

# MUSBR Rugged USB 2.0

## Product Specification S6056C Rev 1.5

Amphenol

*Now you're connected!*

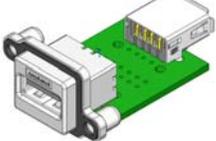
### About Amphenol Commercial Products

Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

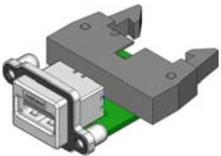
### Related Products

MUSB/MUSBR OPTIONS:

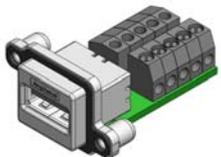
#### With matching USB



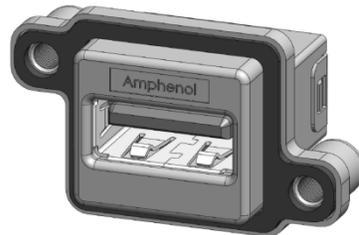
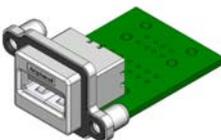
#### With Cable Header



#### With Terminal Block



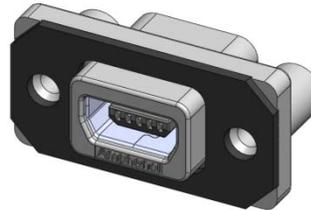
#### With PCB for wiring



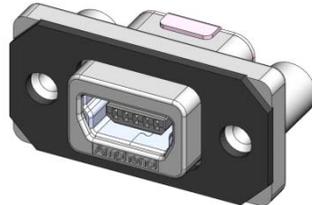
MUSBR-A111-30  
SERIES A, RIGHT ANGLE  
STANDARD PROFILE



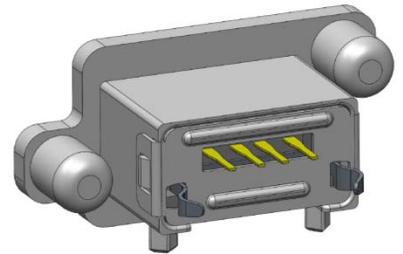
MUSBR-A511-40  
SERIES A, VERTICAL  
LOW PROFILE



MUSBR-E151-30  
SERIES MINI-AB, RIGHT  
ANGLE



MUSBR-B151-30  
MINI-B, RIGHT ANGLE  
STANDARD PROFILE



### Overview

This Product Specification defines the general use and performance parameters for Amphenol's MUSBR series of connectors.

Availability: USB 2.0 Series A right angle & vertical mount connectors, Mini-B and Mini-AB series with right angle and vertical PCB tails are available now. Right angle connectors mounted on a PCB with matching USB, cable headers or terminal blocks are available for all series. Dust covers for enhanced mating area protection are also available.

### Usage

These connectors meet Military shock & vibration levels and IP68 per IEC 60529 in mated and unmated conditions. The connector system is designed to provide a standard USB interface for enclosures exposed to harsh environments. Connectors mate with any standard USB 2.0 plug. Achieves data rates up to 480 Mb/s (USB 2.0).

### Applications

Intended for use in applications such as:

- Medical equipment
- Microwave transmitters
- GPS, positioning equipment
- Military vehicles, radios, computers
- Test equipment
- Mobile entertainment systems
- Traffic control & monitoring systems

# Now you're connected!

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## Related Products

### MDBR



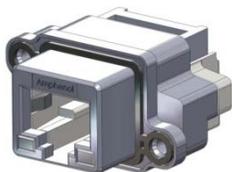
9 POSITION CONNECTOR SHOWN

### MUSBK



MUSB-K152-30  
SERIES MICRO-AB  
RIGHT ANGLE, PCB TAIL

### MRJR



MRJR-5380-01 SHOWN  
RIGHT ANGLE, PCB TAIL,  
8 POSITION RJ45

## Connector Electrical Characteristics

Parameter	Series A & B	Series Mini-B & Mini-AB
Current rating:	1.5A per contact	1.0A per contact
Contact resistance:	30 mΩ max	50 mΩ max
Insulation resistance:	1000 MΩ min	100 MΩ min
DWV:	500V AC @ sea level	100V AC @ sea level

## Connector Mechanical Characteristics

Thermal Shock: 5 cycles @ -40° to +125° C  
 Physical Shock: Per EIA364-27 Condition H (11ms 30G)  
 Humidity: Per EIA364-31 Condition C, method III  
 Vibration: Per EIA364-28 per Condition V, Letter A  
 Salt spray: Per EIA364-26, 250 Hrs

## Process Characteristics

Recommended soldering process: Hand or wave soldering peaked at 260°C for 8 seconds max.  
 Recommended Torque for #4-40 or M3 Panel Mount Screws: 0.45 to 0.65 Nm (4 – 5.75 in-lbs).  
 Recommended Torque for #2-56 or M2.5 Panel Mount Screws: 0.23 to 0.34 Nm (2 - 3 in-lbs).  
 Solder tails suitable for PCB thickness of 1.52mm (.062")  
 Mating Cycles: 1500 (Series A & B)  
 5000 (Series Mini-B & Mini-AB)

## Material Requirements

MUSBR connectors are RoHS compliant.

Unless otherwise specified, the materials for each component shall be:

- Contacts: Phosphor Bronze with 30μ" (0.76μm) min Gold over 50μ" (1.27μm) min Nickel
- Housing: Engineering thermoplastic, UL94V-0 rated, Black. White for series B.
- Shell: Die cast Zinc alloy, Nickel plating

Temperature rise: Meets the requirement of 30° C ΔT

Operating temperature -40° to +105° C

## Available Documents

### Drawing Numbers:

P-MUSBR-A111-XX  
 P-MUSBR-A511-XX  
 P-MUSBR-B151-XX  
 P-MUSBR-B551-XX  
 P-MUSBR-E151-XX  
 P-MUSBR-E551-XX

MUSBR Rugged Series A, Right Angle PCB Tail, Thread, Shell & Dust Cover Options  
 MUSBR Rugged Series A, Right Angle, Vertical PCB Mount  
 MUSBR Rugged USB MiniB receptacle, Right Angle, Flange,thread and Cover Options  
 MUSBR Rugged USB MiniB receptacle, Vertical, Flange,thread and Cover Options  
 MUSBR Rugged USB MiniAB recept, Right Angle, Flange,thread and Cover Options  
 MUSBR Rugged USB MiniAB receptacle, Vertical, Flange,thread and Cover Options

Contact factory, authorized Amphenol representative or website [www.amphenolcanada.com](http://www.amphenolcanada.com) for additional configurations

## Quality Test Reports

QTR9300491 Qualification Test Report

# Now you're connected!

## Product Numbering System

		MUSBR	-	X	X	X	X	-	X	X	X
MUSBR	Rugged USB Receptacle Series, Generation 2										
	Receptacle Type Per USB 2.0 <sup>1</sup>										
	A – Standard A Series										
	B – Mini B Series										
	E – Mini AB Series										
	Termination Style										
	1 – Right angle										
	2 – Right angle on PCB with Right Angle Cable Header										
	3 – Right angle on PCB with Right Angle Matching USB Type Connector										
	4 – Right angle on PCB with Terminal Blocks										
	5 – Vertical <sup>2</sup>										
	8 – Right angle on PCB with Vertical Cable Header <sup>2</sup>										
	A – Right angle on PCB with Holes for Wiring (Style 3 PCB) <sup>3</sup>										
	B – Right Angle on PCB with Vertical Single Row Isolated Header <sup>2</sup>										
	E – Right angle on PCB with Vertical Matching USB Type Connector <sup>2</sup>										
	Number of Contacts										
	1 – Standard 4 Contacts per Port for Types A										
	5 – Standard 5 Contacts per Port for Types B & E										
	Colour										
	1 - Black for Types A, B & E										
	Shell & Thread Options <sup>4,5</sup>										
	3 – Standard Shell, Unified Thread										
	4 – Low Profile Shell for Type A, Unified Thread										
	5 – Rear Flange Shell for Types B & E, Unified Thread										
	M – Standard Shell, Metric Thread										
	R – Low Profile Shell for Type A, Metric Thread										
	T – Rear Flange Shell for Types B & E, Metric Thread										
	Dust Cover Options <sup>6</sup>										
	0 - Standard (no dust cover)										
	1 - With grey color dust cover (supplied bulk packed)										
	5 - With black color dust cover (supplied bulk packed)										
	Unique Special Code <sup>7</sup>										
	No Digit – Standard part defined by previous 10 digits										
	1 to 9 - Unique special feature										

### Notes

- For a Micro AB receptacle with epoxy free design, refer to MUSB series receptacle type K.
- Termination styles 8, B & E are currently available for receptacle type A only.
- Termination style A uses the PCB from termination style 3.
- For receptacle type A (Standard A Series), the term standard shell relates to the shell profile. For receptacle types B & E (Mini B & Mini AB), the term standard shell relates to the position of the flange. It is not an indication of connector availability.
- For receptacle type A (Standard A Series), the unified thread is #4-40UNC and the metric thread is M3x0.5. For receptacle types B & E (Mini B & Mini AB), the unified thread is #2-56UNC and the metric thread is M2.5x0.45.
- When dust covers are supplied with the connector, they are not installed. They are supplied in bulk inside each package of connectors.
- Consult with Amphenol for additional termination styles, solder cup contacts, contact tail lengths, mounting styles, non-conductive gaskets or other requirements of interest. See catalogue Accessories page for dust cover option.