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USB Type-C Connectors ›

The expanded family of compact USB Type-C Connectors supports up to 48V/5.0A current and 10 Gbps speeds, and offers waterproof, robust, reliable connectivity in consumer, industrial and IoT devices as well as other high-speed I/O applications.

FEATURES AND ADVANTAGES (WATERPROOF USB TYPE-C CONNECTOR)

IPX8 rating
Provides protection against dust and water ingress

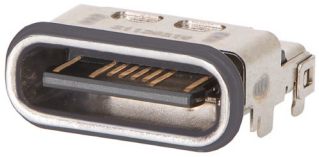
Housing	Plastic and stainless steel
Voltage	48V
Currents	3.0, 5.0 and 6.0A
Operating temperatures	-30 to +85°C; -40 to +85°C
Mating Forces	5 to 20N

USB 3.2 Gen 1 Type-C, Mid-Mount Receptacle, Waterproof, 24 pin (202410 series)

USB certificate
TID # is available

Supports 5.0A/100W power
Enables fast charging

USB 3.2 Gen 2 Type-C, Top-Mount Receptacle, Waterproof, 24 pin (217804 series)



USB 2.0 Type-C, Top-Mount Receptacle, Waterproof, 16 pin (203615 series)

LSR (liquid silicon rubber) molded seal ring
- Allows for easy device assembly
- Offers excellent temperature and weather resistance
- Keeps sealing banded with the connector

One-Row SMT soldering pin design
- Offers compactness
- Enables easy testing with improved yield rate
- Eases supplementary soldering on SMT pins

IPX5 rating
Provides protection against dust and water ingress

USB Type-C Receptacle, 6 Circuit (217176 series)

USB Type-C Receptacle, 6 Circuit (217177 series)

IPX7 rating
Provides protection against dust and water ingress

USB 3.2 Gen 2 Type-C, Mid-Mount Receptacle, Waterproof, 24 pin (221632 series)

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USB Type-C Connectors ›

FEATURES AND ADVANTAGES (USB 3.2 GEN 2 TYPE-C CONNECTORS)

Supports 5.0A/100W power and up to 5 Gbps data rates
Enables fast charging and high-speed data transfer

Metal shell
Provides strength/robustness to the connector

Hybrid soldering design
- Facilitates rework in case of solder paste fail
- Eases supplementary soldering on SMT pins

Short body
Available for space limited device

USB 3.2 Gen 1 Type-C Receptacle, Top-Mount, 24 Circuit (221610 series)

Friction design with spring shell
Delivers strong mating force

USB 3.2 Gen 1 Type-C Receptacle, Top-Mount, 24 Circuit (217183 series)

Low-profile design
Saves space and aligns to PCB center line position

USB 3.2 Gen 1 Type-C Receptacle, Mid-Mount, 24 Circuit (217184 series)

PCB board mounting design
Ideal for device docking applications

USB 3.2 Gen 1 Type-CP lug, Vertical, 24 Circuit (218847 series)

Robust tab design
Offers strong PCB connection

Stand-off design
Balances connector during SMT Reflow process

Long Body
Is suitable for devices that need a long body solution

USB 3.2 Gen 1 Type-C Receptacle, Vertical, 24 Circuit (221608 series)

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USB Type-C Connectors ›

FEATURES AND ADVANTAGES (USB 3.2 GEN 1 TYPE-C CONNECTORS)

Supports 5.0A/100W power and up to 5 Gbps data rates
Enables fast charging and high-speed data transfer

USB 2.0 Type-C Receptable, Top-Mount, 16 Circuit (217179 series)

High center height
Allows alignment for devices that need higher center line positions

USB 2.0 Type-C Receptable, Top-Mount, 16 Circuit (217180 series)

Low profile design
Allows alignment for devices that need lower center line positions

USB 2.0 Type-C Receptable, Mid-Mount, 16 Circuit (216990 series)

Through-hole solder tail
Is suitable for different solder processes and provides strong PCB connection

USB 2.0 Type-C Receptable, Top-Mount, 16 Circuit (213716 series)

Slim Fit design
Saves PCB space

USB 2.0 Type-C Receptable, Upright, 14 Circuit (216989 series)

Shorter body design
Is suitable for devices that need a shorter body solution

USB 2.0 Type-C Receptable, Vertical, 16 Circuit (217182 series)

Longer lead design
Is suitable for different PCB thicknesses to provide stable PCB connections

USB 2.0 Type-C Receptable, Top-Mount, 6 Circuit (217175 series)

Low-profile height
Offers space savings and simple solder layout

USB 2.0 Type-C Receptable, Vertical, 6 Circuit (217178 series)

Shorter body design
Suitable for devices need short body solution

USB 2.0 Type-C Receptable, Vertical, 16 Circuit (219320 series)

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USB Type-C Connectors ›

MARKETS AND APPLICATIONS

Consumer
- Electronic watches
- Smartphones/Wireless chargers
- Power banks
- PCs/Laptops
- Televisions
- Video games
- Graphic cards
- AR/VR devices

Aviation
- In-flight entertainment systems

Medical
- Glucometers
- Electronic inhalers

Industrial and Commercial
- Identity door-locking systems
- Oscilloscopes
- Projectors
- Point-of-sale registers

Automotive
- Vehicle infotainment
- Navigation equipment

Connected Home
- Smart home systems

In-Flight Entertainment Systems

Electronic Watches

SPECIFICATIONS

Reference Information
Packaging: Tape and reel
UL File No.: NA
CSA File No.: NA
Mates With: series 218847* or 105444*
Terminal Used: Copper Alloy
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

Mechanical
Contact Retention to Housing:
Insert molded type
Insertion Force to PCB:
Zero Insertion Force
Mating Force: 5 to 20N
Un-mating Force:
8 to 20N (1 to 30 cycles);
6 to 20N (after 10,000 cycles).
Durability (min.): 10,000 cycles

Electrical
Voltage (max.): 48V DC
Current (max.):
3.0Amp -217175/217176/217177/217178;
6.0Amp -202410; 5.0Amp -Others.

Contact Resistance (max.):
30mΩ (initial) and 10 milliohm (after test) -213716;
40mΩ (initial) and 10 milliohm (after test) -202410;
40mΩ (initial) and 50 milliohm (after test) -Others.
Dielectric Withstanding Voltage:
500 V AC -202410; 100 V AC -Others.
Insulation Resistance (min.):
1000 Megohms(initial) and 100 Megohms (after test) -202410;
100 Megohms -Others.

Physical
Housing:
Plastic and stainless steel LCP - 105444/217176/217177/217182/228847; Nylon -Others.

Contact: Copper Alloy
Plating:
Contact Area —
0.75micron Gold(Au) min. over Nickel(Ni) - 105450/105455/201267/205714/204711/202410/203615/217804/221632; Gold Flash 0.025micron Gold (Au) min. over Nickel(Ni) -Others.

Solder Tail Area —
3.05micron min. Matte Tin(Sn) -105444;
0.05micron Gold(Au) min. -105450/105455/201267/204711/213083/213716/217804/203615; 0.025micron Gold (Au) min. -Others.
PCB Thickness: Refer to product drawing
Operating Temperature:
-30 to +85°C - 105450/105455/201267/105444/204711/213716/218847;
-40 to +85°C -Others.

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USB Type-C Connectors ›

ORDERING INFORMATION

Series No.	Product	Design	Product Configuration	USB Standard	Data Rate (bps)	Power	Circuit
105444	Plug	Standard	Right Angle, TID	USB 3.2 Gen 2	10G	48V/5.0	24
218847			Vertical, SMT	USB 3.2 Gen 1	5G	48V/5.0	24
105450	Receptacle		Top Mount, SMT, TID	USB 3.2 Gen 2	10G	48V/5.0	24
201267			Top Mount, Stand off, TID	USB 3.2 Gen 2	10G	48V/5.0	24
205714			Top Mount, Screw Hole	USB 3.2 Gen 2	10G	48V/5.0	24
105455			Mid Mount, SMT	USB 3.2 Gen 2	10G	48V/5.0	24
204711			Vertical, SMT	USB 3.2 Gen 2	10G	48V/5.0	24
221610			Top Mount, Dual Row, SMT	USB 3.2 Gen 1	5G	48V/5.0	24
217183			Top Mount, Dual Row, Hybrid	USB 3.2 Gen 1	5G	48V/5.0	24
217184			Mid Mount, SMT	USB 3.2 Gen 1	5G	48V/5.0	24
221608			Vertical SMT, H9.97	USB 3.2 Gen 1	5G	48V/5.0	24
213716			Top Mount, Dual Row, DIP	USB 2.0	480M	48V/5.0	16
217179			Top Mount, Single Row, SMT	USB 2.0	480M	48V/5.0	16
217180			Top Mount, Single Row, CH=5.9	USB 2.0	480M	48V/5.0	16
216990			Mid Mount, Single Row	USB 2.0	480M	48V/5.0	16
217182			Vertical, SMT, H6.4	USB 2.0	480M	48V/5.0	16
219320			Vertical, SMT, H8.8	USB 2.0	480M	48V/5.0	16
216989			Upright, Dual Row, DIP	USB 2.0	480M	48V/5.0	14
217175			Top Mount, SMT	USB Type-C	N/A	48V/5.0	6
217178		Waterproof	Vertical, SMT	USB 3.2 Gen 2	N/A	48V/5.0	6
217804			Top Mount Dual, TID, IPX8	USB 3.2 Gen 2	10G	48V/5.0	24
202410			Mid Mount, SMT, IPX8	USB 3.2 Gen 1	5G	48V/5.0	24
213083			Top Mount, Single Row, IPX8	USB 2.0	480M	48V/5.0	16
203615			Top Mount, Dual, TID, IPX8	USB 2.0	480M	48V/5.0	16
217176			Top Mount, SMT, IPX5	USB Type-C	N/A	48V/5.0	6
217177			Mid Mount, SMT, IPX5	USB Type-C	N/A	48V/5.0	6

www.molex.com/link/usbproducts.html

Order No. 987651-4081 Rev. 8 USA/0k/GF/2024.03