PowerLife Wireless Charging Coils

molex®

Combining the highest power transfer efficiency (Q) with industry-leading thin design, PowerLife Wireless Charging Coils support low, high and proprietary frequencies

Features and Benefits

Industry's highest power transfer efficiency (highest Q factor)
Generates low heat (electrical series resistance), resulting in faster charging

Low, high and proprietary frequencies in industry-leading thin design
Creates compact coil ideal for a broad range of applications in a variety of industries. Supports space-constrained devices









Coils produced on standard PCB or Copper Flex
Withstands environments with high vibration, heat and humidity. Enables design flexibility. Provides mechanical simplicity over wire-wound coils. Offers a cost-effective solution

Able to accommodate multiple-frequency functionality in one thin assembly (e.g., low- and high-frequency Rx on one PCB)
Enables OEMs to offer compatibility across multiple frequencies (future-proof designs). Lowers cost by reducing component count and providing reliability with standard manufacturing processes. Delivers optimal end-user experience

Off-the-shelf transmitters and receivers available with single and multiple frequencies
Delivers quick availability for engineering evaluation and fast-to-market solutions

Customizable form factor available
Achieves high Q with the smallest X, Y and Z dimensions in the market. Available in virtually any shape needed to fit the end-user's device

Applications

Consumer Electronics
- Smartphones
- Wearable Technology
- Smartphone Accessories
  - Bluetooth Headsets
  - Phone Cases
- Personal Computers (Both as Tx and Rx)
- PC Peripherals
  - External Hard Drives
  - Mice, Keyboards, Headsets
- Digital Cameras
- Gaming Systems
- Low-Power Appliances
- Furniture (Embedded TX; +NFC available)

Automotive (In-Vehicle Networking)
- Embedded Tx in Center Console (+NFC Available)

Medical
- Portable Units
- Hearing Aids
- Implantable Devices

Industrial



Furniture with wireless power: PowerLife Wireless Charging Coils enable wireless charging through a wood surface

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Specifications

REFERENCE INFORMATION

Packaging: PET Film except 1461794011, 1461798001, 1461792001, which are packaged in trays

Designed in: Millimeters

RoHS: Yes

Halogen Free: Yes

ELECTRICAL

Assembly No.	Coil Type	Frequency	Inductance (uH)	DCR (Direct Current Resistance) (milliohms)	ESR (Equivalent Series Resistance) (milliohms)
1461790001	10W Rx Coil for Low Frequency	100 to 300 kHz	@ 200kHz: 17.3	450	975
1461794011	Low-Frequency Wearable Coil		@ 200kHz: Transmit 5.6 Receive 9.6	Transmit 38; Receive 550	Transmit 42; Receive 685
1461794001	5W Rx Coil for Low Frequency, Dual +NFC		@ 200kHz: 8.9	350	435
1461791011	5W Rx Coil for Low Frequency, Dual Mode		@ 200kHz: 9.9	390	530
1461791001	5W Rx Coil for Low Frequency, Dual Mode		@ 200kHz: 11.6	520	635
1461798011	High-Frequency Wearable Coil	6.78 MHz	@ 1V 8.2mA: 2.6	245	1165
1461798021	High-Frequency Wearable Coil		@ 1V 8.2mA: 4.0	235	1450
1461798001	5W Rx Coil for High Frequency		@ 1V 8.2mA: 2.9	120	710
1461792001	Trimode Rx Coil	200kHz	@ 200kHz: 10.6	190	545
		6.78 MHz	@ 200kHz: 1.3	70	500

PHYSICAL

Assembly No.	Coil Type	Coil Thickness (mm)	Dimensions	Maximum Assembly Thickness with Shield (mm)	Material
1461790001	10W Rx Coil for Low Frequency	0.24	Width: 50.0 Length: 43.0	0.63	Flex
1461794011	Low-Frequency Wearable Coil	Transmit: 0.95 Receive: 0.24	T-Diameter: 27.0 R-Diameter: 25.1	Transmit 3.70 Receive 0.54	Transmit — Wire Receive — Flex
1461794001	5W Rx Coil for Low Frequency, Dual Mode +NFC	0.24	Width: 48.4 Length: 65.5	0.57	Flex
1461791011	5W Rx Coil for Low Frequency, Dual Mode		Width : 47.0 Length: 40.0	0.57	
1461791001	5W RX Coil for Low Frequency, Dual Mode		Width: 31.0 Length: 43.0	0.53	
1461798011	High-Frequency Wearable Coil		Diameter: 26.5	0.53	
1461798021	High-Frequency Wearable Coil		Diameter: 35.02	0.685	
1461798001	5W Rx Coil for High Frequency	0.6	Width: 71.51 Length: 56.30	1.15	FR4
1461792001	Trimode Rx Coil	1.05	Width: 53.60 Length: 64.70	1.60	

Ordering Table

Assembly No.	Coil Type	Frequency
146179-0001	Receiver	Low
146179-1001	Receiver	Low / Dual
146179-1011	Receiver	Low / Dual
146179-2001	Receiver	Tri-Mode
146179-4001	Receiver	Low / Dual +NFC
146179-4011	Receiver / Transmitter	Low, Wearable
146179-8001	Receiver	High, Phone
146179-8011	Receiver	High, Wearable
146179-8021	Receiver	High, Wearable

Custom Product	Description
Contact Molex	Wireless Charging Coils

www.molex.com/link/powerlifewirelesscoils.html

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