



Gallium nitride power transistors offer a path to new levels of end product differentiation. Advantages of eGaN® FETs and ICs vs. Si MOSFET in your power design:

- Enables new capabilities
 - Higher switching frequency – *lower switching losses and lower drive power*
 - Higher efficiency – *lower conduction and switching losses, zero reverse recovery losses*
 - Smaller footprint – *higher power density*
- Easy to use – *works like an N-Channel MOSFET only MUCH faster*

EPC Evaluation Boards

Part Number	Description	Focus Application	Featured Product
EPC9162	Bidirectional 50 W (Boost) / 60 W (Buck) Evaluation Module	DC-DC	EPC2052
EPC9157	Small (1/16 th Brick), 300 W Synchronous Buck, Analog Controller, with Motherboard	DC-DC	EPC2218
EPC9165	2 kW Synchronous, Buck or Boost, Digital Controller	DC-DC	EPC2302
EPC9148	237 W Ultra-thin, Multi-level, Synchronous, Buck Converter, 44 V to 60 V, 12.5 A	DC-DC	EPC2053
EPC9177	240 W Small Area, Low-Profile, Synchronous Buck Converter, Digital Controller	DC-DC	EPC23102
EPC9153	250 W Thin, 1-phase Buck Converter, 44 V to 60 V, 12.5 A	DC-DC	EPC2218
EPC9166	500 W Boost Converter with Analog Controller	DC-DC	EPC2218
EPC90135	540 W parallel, half bridge (4 parallel FETs)	DC-DC	EPC2218
EPC9174	1.2 kW small (1/8 th brick), LLC, fixed ration 1:4, Bi-directional for Servers	DC-DC	EPC2071 / EPC2066
EPC9160	125 W Dual Output Synchronous Buck with Analog Controller	DC-DC	EPC2055
EPC9144	Laser Diode Driver Demo Board, 28 A Pulse Capable	Lidar	EPC2216
EPC9154	Laser Diode Driver Demo Board, 10 A Pulse Capable	Lidar	EPC21601
EPC9156	Laser Diode Driver Demo Board, 10 A Pulse Capable	Lidar	EPC21603
EPC9172	Laser Diode Driver Demo Board, 15 A Pulse Capable	Lidar	EPC21701
EPC9126	Laser Diode Driver Demo Board, 75 A Pulse Capable	Lidar	EPC2212
EPC9126HC	Laser Diode Driver Demo Board, 150 A Pulse Capable	Lidar	EPC2001C
EPC9150	Laser Diode Driver Demo Board, 220 A Pulse Capable	Lidar	EPC2034C
EPC9167	20 A _{RMS} 3-Phase BLDC Motor Drive Reference Design Board	Motor Drive	EPC2065
EPC9167HC	30 A _{RMS} 3-Phase BLDC Motor Drive Reference Design Board	Motor Drive	EPC2065
EPC9173	35 A _{RMS} 3-Phase BLDC Motor Drive Reference Design Board	Motor Drive	EPC23101
EPC9171	90–265 V _{RMS} Universal AC Input to 15 V–48 V _{DC} , 5 A Output USB PD3.1	AC-DC	EPC2218

See the full listing of available boards at:
epc-co.com/epc/Products/Demo-Boards



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eGaN® Integrated Circuits

ePower™ Stage

Part Number	Configuration	Function	VPwr	I _{OUT}	I _{OUT} Peak	V _{DD}	Input Logic	F (Max)	UVLO	Package (mm)	Development Board
EPC2152	Half-Bridge ePower™ Stage	ePower™ Stage	80	12.5	90	12	3.3 V	3 MHz	7.5	LGA 3.9 x 2.6	EPC90120
EPC23101	HS FET + Driver + Level Shift	ePower™ Stage	100	65	240	6	5.5 V	3 MHz	0.5 - 4	QFN 3.5 x 5	EPC90142
EPC23102	HS FET + Driver + Level Shift	ePower™ Stage	100	35	140	6	5.5 V	3 MHz	0.5 - 4	QFN 3.5 x 5	EPC90147
EPC23103	HS FET + Driver + Level Shift	ePower™ Stage	100	25	61	6	5.5 V	3 MHz	0.5 - 4	QFN 3.5 x 5	EPC90151
EPC23104	HS FET + Driver + Level Shift	ePower™ Stage	100	15	44	6	5.5 V	3 MHz	0.5 - 4	QFN 3.5 x 5	EPC90152

eToF™ Laser Driver IC

Part Number	Configuration	Function	VPwr	I _{OUT}	I _{OUT} Peak	V _{DD}	Input Logic	F (Max)	UVLO	Package (mm)	Development Board
EPC21601	Single	eToF™ Laser Driver	40	3.7	10	5	3.3 or 5 V	200 MHz	0	BGA 1 x 1.5	EPC9154
EPC21603	Single	eToF™ Laser Driver	40	3.7	10	5	LVDS	200 MHz	0	BGA 1 x 1.5	EPC9156
EPC21701	Single	eToF™ Laser Driver	80	7.2	15	5	3.3 or 5 V	50 MHz	0	BGA 1.7 x 1	EPC9172

Part Number	Configuration	V _{DS}	Max R _{DS(on)} (mΩ) at 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)	Evaluation Board
EPC2216	Single – AEC-Q101	15	26	0.87	0.21	0.13	0.53	0	3.4	28	BGA 0.85 x 1.2	EPC9144
EPC2111	Half Bridge	30	19/8	1.7/4.5	0.6/1.4	0.3/0.8	3.3/9.6	0	16	50/140	BGA 3.5 x 1.5	EPC9086
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
EPC8004	Single	40	110	0.37	0.12	0.047	0.63	0	4	7.5	LGA 2.05 x 0.85	EPC9066
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
EPC2035	Single	60	45	0.88	0.25	0.16	2.6	0	1.7	24	BGA 0.9 x 0.9	EPC9049
EPC2102	Half Bridge	60	4.9	8	2.5	1.5	26/31	0	30	220	BGA 6.05 x 2.3	EPC9038
EPC2031	Single	60	2.6	16	5	3.2	48	0	48	450	BGA 4.6 x 2.6	EPC9061
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
EPC2219	Single with Gate Diode – AEC-Q101	65	3300	0.044	0.02	0.004	0.104	0	0.5	0.5	BGA 0.9 x 0.9	n/a
EPC8002	Single	65	480	0.133	0.057	0.015	0.344	0	2	2	LGA 2.05 x 0.85	EPC9022
EPC8009	Single	65	130	0.37	0.12	0.055	0.94	0	4	7.5	LGA 2.05 x 0.85	EPC9067
EPC2203	Single – AEC-Q101	80	80	0.67	0.22	0.12	3.6	0	1.7	17	BGA 0.9 x 0.9	n/a
EPC2214	Single – AEC-Q101	80	20	1.8	0.5	0.3	8	0	10	47	BGA 1.35 x 1.35	n/a
EPC2252	Single – AEC-Q101	80	11	3.5	1	0.5	15	0	8.2	75	BGA 1.5 x 1.5	EPC9179
EPC2103	Half Bridge	80	5.5	6.5	2.2	1.1	30/34	0	30	195	BGA 6.05 x 2.3	EPC9039
EPC2204A	Single – AEC-Q101	80	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5	n/a
EPC2065	Single	80	3.6	9.4	2.6	1.7	33	0	60	215	LGA 3.5 x 2	EPC90137
EPC2619	Single	80	3.3	8.3	2.1	1	27	0	164	150	LGA 2.5 x 1.5	EPC90153
EPC2218A	Single – AEC-Q101	80	3.2	10.5	3.2	1.5	46	0	60	231	LGA 3.5 x 1.95	n/a
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
EPC2206	Single - AEC Q101	80	2.2	15	4.1	3	72	0	90	390	LGA 6.05 x 2.3	EPC90122
UP1966E	Half Bridge Driver IC	80									BGA 1.6 x 1.6	EPC90123
EPC2038	Single with Gate Diode	100	3300	0.044	0.02	0.004	0.134	0	0.5	0.5	BGA 0.9 x 0.9	EPC9507
EPC2037	Single	100	550	0.115	0.032	0.025	0.6	0	1.7	2.4	BGA 0.9 x 0.9	EPC9051
EPC2107	Dual with Sync Boot	100	390/3300	0.19/0.044	0.077/0.02	0.041/0.004	0.9/1.25/0.134	0	1.7/0.5	3.8/0.5	BGA 1.35 x 1.35	EPC9063
EPC8010	Single	100	160	0.36	0.13	0.06	2.2	0	4	7.5	LGA 2.05 x 0.85	EPC9068
EPC2036	Single	100	73	0.7	0.17	0.14	3.9	0	1.7	18	BGA 0.9 x 0.9	EPC9050
EPC2106	Half Bridge	100	70	0.73	0.24	0.140	3.96/4.68	0	1.7	18	BGA 1.35 x 1.35	EPC9055
EPC2221	Dual Common Source – AEC-Q101	100	58	0.85	0.27	0.19	4.7	0	5	20	BGA 1.35 x 1.35	n/a
EPC2051	Single	100	25	1.8	0.6	0.3	7.3	0	1.7	37	BGA 1.3 x 0.85	EPC9091
EPC2212	Single – AEC-Q101	100	13.5	3.2	0.9	0.6	18	0	18	75	BGA 1.5 x 1.5	EPC9092
EPC2044	Single	100	10.5	4.3	1.3	0.5	15	0	9.4	89	BGA 2.5 x 1.5	EPC90128
EPC2104	Half Bridge	100	6.8	6.8	2.3	1.4	35/41	0	30	180	BGA 6.05 x 2.3	EPC9040
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
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
EPC2110	Dual Common Source	120	110	0.8	0.25	0.18	4	0	3.4	20	BGA 1.35 x 1.35	EPC9058
EPC2308	Single	150	6	11	3.8	1.3	50	0	48	157	QFN 3 x 5	EPC90148
EPC2305	Single	150	4	21	6.3	2.6	105	0	80	329	QFN 3 x 5	EPC90143
EPC2059	Single	170	9	5.7	1.3	0.9	35	0	24	102	LGA 2.8 x 1.4	EPC9098
EPC2012C	Single	200	100	1	0.3	0.2	10	0	5	22	LGA 1.7 x 0.9	EPC9004C
EPC2054	Single	200	43	2.9	0.9	0.30	15	0	3.0	32	BGA 1.3 x 1.3	EPC9094
EPC2207	Single	200	22	4.5	1.3	0.7	23	0	14	54	LGA 2.8 x 0.9	EPC90124
EPC2307	Single	200	10	10.6		1.3	58	0	48	130	QFN 3 x 5	EPC90150
EPC2034	Single	200	10	8.8	3	1.8	75	0	48	200	BGA 4.6 x 2.6	EPC9048
EPC2215	Single	200	8	13.6	3.3	2.1	69	0	32	162	LGA 4.6 x 1.6	EPC9099
EPC2304	Single	200	5	21	0.0	2.6	115	0	102	260	QFN 3 x 5	EPC90140
EPC2050	Single	350	80	2.9	1.3	0.3	35	0	6.2	26	BGA 1.95 x 1.95	EPC90121

Rad Hard GaN FETs

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)	Development Board
EPC7019	Single – Rad Hard	40	1.5	22	7.6	3.4	51	0	530	150	LGA 6.05 x 2.3	n/a
EPC7014	Single – Rad Hard	60	340	142	43	25	764	0	2	4	BGA 0.9 x 0.9	n/a
EPC7004	Single – Rad Hard	100	7	6.4	2.2	1.1	37	0	60	150	LGA 4.1 x 1.6	n/a
EPC7018	Single – Rad Hard	100	3.9	15.2	4	2.6	77	0	90	345	LGA 6.05 x 2.3	n/a
EPC7007	Single – Rad Hard	200	25	5.4	1.5	1	37	0	20	80	LGA 3.6 x 1.6	n/a