



Meeting USB 3.0 High Durability Class standards, SuperSpeed connectors provide reliable connectivity while supporting high-temperature, IR-reflow processes for computer, consumer and car product applications

Molex's USB 3.0 (also known as SuperSpeed) Type A connectors meet High-Durability Class requirements of 5,000 mating cycles. These USB 3.0 connectors are halogen-free for environmental sustainability and support high, IR reflow temperatures of up to 255°C while maintaining solder mount compatibility. The connectors come in on-board style, top- or reverse-mount, upright and vertical orientations. Dual-stacked versions are available for additional mating requirements.

Molex also offers reverse, mid-mount style (or sink-type) receptacles with contact heights that range from 0.36 to 2.04mm for space-saving and low-profile height applications.

Parts are shipped in selected tape-on-reel or tray packaging.

For more information, visit our website at: www.molex.com/link/usb3.0.html.

Features and Benefits

Meets High-Durability-Class (5000 mating cycles) requirements of USB 3.0 specifications	Sustains robust, reliable connectivity over high frequencies of mating and unmating
Meets all USB 3.0 specifications	Provides faster data rates of up to 10 times the theoretical speed of USB 2.0 with improved custom power distribution (that is, ensures devices are sufficiently powered when required)
High-temperature, halogen-free plastic material used in housing	Withstands IR reflow temperatures of up to 255°C while maintaining solder-mount compatibility in application processes
A variety of PCB-mount designs in upright, vertical and right-angle orientation	Gives greater design flexibility and higher degree of design freedom to customers
Wide range of contact heights (from 0.36 to 6.09mm)	For greater vertical space-savings in low-profile and other applications
Standard blue color-coded housings	Distinguishes USB 3.0 connectors from USB 2.0 versions

USB 3.0 Connectors, High Durability Class, Through-hole, Halogen-free

- 48391** Flangeless, Top-Mount (*C/H: 6.09mm)
- 48393** Flangeless, Top-Mount (C/H: 4.00mm)
- 48405** Flange, Top-Mount (C/H: 4.07mm)
- 48406** Flange, Top-Mount Stacked (**H: 15.50mm)
- 48392** Flange, Reverse, Mid-Mount (C/H: 4.06mm)
- 48394** Flangeless, Reverse, Mid-Mount (C/H: 0.36mm)
- 48395** Flangeless, Reverse, Mid-Mount (C/H: 1.00mm)
- 48397** Flangeless, Reverse, Mid-Mount (C/H: 1.75mm)
- 48398** Flangeless, Reverse, Mid-Mount (C/H: 2.04mm)

Standard-A Receptacle, Vertical and Upright, Through-hole

- 48408** Flange, Vertical, (H: 15.00mm)
- 48409** Flange, Vertical Stacked (H: 14.88mm)
- 48404** Flange, Upright (H: 13.85mm)



USB 3.0 Connectors

*C/H – the abbreviated form for “Contact Height” refers to the distance from soldering plane to mating plane of a mated cable-connector combination

**H – the abbreviated form for “Height” as used in the chart refers to the distance from top of connector shell (without flange) to PCB.

Specifications

Reference Information

Packaging:

Refer to Ordering Information Table

Mates With:

USB 3.0 Cable Assemblies

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Glow Wire Compliant: No

Electrical

Voltage (max.): 30V DC/AC

Current:

1.8A max. for VBUS and GND
(Pin 1 and 4 for standard type)

0.25A min. for all other contacts

Low Level Contact Resistance (max.):

30 milliohms for VBUS and

GND contacts:

50 milliohms for all other contacts

Dielectric Withstanding Voltage (min.):

100VAC (RMS)

Insulation Resistance (min.):

100 megohms

Mechanical

Insertion Force (max.): 35N

Extraction Force (min.):

10N (initial); 8N (final)

Durability (min.):

5,000 (High Durability Class)

Physical

Housing:

Nylon 9T, UL94V-0, Blue

(Series 48391, 48392, 48393,
48394, 48395, 48397, 48398)

Nylon 9T, UL94-HB, Blue

(Series 48404, 48405, 48406,
48408, 48409)

Contact: Copper Alloy

Shell: Stainless Steel

Plating:

Contact Area —

Refer to Ordering Information
Table

Solder Tail Area —

Matt Tin (Sn) over Nickel (Ni)

Underplating —

Nickel (Ni) overall

Shell: Nickel (Ni) overall

Recommended PCB Thickness:

1.20mm

Operating Temperature:

-20 to +85°C

USB 3.0 Connector Family

On-board, Type A Receptacle					Mid-mount, Type A Receptacle	
Top-mount		Reverse-mount	Upright	Vertical	Reverse-mount	
						
48391 (C/H*: 6.09mm)	48405 (C/H: 4.07mm)			48408 (H: 15.00mm)	48394 (C/H: 0.36mm)	48397 (C/H: 1.75mm)
						
48393 (C/H: 4.00mm)	48406 (H: 15.50mm)			48409 (H: 14.88mm)	48395 (C/H: 1.00mm)	48398 (C/H: 2.04mm)

USB 3.0 Connectors in a variety of mounting styles and mating orientations

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Unique and Useful Differentiation vs. Similar Molex Product

Attribute	Product and Technical Differences	
	USB 2.0 Type A Receptacle	USB 3.0 Type A Receptacle
Data Rates	High-Speed: 480 Mbps	SuperSpeed: 5.0 Gbps (10 times faster than USB 2.0)
Circuits	4	9
Current Rating (V Bus and Ground)	1.5A	1.8A
Housing Color	Black, Gray or Natural	Blue (Pantone 300C)
Mating Depth with Reference to Datum A	8.88 +/-0.20mm	10.15mm (min.)
Durability Cycles	1,500	1,500 (Standard); 5,000 (High Durability Class)
Mating Force	35N Max	
Unmating Force (Initial)	10N Min	10N Min
Unmating Force (Final)		8N Min
Backward Compatibility	USB 1.1	USB 2.0 and 1.1

Applications

Data/Computing

- High-end Computing
- Personal Computers
- Hard/Optical Disk Drives

Consumer/Home Appliance

- Fitness
- Home Appliances
- Home Entertainment
- Home Office
- Home Security

Automotive

- Comfort, Infotainment and Driver Assist



High-end Computers



Consumer Appliance and Home Entertainment

**USB 3.0
Connectors, High
Durability Class,
Through-hole,
Halogen-free**



Car Infotainment and Navigation Systems

Ordering Information

Material	No. of Ports	Orientation (Connector/Pin position)		Mounting Configuration	Flange	Contact Height* (mm)	Height** (mm)	Contact Plating Thickness	Soldertail Length	Packaging	
48391-0003	1	Right Angle	Standard	On-board	No	6.09	8.95	15u” Gold (Au)	1.50mm (.059”)	Tape-on-reel	
48391-0004								Gold-flash			
48392-0003			Reverse		Yes	4.06	6.92	15u” Gold (Au)	1.10mm (.043”)		
48392-0004								Gold-flash			
48393-0003			Standard	Mid-mount (aka sink-type)	No	4.00	6.86	15u” Gold (Au)			1.50mm (.059”)
48393-0004								Gold-flash			
48394-0003		Reverse	0.36			5.72	15u” Gold (Au)	2.10mm (.083”)			
48394-0004							Gold-flash				
48395-0003			1.00			7.40	15u” Gold (Au)	1.58mm (.062”)			
48395-0004							Gold-flash				
48397-0003			1.75				15u” Gold (Au)	2.40mm (.094”)			
48397-0004							Gold-flash				
48398-0003			2.04			6.92	15u” Gold (Au)	2.80mm (.110”)			
48398-0004							Gold-flash				
48404-0003		Upright	On-board	Yes	N.A.	13.85	15u” Gold (Au)	2.67mm (.105”)			
48404-0004							Gold-flash				
48405-0003	Right Angle	Standard			4.07	6.93	15u” Gold (Au)	3.00mm (.118”)			
48405-0004							Gold-flash				
48406-0003	Vertical	Reverse			N.A.	15.50	15u” Gold (Au)	14.88			
48406-0004							Gold-flash				
48408-0003						2	1	15.00	15u” Gold (Au)		
48408-0004									Gold-flash		
48409-0003	2	2			1	14.88	15u” Gold (Au)				
48409-0004							Gold-flash				

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www.molex.com/link/usb3.0.html

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9