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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.comlink/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.

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

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)	48392 (C/H: 4.06mm)	48404 (H*: 13.85mm)	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

*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 “Heigh” as used in the chart refers to the distance from top of connector shell (without flange) to PCB.

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

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

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

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		No	4.00	6.86	15u" Gold (Au)		
48393-0004								Gold-flash		
48394-0003			Reverse	Mid-mount (aka sink-type)		0.36	5.72	15u" Gold (Au)	1.50mm (.059")	
48394-0004								Gold-flash		
48395-0003						1.00	7.40	15u" Gold (Au)		
48395-0004								Gold-flash		
48397-0003						1.75		15u" Gold (Au)	2.10mm (.083")	
48397-0004								Gold-flash		
48398-0003						2.04	6.92	15u" Gold (Au)	1.58mm (.062")	
48398-0004								Gold-flash		
48404-0003		Upright		On-board	Yes	N.A.	13.85	15u" Gold (Au)	2.40mm (.094")	Tray
48404-0004								Gold-flash		
48405-0003		Right Angle	Standard			4.07	6.93	15u" Gold (Au)	2.80mm (.110")	
48405-0004								Gold-flash		
48406-0003	2					N.A.	15.50	15u" Gold (Au)	2.67mm (.105")	
48406-0004								Gold-flash		
48408-0003	1	Vertical					15.00	15u" Gold (Au)	3.00mm (.118")	
48408-0004								Gold-flash		
48409-0003	2		Reverse				14.88	15u" Gold (Au)		
48409-0004								Gold-flash		

*Contact Height refers to the distance from soldering plane to mating plane of a mated cable-connector combination
**Height refers to the distance from top of connector shell (without flange) to PCB.

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

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OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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AVIC JONHON

«JONHON» (основан в 1970 г.)

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FORSTAR®

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