

eGaN® FETs and ICs for Wireless Power Applications



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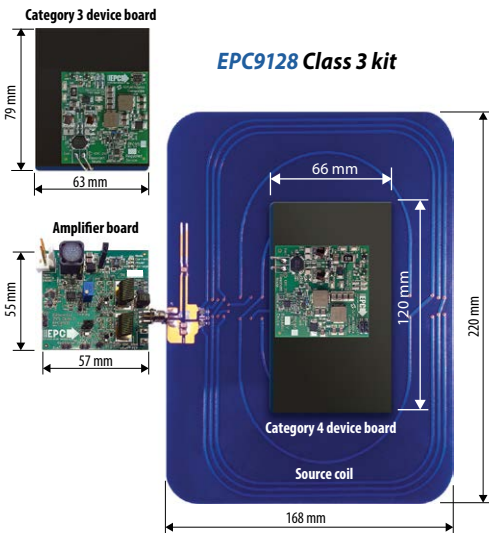
Wireless energy transfer enables the remote powering and charging of the myriad of battery-powered devices that have infiltrated our daily lives.

With this explosion in the variety and number of mobile devices, wireless power transfer offers the convenience of charging batteries without the annoyance of cumbersome cables and the inconvenience of looking for outlets to “plug in.”

Enhancement-mode gallium nitride (eGaN) FETs and ICs are ideal for wireless power applications due to their ability to operate at high frequency, high voltage, and high power.



Demonstration Kits Speed Time to Market



eGaN Products Cover Full Power Range

- Class 2, 10 W
- Class 3, 16 W
- Class 4, 33 W
- Multi-mode

Resonant Wireless Power Kits

		Device Receive Unit			
Transmit Unit (amplifier)		EPC9513 Category 3 (6.5 W)	EPC9513 Category 3 (6.5 W) EPC9515 Category 4 (13 W)	EPC9513 Category 3 (6.5 W) EPC9514 Category 5 (27 W)	Category 3 (6.5 W) Qi (5 W)
	Typical Application	Smart Phone, Digital Assistant, any 5 V, 2 A USB Device	Tablet, any 5 V, 1 A USB Device	Small Form Factor Laptop, 19 V Lamp	Smart Phone, Digital Assistant, any 1 A USB Device
	EPC9510 Class 2 (10 W)	EPC9127 Class 2 Demo Kit			
	EPC9509 Class 3 (16 W)		EPC9128 Class 3 Demo Kit		
	EPC9512 Class 4 (33 W)			EPC9129 Class 4 Demo Kit	
	EPC9511 Multi-Mode (10 W)				EPC9121 Multi-Mode Demo Kit



EPC is a member of the AirFuel Alliance

eGaN FETs and ICs

Recommended Devices for Wireless Power Applications

AirFuel Class	Max Input Power (W)	Topology	EPC 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)
1	tbd	Class-E	EPC2037	Single	100	550	0.115	0.032	0.025	0.6	0	1	2.4	BGA 0.9 x 0.9
		ZVS Class-D	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
2	10	Class-E	EPC2012C	Single	200	100	1	0.3	0.2	10	0	5	22	LGA 1.7 x 0.9
			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
		ZVS Class-D	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
			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
			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
			Class-E	EPC2012C	Single	200	100	1	0.3	0.2	10	0	5	22
EPC2054	Single	200		43	2.9	0.9	0.30	15	0	3.0	32	BGA 1.3 x 1.3		
ZVS Class-D	EPC2007C	Single		100	30	1.6	0.6	0.3	8.3	0	6	40	LGA 1.7 x 1.1	
	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	
Current Mode Class-D	EPC2007C	Single		100	30	1.6	0.6	0.3	8.3	0	6	40	LGA 1.7 x 1.1	
	EPC2016C	Single		100	16	3.4	1.1	0.55	16	0	18	75	LGA 2.1 x 1.6	
EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5			
	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5			
3	16	Class-E	EPC2012C	Single	200	100	1	0.3	0.2	10	0	5	22	LGA 1.7 x 0.9
			EPC2054	Single	200	43	2.9	0.9	0.30	15	0	3.0	32	BGA 1.3 x 1.3
		ZVS Class-D	EPC2007C	Single	100	30	1.6	0.6	0.3	8.3	0	6	40	LGA 1.7 x 1.1
			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
		Current Mode Class-D	EPC2007C	Single	100	30	1.6	0.6	0.3	8.3	0	6	40	LGA 1.7 x 1.1
			EPC2016C	Single	100	16	3.4	1.1	0.55	16	0	18	75	LGA 2.1 x 1.6
EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5			
	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5			
4	33	Class-E	EPC2207	Single	200	22	4.5	1.3	0.7	23	0	14	54	LGA 2.8 x 0.9
			EPC2016C	Single	100	16	3.4	1.1	0.55	16	0	18	75	LGA 2.05 x 0.85
		ZVS Class-D	EPC2007C	Single	100	30	1.6	0.6	0.3	8.3	0	6	40	LGA 1.7 x 1.1
			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
			EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5
		Current Mode Class-D	EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5
5	45	Class-E	EPC2207	Single	200	22	4.5	1.3	0.7	23	0	14	54	LGA 2.8 x 0.9
			EPC2307	Single	200	10	10.6		1.3	58	0	62	130	QFN 3 x 5
			EPC2215	Single	200	8	13.6	3.3	2.1	69	0	32	162	LGA 4.6 x 1.6
			EPC2304	Single	200	5	21	0.0	2.6	115	0	102	260	QFN 3 x 5
		ZVS Class-D	EPC2016C	Single	100	16	3.4	1.1	0.55	16	0	18	75	LGA 2.05 x 0.85
			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
			EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5
		Current Mode Class-D	EPC2204	Single	100	6	5.7	1.8	0.8	25	0	29	125	LGA 2.5 x 1.5

Table data subject to change. Please refer to the Product section on www.epc-co.com



For More Information

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