USB Type-C Connectors and Cables

molex

The compact USB Type-C Connectors and Cables expanded family supports up to 10 Gbps speeds and offers robust, reliable connectivity in IoT, wearable devices and other high-speed data I/O applications

Features and Advantages

Supports 5.0A power in plugs and receptacles
Reduces battery-charging time by 64% versus micro-USB 2.0's current rating of 1.8A
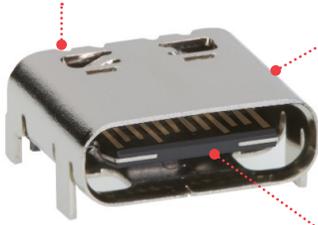
High-temperature nylon insert-mold receptacle housing
Increases connector strength to reduce potential shorting between mid-plate and terminals

Up to 100W (20V/5.0A) delivery
Suitable for high-power applications

10,000 mating cycles
Delivers high durability

Mid-plate connector "tongue" design in receptacle
Ensures high reliability while preventing damage from connector mishandling

Up to 10 Gbps data speed
Ideal for high-speed network applications
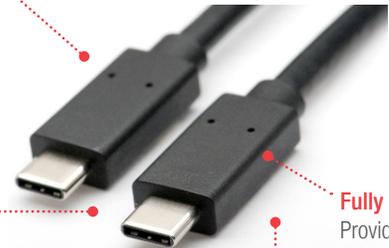
Fully shielded
Provides EMI/RFI protection

USB Type-C Receptacle

USB Cable

Supports 4K resolution display
Delivers high-quality display

Single-piece metal shell on cable plug
Provides easy identification and differentiation against non-Type-C USB cables

Availability of different cable options meeting USB 2.0 and 3.1 speeds
Suits a variety of user-application requirements
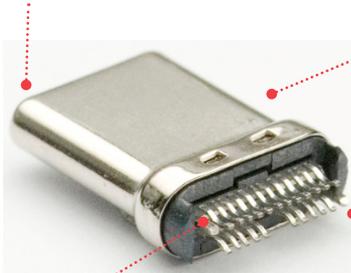
High normal force terminal design on plug
Increases connector strength to reduce potential shorting between mid-plate and terminals
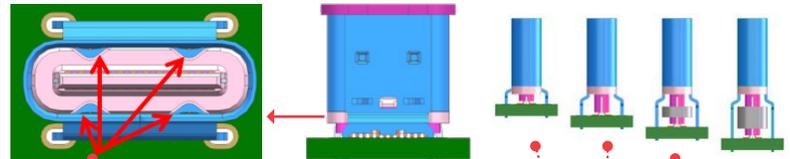
USB Type-C Plug

Vertical USB Type-C Receptacle

Short mating length
Provides space-saving and design flexibility

4-stopper design
Prevents plug over insertion that may cause separation between shell and/or solder tail

Polyester film between plug housing and shell
Prevents potential electrical shorting during mating

4 tabs in the shell and 2 tabs in the middle plate
Delivers robust PCB mount design

Flexible height and tooling design
Meets customers' requirements regarding height options with minimized cost and changeover time

Applications

Consumer

Electronic watches

Smartphones/Wireless chargers

Power banks

PCs/Laptops

Televisions

Video games

Graphic cards

Aviation

In-flight entertainment systems

Medical

Glucometers

Electronic inhalers

Industrial and Commercial

Identity door-locking systems

Oscilloscopes

Air purification systems

Projectors

Point-of-sale registers

ATM

Automotive

Car infotainment

Connected Home

Smart home systems

Electronic Watches

In-Flight Entertainment Systems

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Specifications

REFERENCE INFORMATION
Packaging: Tape and reel
UL File No.: NA
CSA File No.: NA
Mates With: 68798 series with
105450/105454/105455/201267/202410
204711 series with 105444/68798/203800
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
Unmating Force:
8 to 20N (1 to 30 cycles); 6 to 20N
(after 10,000 cycles)
Durability (min.): 10,000 cycles

ELECTRICAL
Voltage (max.): 30V (DC/AC) max.
Current (max.):
5.0A (105450, 105454, 105455, 201267,
105444, 204711)
6.0A (202410)
Contact Resistance (max.):
40 milliohms (initial); 50 milliohms after test
(105450, 105454, 105455, 201267,
105444, 204711)
40 milliohms (initial); 10 milliohms after test
(202410)
Dielectric Withstanding Voltage:
100V AC (105450, 105454, 105455, 201267,
105444, 204711) or 500V AC (202410)
Insulation Resistance (min.):
100 Megohms (105450, 105454, 105455,
201267, 105444, 204711)
1000 Megohms (initial); 100 Megohms after
environmental test (202410)

PHYSICAL
Housing:
Receptacle: High-temperature Nylon
(105450, 105454, 105455, 201267, 204711),
PA46 (202410)
Plug: LCP
Contact: Copper Alloy
Plating:
Contact Area —
Receptacle: Gold Flash over 0.75micron min.
Palladium/Nickel (Pd/Ni) (105450, 105454,
204711, 105455) or 0.75micron min. Gold (Au)
(201267/202410)
Plug: 0.76micron min. Gold (Au)
Solder Tail Area —
Receptacle: 0.05micron Gold (Au) min.
(105450, 105454, 105455, 201267, 204711) or
0.025micron min. Gold (Au) (202410)
Plug: 3.05micron min. Matte Tin (Sn)
Underplating —
2micron min. Nickel (Ni) overall (105450,
105454, 201267, 202410) or 1.5micron min.
Nickel (Ni) overall (105455, 204711)
PCB Thickness:
Receptacle: 0.60 to 0.80mm (105450, 105454,
105455, 202410, 204711); 1.60mm (201267)
Plug: 0.80mm
Operating Temperature:
-30 to 85°C
(105450, 105454, 105455, 201267,
105444, 204711)
-40 to 85°C (202410)

Ordering Information

Series No.	Product	Design	Product Configuration	USB Standard / Data Speed
105450	Receptacle	Standard	Top-mount, Right-Angle	USB 3.1 Gen 2 speed
105455			Mid-mount, Right-Angle, Single Shell	USB 3.1 Gen 2 speed
201267			Top-mount, Right-Angle, 0.35mm Stand-off	USB 3.1 Gen 2 speed
202410		Waterproof version	Mid-mount, Right-Angle	USB 3.1 Gen 2 speed
204711	Receptacle	Standard	SMT, Vertical	USB 3.1 Gen 2 speed
68798	Cable	Standard	C-to-A and C-to-C	USB 2.0, 3.0 and 3.1
203800			C-to-A	USB 2.0 and 3.0