

SuperSpeed USB 10 Gbps (USB 3.1) from the USB-IF

The SuperSpeed USB 10 Gbps (USB 3.1) Specification adds a 10 Gbps speed mode that uses a more efficient data encoding and will deliver more than twice the effective data throughput performance of existing SuperSpeed USB over enhanced, fully backward compatible USB connectors and cables. The specification extends the existing SuperSpeed mechanical, electrical, protocol and hub definition while maintaining compatibility with existing USB 3.0 software stacks and device class protocols as well as with existing 5 Gbps hubs and devices and USB 2.0 products.

- Delivers 10 Gbps USB data rate
 - * 2x improvement over current SuperSpeed USB 5 Gbps data rate
- Improved data encoding for more efficient data transfer leading to higher through-put and improved I/O power efficiency
- Compatible with existing USB 3.0 software stacks and device protocols
- Works with both existing 5 Gbps and new 10 Gbps USB 3.0 hubs and devices, as well as USB 2.0 products

USB 3.0 Connector	Part Number	Orientation	Tail	Tail Length	Type	Pin numbers	Plating Options
	GSB411131XHR	Standard Right Angle	DIP	1.9mm 2.4mm 3.0 mm	A Receptacle	9	30µ" gold
	GSB411B34EU	Reverse Sink Right Angle	DIP	N/A	A Receptacle	9	30µ" gold
	GSB411634XHR	Upright	DIP	1.9mm 2.4mm 2.8 mm	A Receptacle	9	30µ" gold
	GSB411231HR	Standard Right Angle	DIP	3 mm	A Stack Receptacle	18	30µ" gold
	GSB412137CHR	Vertical	DIP	2.3mm 3.0 mm	A Receptacle	9	30µ" gold
	GSB421131XWEU	Standard Right Angle	DIP	2.8 mm 3.3 mm	B Receptacle	9	30µ" gold
	GSB422137EU	Vertical	DIP	2.9 mm	B Receptacle	9	
	GSB443T33HR	High Rise Right Angle	SMT	N/A	Micro B Receptacle	10	30µ" gold
	GSB443133HR	Standard Right Angle	SMT	N/A	Micro B Receptacle	10	30µ" gold
	GSB443K33XHR	Standard Right Angle	SMT	N/A	Micro B Receptacle	10	30µ" gold
	GSB416445CHR	Standard Sink Offset 0.4mm Right Angle	SMT	N/A	A Plug	9	2µ" Gold + 30µ"Pd-Ni
	GSB417131HR	Standard	Cable Assembly	N/A	A Plug	9	30µ" gold

* The toolings can be modified to different kind of extension products.
 ** If there is any inquiry out of the list, please check with AMTA for the modification or evaluation.

USB3.1 Connector benefits and key features include:

USB3.1 A, B type Features & Benefits

- Fully compliant with USB3.1 specification.
- 5 metal friction lock grounding fingers and Polarization plastic design ensure plug retention.
- Rugged Gold-plated leaf contact withstand up to 5000 cycles.
- High temperature plastic for SMT process and Halogen Free solution.
- Two Fork Lock hold-down ensure mounting Force.
- Full metal shielding for EMI / RFI / ESD protection.
- New Structure design and materials change

USB3.1 Micro B type Features & Benefits

- 6 Soldered Pads at shell ensure No Damage when : Peel Strength 150N Min applied.
- Wrenching Strength 25N Max applied .
- Greater real estate space savings.
- Reliable Co-planarity within a 0.08mm.
- Full metal shielding for EMI / RFI / ESD protection.
- Rugged Gold-plated leaf contact withstand up to 10,000 cycles.



USB 3.1 CONNECTOR

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Now you're connected

Mechanical Specifications

Mating Force	35.0 N Max.
Unmating Force	8.0 N Max.
Standard Durability Class For standard A, B.	1500 cycles Min.
High Durability Class For Standard A, B.	5000 cycles Min.
Standard Durability Class For Micro Connector Family	10,000 cycles Min.

Physical Specification

Housing	High Temperature Thermoplastic. UL 94V-0 Color: Blue or Black
Contact	High performance Copper Alloy
Metal Shell	Stainless Steel
Operating Temperature	-20°C to +60°C

Electrical Specification

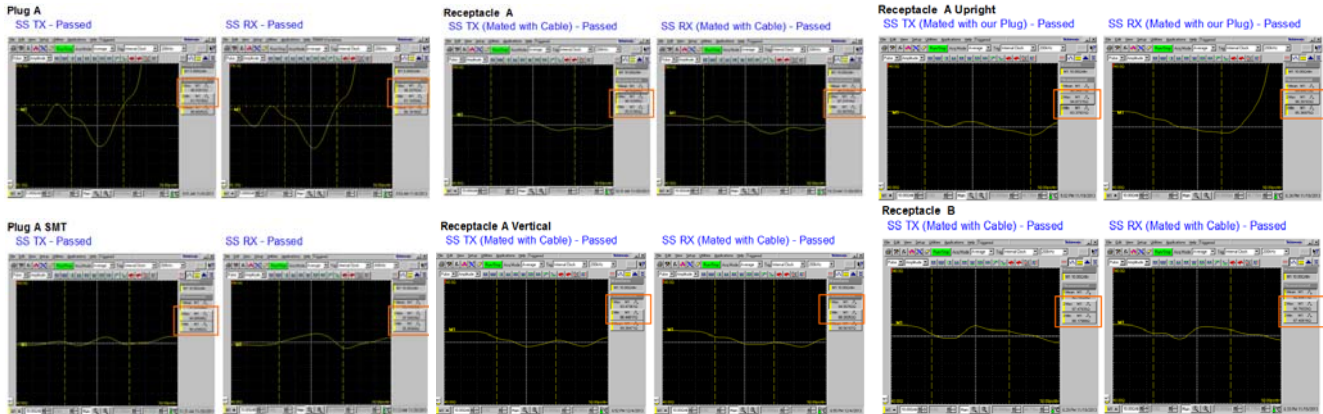
Current Rating	Pin 1 & 5 :1.8A; Signal Pin:1A (USB2.) Other pins: 0.25A.
Contact Resistance	Pin 1 & 5: 30 mΩ Max. Other pins: 50 mΩ Max.
Voltage Rating	30 V AC
Dielectric Withstanding Voltage	100V AC/1min.

RoHS Compliance Halogen Free



Characteristic Impedance
Enhanced SuperSpeed signal wires is recommended to be 45 Ω +/- 3 Ω. Measured by TDR using a 200 ps (10%-90%) rise time.

USB 3.1 STANDARD SI SIMULATION



Applications

IPC Storage Server Networking NAS Mobile Phone Set Top Box Portable HDD



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