

eGaN FETs and ICs, Development Boards, Demonstration Boards and Evaluation Kits



eGaN FETs and ICs (15 V – 80 V)

Part Number	Configuration	V _{DS} max	V _{GS} max	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)	C _{ISS} (pF)	C _{OSS} (pF)	C _{RSS} (pF)	I _D (A)	Pulsed I _D (A)	Max T _J (°C)	Package (mm)	Development Board
EPC2040	Single	15	6	30	0.745	0.23	0.14	0.42	0	86	67	20	3.4	28	150	BGA 0.85 x 1.2	n/a
EPC2216	Single – AEC-Q101	15	6	26	0.87	0.21	0.13	0.53	0	98	66	20	3.4	28	150	BGA 0.85 x 1.2	n/a
EPC2111	Half Bridge	30	6	19 8	1.7 4.5	0.6 1.4	0.3 0.8	3.3 9.6	0	190 495	170 490	21 8	16	50 140	150	BGA 3.5 x 1.5	EPC9086
EPC2100	Half Bridge	30	6	8.2 2.1	3.6 15	1.3 4.8	0.6 2.7	6.1 29	0	395 1630	290 1370	15 64	10 40	100 400	150	BGA 6.05 x 2.3	EPC9036
EPC2023	Single	30	6	1.45	19	5.7	3.2	30	0	2150	1530	100	90	590	150	LGA 6.05 x 2.3	EPC9031
EPC8004	Single	40	6	110	0.37	0.12	0.047	0.63	0	45	23	0.8	4	7.5	150	LGA 2.05 x 0.85	EPC9024
EPC2014C	Single	40	6	16	2	0.7	0.3	4	0	220	150	6.5	10	60	150	LGA 1.7 x 1.1	EPC9005C
EPC2015C	Single	40	6	4	8.7	2.7	1.2	19	0	980	710	18	53	235	150	LGA 4.1 x 1.6	EPC9001C
EPC2055	Single	40	6	3.6	6.6	2.3	0.7	13	0	841	408	8.8	29	161	150	LGA 2.5 x 1.5	EPC90132
EPC2030	Single	40	6	2.4	17	5.8	3.4	32	0	1960	1120	62	48	490	150	BGA 4.6 x 2.6	EPC9060
EPC2024	Single	40	6	1.5	18	5.1	2.4	45	0	1920	1620	29	90	560	150	LGA 6.05 x 2.3	EPC9032
EPC2108	Dual with Sync Boot	60	6	240 3300	0.24 0.044	0.106 0.02	0.047 0.004	0.71 0.93 0.134	0	22 7	13 23 1.6	0.4 0.02	1.7 0.5	5.5 0.5	150	BGA 1.35 x 1.35	EPC9064
EPC2035	Single	60	6	45	0.88	0.25	0.16	2.6	0	95	60	2	1.7	24	150	BGA 0.9 x 0.9	EPC9049
EPC2102	Half Bridge	60	6	4.9	8	2.5	1.5	26 31	0	850	500 610	11	30	220	150	BGA 6.05 x 2.3	EPC9038
EPC2031	Single	60	6	3	16	5	3	48	0	1640	980	35	48	450	150	BGA 4.6 x 2.6	EPC9061
EPC2101	Half Bridge	60	6	11.5 2.8	3.3 13	1.1 3.9	0.5 2.2	9.3 45	0	300 1200	200 1000	5 25	10 40	80 350	150	BGA 6.05 x 2.3	EPC9037
EPC2020	Single	60	6	2.2	16	3.9	2.3	50	0	1780	1020	24	90	470	150	LGA 6.05 x 2.3	EPC9033
EPC2219	Single with Gate Diode – AEC-Q101	65	6	3300	0.044	0.02	0.004	0.104	0	7	2	0.025	0.5	0.5	150	BGA 0.9 x 0.9	n/a
EPC8002	Single	65	6	480	0.133	0.057	0.015	0.344	0	20	6.7	0.12	2	2	150	LGA 2.05 x 0.85	EPC9022
EPC8009	Single	65	6	130	0.37	0.12	0.055	0.94	0	45	19	0.5	4	7.5	150	LGA 2.05 x 0.85	EPC9029
EPC2203	Single – AEC-Q101	80	5.75	80	0.67	0.22	0.12	3.6	0	73	47	0.5	1.7	17	150	BGA 0.9 x 0.9	n/a
EPC2039	Single	80	6	25	1.91	0.76	0.42	7.64	0	210	115	2	6.8	50	150	BGA 1.35 x 1.35	EPC9057
EPC2214	Single – AEC-Q101	80	6	20	1.8	0.5	0.3	8	0	198	129	1.8	10	47	150	BGA 1.35 x 1.35	n/a
EPC2202	Single – AEC-Q101	80	5.75	17	3.2	1	0.55	18	0	345	230	3	18	75	150	LGA 2.1 x 1.6	n/a
EPC2103	Half Bridge	80	6	5.5	6.5	2.2	1.1	30 34	0	730	445 525	7	30	195	150	BGA 6.05 x 2.3	EPC9039
EPC2029	Single	80	6	3.2	13	3.4	1.9	53	0	1410	820	17	48	360	150	BGA 4.6 x 2.6	EPC9046
EPC2105	Half Bridge	80	6	14.5 3.6	2.7 11	0.9 3	0.5 2.1	11 51	0	300 1170	170 780	3 12	10 40	70 300	150	BGA 6.05 x 2.3	EPC9041
EPC2021	Single	80	6	2.2	15	4.1	3	72	0	1610	1100	15	90	390	150	LGA 6.05 x 2.3	EPC9034
EPC2206	Single – AEC-Q101	80	6	2.2	15	4.1	3	72	0	1610	1100	15	90	390	150	LGA 6.05 x 2.3	EPC90122

eGaN FETs and ICs (100 V – 350 V)

Part Number	Configuration	V _{DS} max	V _{GS} max	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)	C _{ISS} (pF)	C _{OSS} (pF)	C _{RSS} (pF)	I _D (A)	Pulsed I _D (A)	Max T _J (°C)	Package (mm)	Development Board
EPC2038	Single with Gate Diode	100	6	3300	0.044	0.02	0.004	0.134	0	7	1.6	0.02	0.5	0.5	150	BGA 0.9 x 0.9	EPC9507
EPC2037	Single	100	6	550	0.115	0.032	0.025	0.6	0	14	6.5	0.1	1.7	2.4	150	BGA 0.9 x 0.9	EPC9087
EPC2107	Dual with Sync Boot	100	6	390 3300	0.19 0.044	0.077 0.02	0.041 0.004	0.9 1.25 0.134	0	16 7	17 1.6	0.3 0.02	1.7 0.5	3.8 0.5	150	BGA 1.35 x 1.35	EPC9063
EPC8010	Single	100	6	160	0.36	0.13	0.06	2.2	0	43	25	0.3	4	7.5	150	LGA 2.05 x 0.85	EPC9030
EPC2036	Single	100	6	73	0.7	0.17	0.14	3.9	0	75	50	0.7	1.7	18	150	BGA 0.9 x 0.9	EPC9050
EPC2106	Half Bridge	100	6	70	0.73	0.24	0.140	3.96 4.68	0	79	52 61	0.5	1.7	18	150	BGA 1.35 x 1.35	EPC9055
EPC2007C	Single	100	6	30	1.6	0.6	0.3	8.3	0	170	110	1.9	6	40	150	LGA 1.7 x 1.1	EPC9006C
EPC2051	Single	100	6	25	1.8	0.6	0.3	7.3	0	224	86	1	1.7	37	150	LGA 1.3 x 0.85	EPC9091
EPC2016C	Single	100	6	16	3.4	1.1	0.55	16	0	360	210	3.2	18	75	150	LGA 2.1 x 1.6	EPC9010C
EPC2212	Single – AEC-Q101	100	6	13.5	3.2	0.9	0.6	18	0	339	238	3	18	75	150	LGA 2.1 x 1.6	n/a
EPC2052	Single	100	6	13.5	3.5	1.5	0.5	13	0	441	195	3.2	8.2	74	150	BGA 1.5 x 1.5	EPC9092
EPC2045	Single	100	6	7	6	1.9	0.8	25	0	767	295	3	16	130	150	BGA 2.5 x 1.5	EPC9078
EPC2001C	Single	100	6	7	7.5	2.4	1.2	31	0	770	430	10	36	150	150	LGA 4.1 x 1.6	EPC9002C
EPC2104	Half Bridge	100	6	6.8	6.8	2.3	1.4	35 41	0	730	430 500	5	30	180	150	BGA 6.05 x 2.3	EPC9040
EPC2204	Single	100	6	6	5.7	1.8	0.8	25	0	644	304	2.3	29	125	150	LGA 2.5 x 1.5	EPC9097
EPC2032	Single	100	6	4	12	3	2	66	0	1270	800	12	48	340	150	BGA 4.6 x 2.6	EPC9062
EPC2053	Single	100	6	3.8	11.4	4.1	1.5	45	0	1453	642	10.4	48	246	150	BGA 3.5 x 2	EPC9093
EPC2218	Single	100	6	3.2	10.5	3.2	1.5	46	0	1189	562	4.3	60	231	150	LGA 3.5 x 1.95	EPC90123
EPC2022	Single	100	6	3.2	13.2	3.4	2.4	71	0	1400	840	7	90	390	150	LGA 6.05 x 2.3	EPC9035
EPC2110	Dual Common Source	120	6	110	0.8	0.25	0.18	4	0	85	45	1	3.4	20	150	BGA 1.35 x 1.35	EPC9058
EPC2033	Single	150	6	7	12	3.8	3.2	90	0	1160	480	6	48	260	150	BGA 4.6 x 2.6	EPC9047
EPC2059	Single	170	6	9	5.7	1.3	0.9	35	0	633	267	1.6	24	102	150	LGA 2.8 x 1.4	EPC9098
EPC2012C	Single	200	6	100	1	0.3	0.2	10	0	100	64	0.4	5	22	150	LGA 1.7 x 0.9	EPC9004C
EPC2019	Single	200	6	50	1.8	0.6	0.35	18	0	200	110	0.7	8.5	42	150	LGA 2.77 x 0.95	EPC9014
EPC2010C	Single	200	6	25	3.7	1.3	0.7	40	0	380	240	1.8	22	90	150	LGA 3.6 x 1.6	EPC9003C
EPC2207	Single	200	6	22	4.5	1.3	0.7	23	0	454	130	0.7	14	54	150	LGA 2.9 x 0.9	EPC90124
EPC2034	Single	200	6	10	8.8	3	1.8	75	0	950	450	2.3	48	200	150	BGA 4.6 x 2.6	EPC9048
EPC2215	Single	200	6	8	13.6	3.3	2.1	69	0	1356	390	2	32	162	150	LGA 4.6 x 1.6	EPC9099
EPC2034C	Single	200	6	8	11.4	3.8	2.1	95	0	1166	630	2.8	48	213	150	BGA 4.6 x 2.6	EPC9048C
EPC2050	Single	350	6	65	3.8	1.2	0.4	36	0	477	70	0.3	6.3	40	150	BGA 1.95 x 1.95	EPC9084

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	70	12.5		12	3.3V			LGA 3.65 x 2.59	EPC90120

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	3.3V			BGA 1 x 1.5	EPC9154
EPC21603	Single	eToF™ Laser Driver	40	3.7	10	5	LVDS			BGA 1 x 1.5	EPC9156

FETs and ICs table data subject to change. Please visit: www.epc-co.com/epc/Products/eGaNfetsandICs.aspx

DrGaN^{PLUS}

Part Number	Description	V _{DS} (max)	I _D (max RMS)	Featured Product
EPC9204	PCB-based GaN IC Power Module for High Frequency Point-of-Load	20	10	EPC2111
EPC9201	PCB-based half-bridge circuit module	30	40	EPC2015C / EPC2023
EPC9205	PCB-based GaN Power Module for 48 V – 12 V Intermediate Bus Conversion	80	10	EPC2045
EPC9203	PCB-based half-bridge circuit module	80	20	EPC2021

Half-Bridge Development Boards

Part Number	Description	V _{DS} (max)	I _D (max RMS)	Featured Product
EPC9036	Power Stage Evaluation of Monolithic GaN Half Bridge	30	25	EPC2100
EPC9031	Half Bridge Plus Driver	30	40	EPC2023
EPC9059	Half Bridge Parallel Evaluation For High Current Applications	30	50	EPC2100
EPC9066	Half Bridge Plus Driver with Synchronous Bootstrap	40	2.7	EPC8004
EPC9005C	Half Bridge Plus Driver	40	7	EPC2014C
EPC9001C	Half Bridge Plus Driver	40	15	EPC2015C
EPC9060	Half Bridge Plus Driver	40	25	EPC2030
EPC9032	Half Bridge Plus Driver	40	40	EPC2024
EPC9024	Half Bridge Plus Driver	40	4.4	EPC8004
EPC9064	Half Bridge Plus Driver Configurable as Buck or ZVS Class D	60	1.5	EPC2108
EPC9049	Half Bridge Plus Driver	60	4	EPC2035
EPC9038	Power Stage Evaluation of Monolithic GaN Half Bridge	60	20	EPC2102
EPC9037	Power Stage Evaluation of Monolithic GaN Half Bridge	60	22	EPC2101
EPC9061	Half Bridge Plus Driver	60	24	EPC2031
EPC9033	Half Bridge Plus Driver	60	40	EPC2020
EPC9067	Half Bridge Plus Driver with Synchronous Bootstrap	65	2.7	EPC8009
EPC9022	Half Bridge Plus Driver	65	1.6	EPC8002
EPC9029	Half Bridge Plus Driver	65	3.5	EPC8009
EPC9057	Half Bridge Plus Driver	80	6	EPC2039
EPC9039	Power Stage Evaluation of Monolithic GaN Half Bridge	80	17	EPC2103
EPC90120	Half-Bridge Development Board for 80 V ePower™ Stage	80	10	EPC2152
EPC9080	Half Bridge Plus Driver for Low Duty Cycle Applications	80	20	EPC2001 / EPC2021
EPC9041	Power Stage Evaluation of Monolithic GaN Half Bridge	80	20	EPC2105
EPC9078	Half Bridge Plus Driver	80	20	EPC2045
EPC9046	Half Bridge Plus Driver	80	22	EPC2029
EPC9034	Half Bridge Plus Driver	80	35	EPC2021
EPC90122	Half Bridge Plus Driver	80	40	EPC2206
EPC9080	Half Bridge Plus Driver for High Step Down / High Current	80	30	EPC2045 / EPC2022
EPC9087	Half Bridge Plus Driver	100	1	EPC2037
EPC9063	Half Bridge with Sync FET Bootstrap Gate Drive	100	1.5	EPC2107
EPC9050	Half Bridge Plus Driver	100	2.5	EPC2036
EPC9068	Half Bridge Plus Driver with Synchronous Bootstrap	100	2.7	EPC8010
EPC9055	Half Bridge Plus Driver	100	3	EPC2106
EPC9091	Half Bridge Plus Driver	100	5	EPC2051
EPC9092	Half Bridge Plus Driver	100	5	EPC2052
EPC9006C	Half Bridge Plus Driver	100	7	EPC2007C
EPC9010C	Half Bridge Plus Driver	100	7	EPC2016C
EPC9002C	Half Bridge Plus Driver	100	10	EPC2001C
EPC9040	Power Stage Evaluation of Monolithic GaN Half Bridge	100	15	EPC2104
EPC9093	Half Bridge Plus Driver	100	20	EPC2053
EPC9017	Half Bridge Plus Driver for Low Duty Cycle Applications	100	20	EPC2001C
EPC9062	Half Bridge Plus Driver	100	20	EPC2032
EPC9035	Half Bridge Plus Driver	100	30	EPC2022
EPC9030	Half Bridge Plus Driver	100	3.2	EPC8010
EPC9013	Multiple Half Bridges in Parallel	100	35	EPC2001C

Half-Bridge Development Boards (continued)

Part Number	Description	V _{DS} (max)	I _D (max RMS)	Featured Product
EPC9047	Half Bridge Plus Driver	150	12	EPC2033
EPC9048	Half Bridge Plus Driver	160	12	EPC2034
EPC9048C	Half Bridge Plus Driver	160	15	EPC2034C
EPC9004C	Half Bridge Plus Driver	200	3	EPC2012C
EPC9014	Half Bridge Plus Driver	200	4	EPC2019
EPC9003C	Half Bridge Plus Driver	200	5	EPC2010C
EPC9084	Half Bridge Plus Driver	350	4	EPC2050

High Frequency Half-Bridge Development Boards

Part Number	Description	V _{DS} (max)	I _D (max RMS)	Featured Product
EPC9086	Half Bridge Plus Driver	30	15	EPC2111
EPC9024	Half Bridge Plus Driver	40	4.4	EPC8004
EPC9022	Half Bridge Plus Driver	65	1.6	EPC8002
EPC9029	Half Bridge Plus Driver	65	3.5	EPC8009
EPC9030	Half Bridge Plus Driver	100	3.2	EPC8010

DC-DC Conversion

Part Number	Description	V _{IN}	V _{OUT}	I _{OUT} (A)	Featured Product
EPC9141	48 V - 12 V Buck Converter	48 V	12 V	10 A	EPC2045
EPC9157	300 W 1/16 th Brick Evaluation Module	18 V - 60 V	12 V	25 A	EPC2218
EPC9143	300 W 1/16 th Brick Evaluation Module	18 V - 60 V	12 V	25 A	EPC2053
EPC9151	300 W Bidirectional 1/16 th Brick Evaluation Module	18 V - 60 V (Buck) 12 V - 15 V (Boost)	12 V (Buck) 48 V (Boost)	25 A (Buck) 5.5 A (Boost)	EPC2152
EPC9148	48 V - 19 V Ultra-thin, Multi-level Converter	44 - 60 V	19 V	12.5 A	EPC2053
EPC9153	250 W High Efficiency, Thin Buck Converter	44 - 60 V	12 - 20 V	12.5 A	EPC2218
EPC9118	Buck Converter	30 V - 60 V	5 V	20 A	EPC2001C / EPC2021
EPC9115	500 W 1/8th Brick Converter	48 V - 60 V	12 V	42 A	EPC2020 / EPC2021

Lidar

Part Number	Description	V _{BUS} (max)	V _{INPUT} (max)	T _{pin} (min)	Max Pulse (A) (min)	Featured Product
EPC9144	High Current Pulsed Laser Diode Driver Demo Board	12 V	5 V	1 ns	28	EPC2216
EPC9154	High Current Pulsed Laser Diode Driver Demo Board	40 V	5 V	2 ns	10	EPC21601
EPC9156	High Current Pulsed Laser Diode Driver Demo Board	40 V	5 V	2 ns	10	EPC21603
EPC9126	High Current Pulsed Laser Diode Driver Demo Board	80 V	5 V	6 ns	75	EPC2212
EPC9126HC	High Current Pulsed Laser Diode Driver Demo Board	80 V	5 V	6 ns	150	EPC2001C
EPC9150	High Current Pulsed Laser Diode Driver Demo Board	160 V	5 V	1 ns	220	EPC2034C

Highly Resonant Wireless Power Evaluation Kits

Part Number	Description	Class	Output Power	Operating Frequency	Featured Product
EPC9111	High-Frequency, ZVS Class-D Wireless Power Evaluation Kit	3	35 W	6.78 MHz preset or user selectable	EPC2014C / EPC2038
EPC9112	High-Frequency, ZVS Class-D Wireless Power Evaluation Kit	3	50 W	6.78 MHz preset or user selectable	EPC2007C / EPC2038

AirFuel™ Alliance Compatible Wireless Power Evaluations Kits

Part Number	Description	Class	Output Power	Operating Frequency	Featured Product
EPC9127	AirFuel compatible, ZVS Class-D Wireless Power System	2	10 W	6.78 MHz	EPC2107 / EPC2036 / EPC2019
EPC9128	AirFuel compatible, ZVS Class-D Wireless Power System	3	16 W	6.78 MHz	EPC2108 / EPC2036 / EPC2019
EPC9129	AirFuel compatible, ZVS Class-D Wireless Power System	4	33 W	6.78 MHz	EPC8010 / EPC2038 / EPC2019 / EPC2016C

Multi-Mode Wireless Power Evaluations Kit

Part Number	Description	Class	Output Power	Operating Frequency	Featured Product
EPC9121	AirFuel™ Compatible / Qi/PMA Compatible	2 / A6	10 W / 5 W	6.78 MHz / 6.165 KHz	EPC2107 / EPC2038 / EPC2036

Wireless Power Amplifier Boards

Part Number	Description	V _{IN}	V _{OUT}	I _{OUT}	Featured Product
EPC9051	AirFuel Class 2, 10 W Class E Amplifier	0 V - 40 V	V _{IN}	1 A	EPC2037
EPC9052	AirFuel Class 3, 16 W Class E Amplifier	0 V - 40 V	V _{IN}	1 A	EPC2012C
EPC9053	AirFuel Class 4, 33 W Class E Amplifier	0 V - 40 V	V _{IN}	1 A	EPC2019
EPC9058	AirFuel Class 2, Class E Wireless Power Amplifier	0 V - 52 V	V _{IN}	2	EPC2110
EPC9083	AirFuel Class 5, 60 W Class E Amplifier	0 V - 80 V	V _{IN}	4 A	EPC2046
EPC9508	ZVS Class-D Wireless Power Amplifier	7 V - 36 V	V _{IN}	3 A	EPC8009 / EPC2007
EPC9506	ZVS Class-D Wireless Power Amplifier	8 V - 32 V	V _{IN}	10 A	EPC2014C / EPC2038
EPC9507	ZVS Class-D Wireless Power Amplifier	8 V - 36 V	V _{IN}	6 A	EPC2007C / EPC2038
EPC9509	AirFuel Class 3, 16 W ZVS Class D Amplifier	9 V - 24 V	52 V	1 A	EPC2108 / EPC2036
EPC9510	AirFuel Class 2, 10 W ZVS Class D Amplifier	9 V - 24 V	66 V	0.8 A	EPC2107 / EPC2036
EPC9512	AirFuel Class 4, 33 W ZVS Class D Amplifier	Mode Dependent	80 V	1.8 A	EPC8010 / EPC2038 / EPC2019
EPC9065	AirFuel Class 5, 60 W ZVS Class D Amplifier	12 V (max V _{DD})	80 V	1.8 A _{RMS}	EPC2007C / EPC2038
EPC9511	10 W Multi-Mode Wireless Power Amplifier	17 V - 24 V	66 V/26 V	1.7 A	EPC2107 / EPC2038 / EPC2036

Wireless Power Device Receive Boards

Part Number	Description	V _{IN}	V _{OUT}	Featured Product	Example Application
EPC9513	AirFuel Category 3, 5 W Device Receive Board	5	1 A	EPC2019	Smart phone
EPC9515	AirFuel Category 4, 10 W Device Receive Board	5	2 A	EPC2019	Tablet, Phablet
EPC9514	AirFuel Category 5, 27 W Device Receive Board	19	1.4 A	EPC2016C	Small laptop

Class-D Audio

Part Number	Description	Output Power	Distortion/ Output Noise	Frequency Response	Featured Product
EPC9106	Class-D Audio Amplifier Evaluation Kit	150 W / 8 Ω	< 0.03% THD+N, > 107.8 dB	20 Hz - 20 kHz, ±0.5 dB	EPC2016C

Schematics, bill of materials, and gerber files for all demo boards are available at <https://epc-co.com/epc/Products/DemoBoards.aspx>



For More Information

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