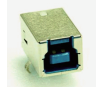


Also known as SuperSpeed USB, this upgraded interface offers a number of enhanced features. USB3.0 now operates with full-duplex signaling over two differential pairs, improving host-directed simultaneous-by-directional communication. The ability to provide power to remote peripherals is also improved. USB2.0 allows a maximum of 500mA to be supplied via interface, while USB 3.0 can now deliver up to 900mA. USB3.0 version Interface benefits include:

- Over 10X performance increase over USB 2.0.
- Optimized Power Efficiency
  - No device polling
  - Lower active & idle power requirements
- Backward compatible with USB 2.0
- Fast Sync-N-Go
  - Minimizes User Wait-Time
  - Super speed Data rate

| USB 3.0 Connector                                                                   | Part Number     | Orientation                                 | Tail           | Tail Length      | Type               | Pin numbers | Plating Options                  |
|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------|----------------|------------------|--------------------|-------------|----------------------------------|
|    | GSB3111XXHR     | Standard/Right Angle                        | DIP            | 2.4 mm           | A Receptacle       | 9           | 2μ" Gold + 30μ"Pd-Ni / 30μ" gold |
|    | GSB311A41EU     | Reverse/Right Angle                         | DIP            | 2 mm             | A Receptacle       | 9           | 2μ" Gold + 30μ"Pd-Ni             |
|    | GSB311B31CEU    | Reverse Sink/Right Angle                    | DIP            | N/A              | A Receptacle       | 9           | 2μ" Gold + 30μ"Pd-Ni             |
|    | GSB311231HR     | Standard/Right Angle                        | DIP            | 3 mm             | A Stack Receptacle | 18          | 2μ" Gold + 30μ"Pd-Ni / 30μ" gold |
|   | GSB321131XWEU   | Standard/Right Angle                        | DIP            | 2.8 mm<br>3.3 mm | B Receptacle       | 9           | 30μ" gold                        |
|  | GSB343133HR     | Standard/Right Angle                        | SMT            | N/A              | Micro B Receptacle | 10          | 2μ" Gold + 30μ"Pd-Ni / 30μ" gold |
|  | GSB343K33XHR    | Standard/Right Angle                        | SMT            | N/A              | Micro B Receptacle | 10          | 2μ" Gold + 30μ"Pd-Ni / 30μ" gold |
|  | GSB316445CHR    | Standard Sink/<br>Offset 0.4mm/Right Angle  | SMT            | N/A              | A Plug             | 9           | 2μ" Gold + 30μ"Pd-Ni             |
|  | GSB316441CEU    | Standard Sink/<br>Offset 0.85mm/Right Angle | SMT            | N/A              | A Plug             | 9           | 2μ" Gold + 30μ"Pd-Ni / 30μ" gold |
|  | GPCE145222113HR | Standard                                    | Cable Assembly | N/A              | A Plug             | 9           | 30μ" gold                        |
|  |                 | Standard                                    | Cable Assembly | N/A              | A Plug             | 9           | 30μ" gold                        |

\* The tooling 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.



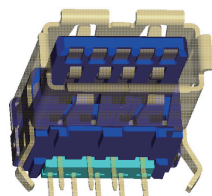
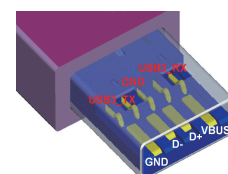
### USB3.0 Connector benefits and key features include:

#### USB3.0 A, B type Features & Benefits

- Fully compliant with USB2.0 & 3.0 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

#### USB3.0 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.



## 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. |

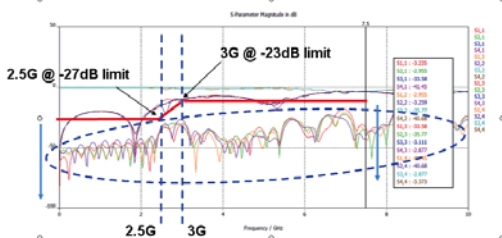
## Physical Specification

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

## USB 3.0 STANDARD SI SIMULATION

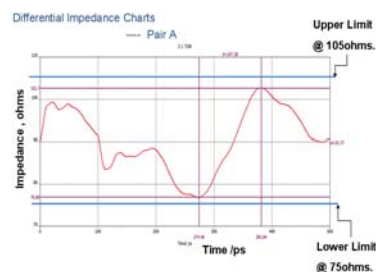
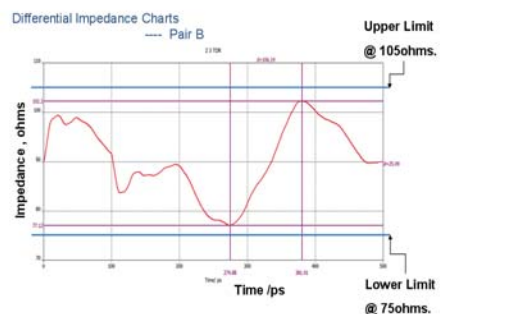
## Differential Near-End Crosstalk

The differential crosstalk simulation the unwanted coupling between differential pairs. Since the Tx pair is right next to the Rx pair for Super Speed.



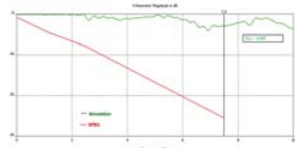
## Electrical Specification

|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| Current Rating                  | Pin 1 & 5 :1.8A; Signal Pin:1A (USB2.)<br>Other pins: 0.25A. |
| Contact Resistance              | Pin 1 & 5: 30 mΩ Max.<br>Other pins: 50 mΩ Max.              |
| Voltage Rating                  | 30 V AC                                                      |
| Dielectric Withstanding Voltage | 1000V AC/1min.                                               |



## Frequency Domain Analysis

Differential Insertion Loss  
The differential insertion loss, SDD12, simulation the differential signal energy transmitted through the mated plug.



## Applications

Storage Server

Networking

NAS

Mobile Phone

Set Top Box

Portable HDD

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