



## Quick Reference Guide

### Micro USB Connectors

The USB (Universal Serial Bus) is a standard product controlled by USB Implementers Forum. USB is characterized by widespread market adoption and consists of several form factors to accommodate different device requirements. The Micro USB series are mostly used in mobile devices and are the smallest connector series in the USB family. TE's USB connectors combine high speed data capabilities and a charging function in one connector.

TE Connectivity micro USB connectors are well known for their reliability, robustness and the system's versatility in meeting all USB applications. The TE USB system is a complete interconnection technology for I/O devices and has many variants available, ranging from DIP type soldering, SMT soldering, standard mount, reverse mount and mid mount. TE Connectivity's technological capability enables its micro USB connector series as very efficient cost saving solution for our customers.

#### FEATURES

- Reliability-optimized design, provides a stable connection even after thousands of insertions
- Cost savings achieved by the integration of power and data transportation within one connector
- Our large portfolio and highly customizable product provides the best possible design flexibility

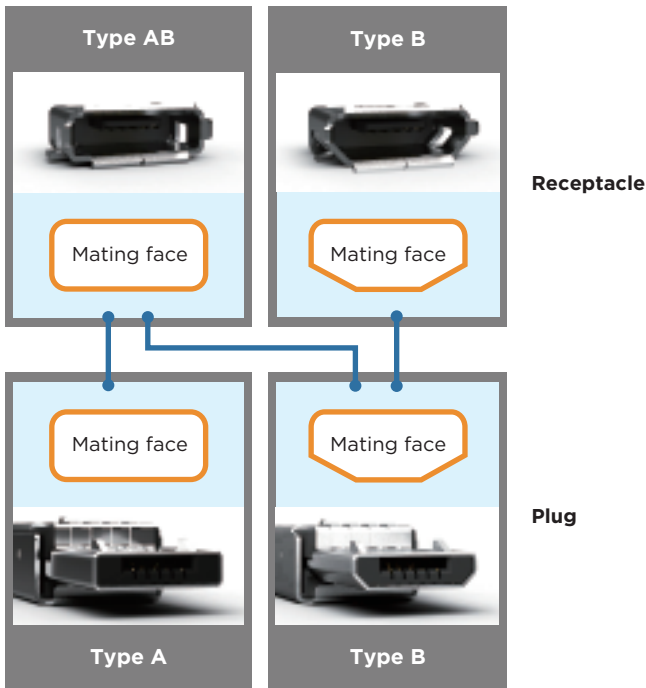
#### BENEFITS

- Small size connector
- High design freedom
- Increased robustness and superior durability
- Cost-efficient solution

#### APPLICATIONS

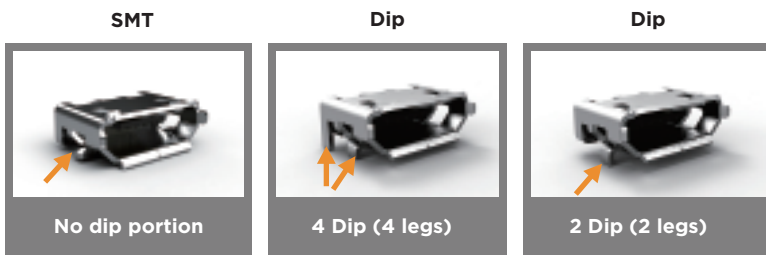
- Cell phones/smartphones
- MP3 players
- GPS units
- Readers
- Home electronic devices
- Tablets
- Digital cameras and camcorders

### Type A and B plugs and B and AB receptacles



Type A plugs are typically used for connection to “master” devices. Type B plugs are used for connections to “slave” devices. The device itself either features a receptacle that can accept only type B (slave) plugs or both type A and type B plugs (device can function as master or slave). This receptacle is called an “AB” receptacle.

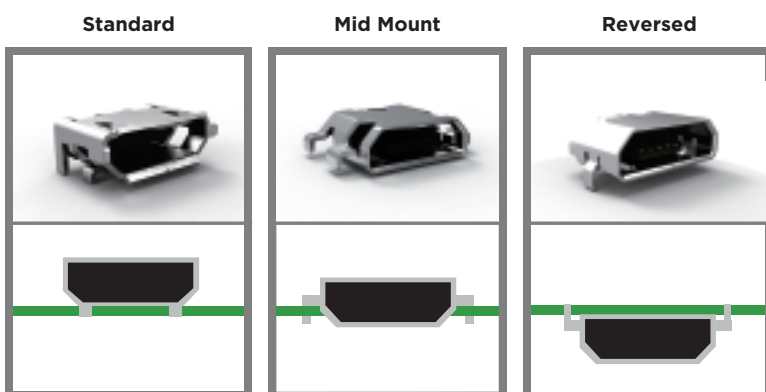
### Soldering Type



#### Soldering type

DIP type receptacles feature 2 or 4 through-hole solder legs that provide additional strength to the connector. They prevent the connector from being ripped off the board if an exceptionally large force is applied to the connector (for example, when the device is dropped with an inserted plug).

### Mount Type



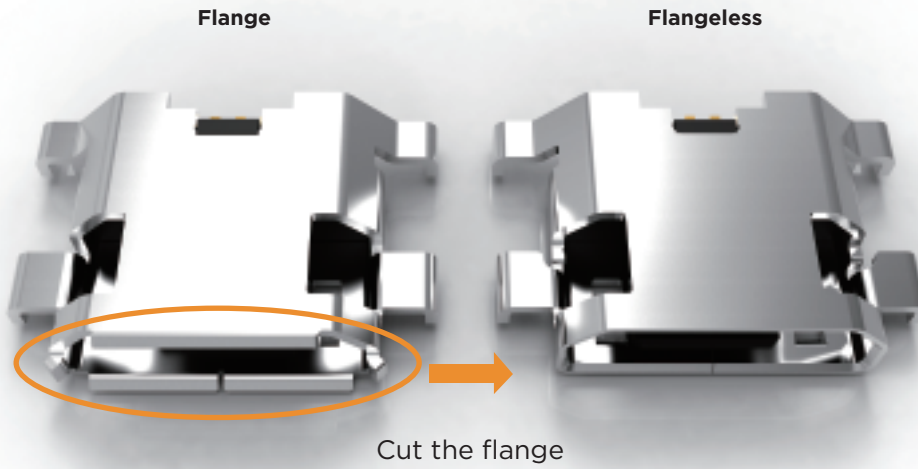
#### Standard vs. Mid Mount

A micro USB connector has a height of 2.51mm. With standard onboard mounting, this height is a given. However, by “sinking” the connector into the board, the height in the end application can be reduced. This mount type is called Mid Mount. Depending on the requirements, several heights can be achieved.

#### Reversed

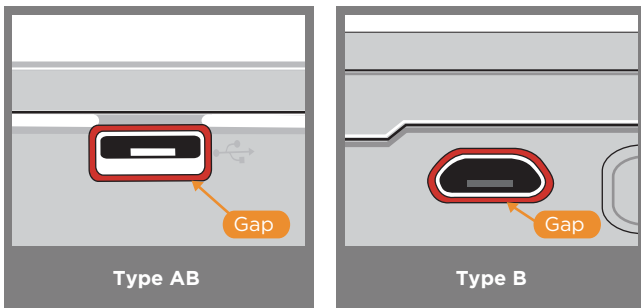
The micro USB plug always needs to be plugged into the devices with the USB logo facing the user. Reversed types allow for mounting on the opposite board site while the plug insertion direction is still correct. This is achieved by flipping the mating interface. Reversed mounting is available in both standard reversed (on board) and reversed mid mount types.

## Flangeless



## Appearance of Flangeless Micro USB in the Customer Model

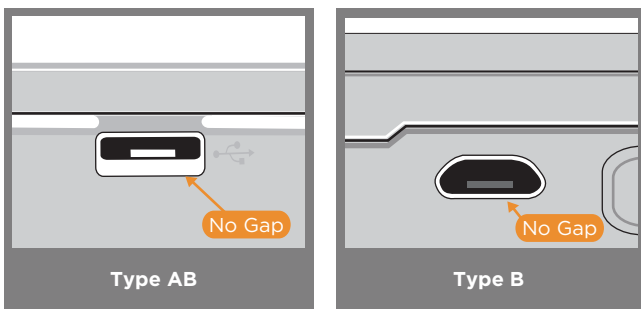
### With Flange



### With Flange

The micro USB connector with flange leaves a gap between the connector and the phone cover. From an aesthetic point of view, this is less desirable. Furthermore, the gap allows for dust intrusion.

### Flangeless



### Flangeless

The flangeless micro USB connector looks better in combination with the cover. The function of the flange is picked up by the shell.

### Splash-Proof

The offers either axial sealing or radial sealing possibilities to the phone cover.



### Cable Assemblies



TE Connectivity’s mobile device cable assembly product line is the latest generation interconnects for mobile devices, including mobile phones and tablet computers. The products are designed to be compliant with the well-known and widely used industry standards. The product range includes all industry accepted interfaces, like micro-USB, USB-A, HDMI-D and standards like USB 2.0, USB 3.0, HDMI 1.3 and 1.4. Cosmetics, cable length, colors and configurations can be adjusted toward customers’ needs.

Micro USB connectors									
Picture	Type	Mount type	Soldering type	STD REVERSED	Flange	Dimensions	P/N	Remarks	TID
	A	Plug	N/A	N/A	N/A	N/A	1939053-1 1939053-2 1939053-3	cable Ø2.8 cable Ø3.3 cable Ø4.3	N/A
	A	Plug	N/A	N/A	N/A	N/A	1939054-1 1939054-2 1939054-3	cable Ø2.8 cable Ø3.3 cable Ø4.3	N/A
	AB	TOP	SMT	STD	With	7.5 x 5.00 x 2.51	1981584-1		60001338
	B	TOP	SMT	STD	With	7.5 x 5.00 x 2.51	1981568-1		60001336
	B	TOP	2 Dip	STD	With	7.5 x 5.00 x 2.51	2069746-1	short version	61001336
	B	TOP	2 Dip	STD	With	7.5 x 5.00 x 2.51	2013499-1		61001336
	B	TOP	4 Dip	STD	With	7.5 x 5.00 x 2.51	2040002-1		62001336
	AB	TOP	2 Dip	STD	Without	7.52 x 5 x 2.51	2134536-2		TBA
	B	TOP	SMT	STD	Without	7.5 x 5 x 2.51	2174507-2		TBA
	AB	TOP	SMT	STD	Without	8.2 x 5.0 x 3.8	1551629-1	Splash Proof	60001915
	B	TOP	SMT	STD	Without	8.2 x 5.0 x 3.8	2173157-1	Splash Proof	TBA
	B	Mid h=1.5	4 Dip	STD	With	7.52 x 6.5 x 2.48	2040343-2		60001495
	B	Mid h=1.6	4 Dip	RVS	With	7.52 x 6.5 x 2.48	1554266-1		61001495
	B	Mid h=1.6	4 Dip	RVS	Without	7.5 x 6.5 x 2.5	2134441-2		63001495
	B	TOP	2 Dip	RVS	Without	7.52 x 5.15 x 2.48	1932788-1		TBA

# Frequently Asked Questions

## Question 1

What does TID mean?

### Answer 1

TID stands for Test Identification Number. In order to acquire a TID number the USB connector needs to be subjected to compliance testing performed by a USB approved independent test facility. USB IF will evaluate the test results and inform the manufacturer of the pass or fail determination.

## Question 2

Does TE Connectivity also produce custom cable assemblies?

### Answer 2

TE Connectivity is a major supplier of all sorts of cable assemblies. A cable assembly can be fully customized to the customer needs. There is even the possibility to integrate complex (active) modules into the cable.

## Question 3

Why is DIP soldering used?

### Answer 3

Due to the relatively large forces that can be applied to the micro USB interface, and the fact that all contacts are located at the back side of the connector, further hold downs toward the front of the Micro USB connector are required. TE Connectivity offers connectors which are fully SMD, featuring brackets to the front of the connector. DIP type hold downs are more rugged than SMD soldered brackets. Therefore they provide a better resistance against break off.

## Question 4

What does splash proof mean?

### Answer 4

Our splash proof series of connectors are designed to withstand a moderate amount of water sprayed on them. Even a heavy Monsoon would be not problem for this connector series.

## FOR MORE INFORMATION

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\*as defined [www.te.com/leadfree](http://www.te.com/leadfree)

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