 ns	17	EPC2203
EPC9154	Indirect Time of Flight (IToF)	High Current Pulsed Laser Diode Driver Eval Board	40	5	2 ns	10	EPC21601
EPC9156	Indirect Time of Flight (IToF)	High Current Pulsed Laser Diode Driver Eval Board	40	5	2 ns	10	EPC21603
EPC9172	Indirect Time of Flight (IToF)	High Current Pulsed Laser Diode Driver Eval Board	60	5	2 ns	15	EPC21701
EPC9179	Resonant Pulse Direct Time of Flight (DToF)	High Current Pulsed Laser Diode Driver Eval Board	70	5	2 ns	75	EPC2252
EPC9181	Resonant Pulse Direct Time of Flight (DToF)	High Current Pulsed Laser Diode Driver Eval Board	70	5	2 ns	125	EPC2204A
EPC9180	Resonant Pulse Direct Time of Flight (DToF)	High Current Pulsed Laser Diode Driver Eval Board	70	5	2 ns	230	EPC2218A
EPC9150	Resonant Pulse Direct Time of Flight (DToF)	High Current Pulsed Laser Diode Driver Eval Board	160	5	1 ns	220	EPC2034C

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 Evaluation 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
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



For More Information

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