

# eGaN® FETs and ICs for Networking Point of Load Converters



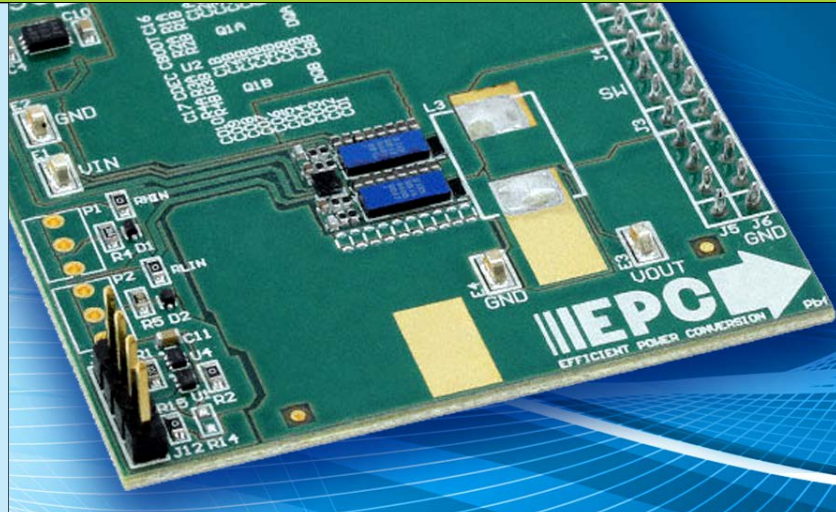
The continually increasing demand for small, high efficiency, high speed response point of load converters is driving demand for faster, more efficient power switches.

eGaN FETs offer big efficiency in a little converter

Low  $Q_{OSS}$  and low  $Q_G$ , along with low inductance, are the keys to the eGaN FET's advantage in POL converters.

eGaN FETs enable:

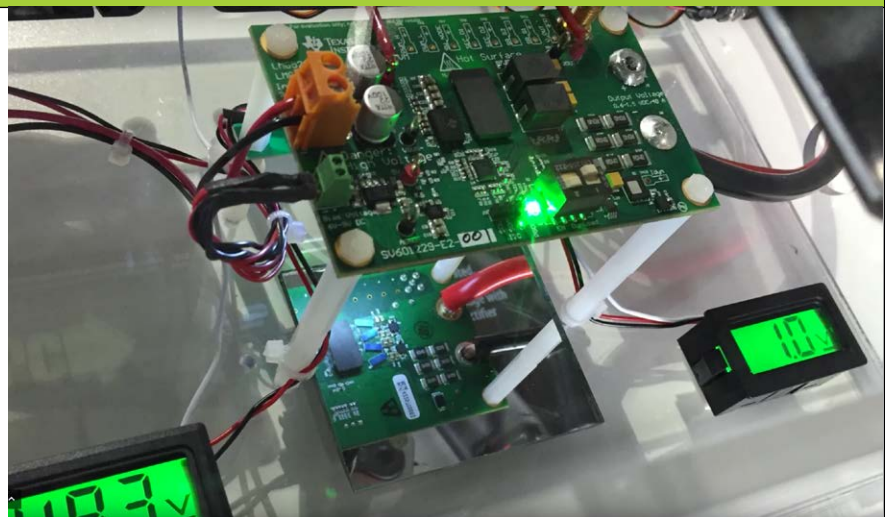
- High Efficiency and High Current at High Frequency
- Single-stage conversion
- Energy savings at light load
- Fast transient response



Single-stage conversion provides higher efficiency, consumes less board space and lowers cost. eGaN FETs and ICs are critical components in achieving single-stage conversion.

## Benefits of eGaN FETs in POL Converter Designs:

- **Higher Current Capability** – Increases output capability
- **Higher Efficiency** – Lower conduction and switching losses, zero reverse recovery losses
- **Smaller Footprint** – Higher power density
- **High Step Down Ratio** – Single stage conversion



Fan Speed = 400 LFM,  $f_{SW} = 1$  MHz  
 $V_{IN} = 12$  V,  $V_{OUT} = 1.2$  V,  $I_{OUT} = 40$  A

## eGaN FET and ICs

## Recommended Devices for POL Converters

Part Number	Configuration	V <sub>DS</sub>	Max R <sub>DS(on)</sub> (mΩ) at 5 V <sub>GS</sub>	Q <sub>G</sub> typ (nC)	Q <sub>GS</sub> typ (nC)	Q <sub>GD</sub> typ (nC)	Q <sub>OSS</sub> typ (nC)	Q <sub>RR</sub> (nC)	I <sub>D</sub> (A)	Pulsed I <sub>D</sub> (A)	Package (mm)	Development Board
EPC2100	Half Bridge	30	8.2 2.1	3.6 15	1.3 4.8	0.6 2.7	6.1 29	0	10 40	100 400	BGA 6.05 x 2.3	EPC9036
EPC2014C	Single	40	16	2	0.7	0.3	4	0	10	60	LGA 1.7 x 1.1	EPC9005C
EPC2055	Single	40	3.6	6.6	2.3	0.7	13	0	29	161	LGA 2.5 x 1.5	EPC90132
EPC2067	Single	40	1.55	17.1	5.3	2	37	0	69	409	LGA 2.85 x 3.25	EPC90138
EPC2066	Single	40	1.1	25	8.9	3.2	59	0	90	639	LGA 6.05 x 2.3	EPC90149
EPC2101	Half Bridge	60	11.5 2.8	3.3 13	1.1 3.9	0.5 2.2	9.3 45	0	10 40	80 350	BGA 6.05 x 2.3	EPC9037
EPC2031	Single	60	3	16	5	3	48	0	48	450	BGA 4.6 x 2.6	EPC9061
EPC2105	Half Bridge	80	14.5 3.6	2.7 11	0.9 3	0.5 2.1	11 51	0	10 40	70 300	BGA 6.05 x 2.3	EPC9041
EPC2252	Single – AEC-Q101	80	11	3.5	1	0.5	15	0	8.2	75	BGA 1.5 x 1.5	EPC9179
EPC2065	Single	80	3.6	9.4	2.6	1.7	33	0	60	215	LGA 3.5 x 2	EPC90137
EPC2206	Single - AEC Q101	80	2.2	15	4.1	3	72	0	90	390	LGA 6.05 x 2.3	EPC90122
EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5	EPC9097
EPC2306	Single	100	3.8	11.0		1.1	41	0	48	197	QFN 3 x 5	EPC90145
EPC2619	Single	100	3.3	8.3	2.1	1	27	0	29	164	LGA 2.5 x 1.5	EPC90153
EPC2088	Single	100	3.2	12.5	4.4	1.4	47	0	60	231	LGA 3.5 x 1.95	EPC90123
EPC2071	Single	100	2.2	18	6	1.8	71	0	64	350	LGA 4.45 x 2.3	EPC90146
EPC2302	Single	100	1.8	23	8	2.3	85	0	101	408	QFN 3 x 5	EPC90142
EPC2361	Single	100	1.0 (typ)	28	7.2	2.5	86	0	101	519	QFN 3 x 5	EPC90156
EPC2307	Single	200	10	10.6		1.3	58	0	48	130	QFN 3 x 5	EPC90150

Note: Table data subject to change. Please refer to the Product section on [epc-co.com/epc/Products/gan-fets-and-ics](http://epc-co.com/epc/Products/gan-fets-and-ics)



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