

Application guide

Wireless charging for consumer

Introducing cost-effective solutions to ensure excellent user experience

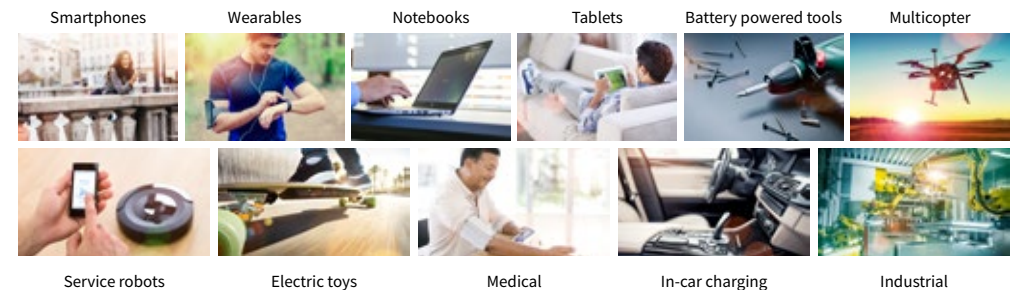
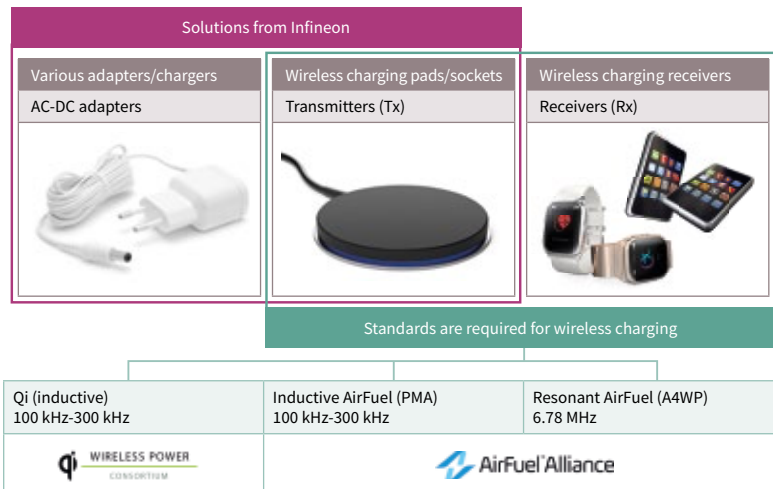
Wireless charging uses electromagnetic fields to transfer power from a transmitter to a receiver to charge the battery of the end-application.

Infineon's broad selection of components helps you to master your design challenges for resonant and inductive solutions. As a member of the Wireless Power Consortium and the AirFuel Alliance, Infineon is dedicated to actively shape the trends of tomorrow.

Choose Infineon to solve your application requirements:

- > High performance MOSFETs, ICs and MCU at optimum price/performance ratio thanks to cost-effective packages and leading, reliable and mature silicon technology
- > High power density in small designs: Enabling the lowest switching and conduction losses in smallest packages for MOSFETs and power stage
- > Smallest possible package size (2 x 2, 3 x 3 half-bridge) for low power MOSFETs 30 V-250 V
- > Highest efficiency: In hard switching topologies, enjoy low switching losses thanks to low input and output capacitances

Infineon is working on its own medium voltage GaN technology and will bring it to the market with a significant performance increase over silicon MOSFETs and at the same level of reliability.

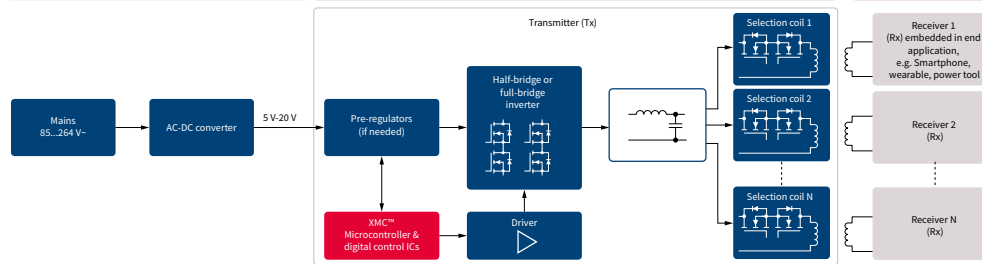


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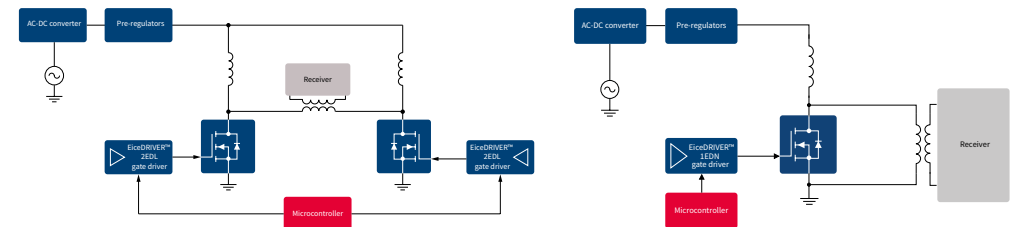
Inductive offerings



For charger/adaptor portion please go to: www.infineon.com/powersupplies

	Voltage class	Package	Part number	$R_{DS(on)}$ (max.) @ V_{GS} 4.5 V [mΩ]
Inverter	30 V	SuperSO8	BSC0996NS	11.8
			BSC0993ND	7.0
		PQFN 3.3 x 3.3	BSZ0589NS	4.4
			BSZ0994NS	8.6
			BSZ0909NS	15
			IRFHS8342PbF	25
	PQFN 2 x 2	IRLHS6342PbF	15.5	
		20 V	PQFN 2 x 2	IRLHS6242PbF
	IRFHS8242PbF			21.0
	IRFHS8342PbF			25.0
Coil selection switch	25 V	PQFN 2 x 2	IRLHS6342PbF	15.5 (= 2.5 V drive capable)
			IRLHS6242PbF	11.7 (= 2.5 V drive capable)
	30 V	PQFN 2 x 2	IRLHS6342PbF	15.5 (= 2.5 V drive capable)
			IRLHS6242PbF	11.7 (= 2.5 V drive capable)
PQFN 3.3 x 3.3	BSZ0994NS	8.6		
	BSZ0909NS	15		
Driver ICs	PX3517 or PX3519 or AUIRS23015			
Microcontroller	XMC1302 or XMC1404 or XMC4108			

Resonant offerings



Class D full-bridge topology shown here, products also suitable for class D half-bridge topology

Class E single-ended topology shown here, products also suitable for class E differential topology

	Voltage class	Package	Part number	$R_{DS(on)}$ (max.) @ V_{GS} 4.5 V [mΩ]	$Q_{typical}$	C_{oss} typical	Topology
Inverter	30 V	PQFN 2 x 2 Dual	IRLHS6376PbF	48.0	2.8	32	Class D
		PQFN 3.3 x 3.3 Dual	BSZ0909ND	18.5	2.0	~120	Class D
			SOT-23	IRLML0030PbF	33	2.75	84
	40 V	SOT-23	IRLML0040PbF	62	2.8	49	Class D
			IRLML0060PbF	98	2.6	37	Class D
	80 V	PQFN 2 x 2	IRL80HS120	32.0	3.5	68	Class D/E
	100 V		IRL100HS121	42.0	2.7	62	Class D/E
	150 V	PQFN 3.3 x 3.3	BSZ900N15NS3	75*	4.1*	46	Class E
			BSZ520N15NS3	42*	7.2*	80	Class E
			BSZ900N20NS3	78*	7.2*	52	Class E
			BSZ22DN20NS3	200*	3.5*	24	Class E
			BSZ12DN20NS3	111*	5.4*	39	Class E
	250 V		BSZ42DN25NS3	375*	3.6*	21	Class E
	Driver ICs	EiceDRIVER™ 2EDL71**					
	EiceDRIVER™ 1EDN						
Microcontroller	XMC1302 or XMC1404 or XMC4108						

* @ $V_{GS} = 8 V$

** coming soon

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