

USB 3.0

USB 3.0 is the next major revision to the Universal Serial Bus standard. This new revision promises higher data transfer rates (up to 4.8Gbps) with increased maximum bus power and is backwards compatible to USB 2.0.

PART NUMBER REFERENCE



Select Connector Type: End "1"

- Type A, Friction Fit = 1
- Type A, w/Thumbscrews = 1B
- Straight MICRO-B Exit with Thumbscrews = 2
- MICRO-B R/A **UP** w/Recessed Screws = 3
- MICRO-B R/A **DOWN** w/Recessed Screws = 4
- MICRO-B Exit Right w/Recessed Screws = 5
- MICRO-B Exit Left w/Recessed Screws = 6
- Type A with Thumbscrews = 7
- Type B with Thumbscrews = 8
- Type B Friction Fit = 9
- Type A Receptacle Friction Fit = 10
- Type A Receptacle w/Threaded Inserts = 11
- Type B /w/Threaded Inserts = 12

Select Cable Type:

- Static (*Up to 5m) = 1
- Robotic (*Up to 5m) = 2
- Extended Distance (*Up to 7m) = 3
- Chain Flex (*Up to 5m) = 4

Select Connector Type: End "2"

- Type A, Friction Fit = 1
- Type A, w/Thumbscrews = 1B
- Straight MICRO-B Exit with Thumbscrews = 2
- MICRO-B R/A **UP** w/Recessed Screws = 3
- MICRO-B R/A **DOWN** w/Recessed Screws = 4
- MICRO-B Exit Right w/Recessed Screws = 5
- MICRO-B Exit Left w/Recessed Screws = 6
- Type A with Thumbscrews = 7
- Type B with Thumbscrews = 8
- Type B Friction Fit = 9
- Type A Receptacle Friction Fit = 10
- Type A Receptacle w/Threaded Inserts = 11
- Type B /w/Threaded Inserts = 12

*Length in Meters:

Temp: 9-29-20

CONNECTOR TYPE OPTIONS:

Additional Dimensional Information:

For additional information regarding the physical dimensions of our connector profiles, please visit our Web-Site: www.ComponentsExpress.com or ask one of our sales associates and we will be happy to assist.

1



Type A
Friction Fit

1B



Type A
W/Thumbscrew

2



Type A
W/Thumbscrews

3



Micro B, Straight
W/Thumbscrews

4



Micro B, R/A Up
W/Recessed Screws

5



Micro B, R/A Down
W/Recessed Screws

6



Micro B, Exit Right
W/Recessed Screws

7



Micro B, Exit Left
W/Recessed Screws

8



Type B
W/Thumbscrews

9



Type B
Friction Fit

10



Type A Receptacle
Friction Fit

11



Type A Receptacle
w/Threaded Inserts

12



Type B Receptacle
w/Threaded Inserts

Temp: 9-29-20

USB 3.0 & USB 3.1 Type #: 1

SPEC No.:	(7/0.127TA*1PR+EAM)*2+(7/0.127TA*1PR+A)+7/0.16TA*2C+AB 85% USB 3.0						
Customer		Customer NO.		8 Code:	0	Sample NO.:	Y161015007
UL File NO.	E101344	UL Style:	UL 2725	Date:	10/21/16	Spec NO.:	0
CSA File NO.		CSA Style:		Edition:	Original edition	Operation NO.:	
Structure		Structure A		Structure B		Structure C	
Conductors	Structure AWG	AWG	28# (7/36)	28# (7/36)	28# (7/36)	26# (7/34)	
	Material	--	Tinned Copper	Tinned Copper	Tinned Copper	Tinned Copper	
	O.D.	mm	0.38 Ref	0.38 Ref	0.38 Ref	0.471 Ref	
Insulation	Material	--	FOAM-SKIN-PE	FOAM-PE	FOAM-PE	SR-PVC	
	Diameter	mm	0.89±0.07	0.84±0.05	0.84±0.05	1±0.07	
	Average Thickness	mm	0.255	0.230	0.230	0.265	
	Color	--	AS Color Code	AS Color Code	AS Color Code	AS Color Code	
Twist	Direction	--	Left (Z)	Left (Z)	Left (Z)	--	
	Diameter	mm	1.78 Ref	1.4 Ref	1.4 Ref	--	
Drain wire	Structure AWG	AWG	28# (7/36)				
	Material	--	Tinned Copper				
Shielding 1	Material	--	AL-foil/mylar	AL-foil/mylar	AL-foil/mylar	--	
	Conductive Side	--	Inside	Inside	Inside	--	
	Overlap Rate	%	25 MIN	25 Ref	25 Ref	--	
Separator 2	Material	--	Hot-melt-Mylar	--	--	--	
	Conductive Side	--	--	--	--	--	
	Overlap Rate	%	25 MIN	--	--	--	
Layer	Direction	--		Left (Z)	Left (Z)		
	Pitch	mm		75 Ref	75 Ref		
	Diameter	mm		3.9 Ref	3.9 Ref		
Shielding 3	Material	--	--	AL-foil/mylar	AL-foil/mylar	--	
	Conductive Side	--	--	Outside	Outside	--	
	Overlap Rate	%	--	25 MIN	25 MIN	--	
Shielding 4	Shield	--		Braid	Braid		
	Material	--		Tinned Copper	Tinned Copper		
	Coverage Rate	%		85 MIN	85 MIN		
Jacket	Material	--		PVC	PVC		
	Diameter	mm		5.5 ± 0.19	5.5 ± 0.19		
	Min Thickness	mm		0.50	0.50		
	Extrusion	--		Semi substantiate	Semi substantiate		
	Externals	--		Plane	Plane		
	Color	--		Z001 (BLACK)	Z001 (BLACK)		

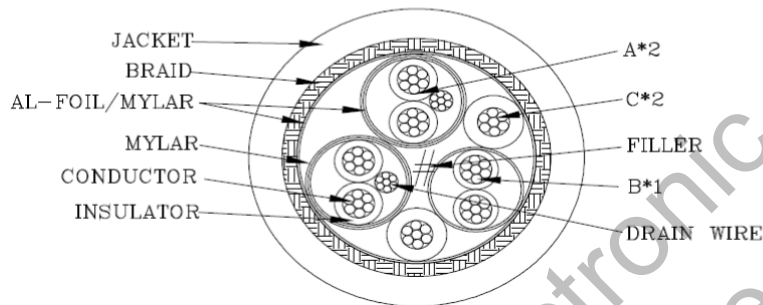
USB 3.0 & USB 3.1 Type #: 1

SPEC No.:	(7/0.127TA*1PR+EAM)*2+(7/0.127TA*1PR+A)+7/0.16TA*2C+AB 85% USB 3.0						
Customer		Customer NO.		8 Code:	0	Sample NO.:	Y161015007
UL File NO.	E101344	UL Style:	UL 2725	Date:	10/21/16	Spec NO.:	0
CSA File NO.		CSA Style:		Edition:	Original edition	Operation NO.:	



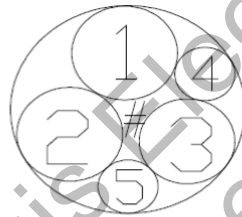
COMPONENTS EXPRESS, INC.
10330 Argonne Woods Drive, Ste100
Woodridge, IL 60517

Y161015007 (E0894)
Rev. A, 10/26/2016, 8/12/19



COLOR CODE

1. YELLOW*BLUE
2. ORANGE*VIOLET
3. WHITE*GREEN
4. BLACK (P570)
5. RED (P572)



Pg. 2/3

MINIMUM BEND RADIUS: 10X O.D.

USB 3.0 & USB 3.1 Type #: 1

SPEC No.:	(7/0.127TA*1PR+EAM)*2+(7/0.127TA*1PR+A)+7/0.16TA*2C+AB 85% USB 3.0						
Customer		Customer NO.		8 Code:	0	Sample NO.:	Y161015007
UL File NO.	E101344	UL Style:	UL 2725	Date:	10/21/16	Spec NO.:	0
CSA File NO.		CSA Style:		Edition:	Original edition	Operation NO.	

Electric Characters

- Voltage rating :30V
- Temperature rating : 80°C
- Spark test: AC- 500V / 0.15 sec MIN.
- Dielectric strength : AC- 750V/1sec MIN.
- Insulation resistance :FOAM-SKIN-PE, FOAM-PE: DC- 500V 100 MΩ/KM MIN. at 20°C
SR-PVC:DC-500V 10MΩ/KM MIN. at 20°C
- Conductor resistance : 28AWG-244 Ω/KM MAX. at 25°C
26AWG-153 Ω/KM MAX. at 25°C

Transmission Characters

- Differential impedance: 90±7Ω (1PR+EAM)*2
- Attenuation : (1PR+EAM)*2

Frequency (MHz)	100	625	1250	2500	5000	7500
Insertion Loss (MAX) dB/cable	-1.5	-3.1	-5	-7.5	-16.25	-25

- Intra-pair skew:15PS/M
- Differential to Common Mode Conversion: -20 dB@(2.0m)
- Conductor resistance unbalance : 5%(1PR:GREEN*WHITE)
- Attenuation:(1PR:GREEN*WHITE)

Frequency(MHz)	0.512	0.772	1.00	4.00	8.00	12.0	24.0	48.0	96.0	200.0	400.0
Attenuation(MAX)dB/cable	0.130	0.150	0.20	0.390	0.570	0.760	0.950	1.350	1.90	3.20	5.80

- Impedance(1PR:GREEN*WHITE) : 90Ω±15% @ TDR (differential)
- Propagation Delay(1PR:GREEN*WHITE) : 5.2ns/M MAX
- Propagation Delay skew(1PR:GREEN*WHITE): 100PS MAX

Physical Characters

- Flame test of cable:
 - VW-1
- Tensile strength test (before aging) :
 - Sheath : > 1.05kg/mm²
 - Insulation : > 1.12kg/mm²
- Tensile strength test (after aging):
 - Sheath: > 70%
 - Insulation: > 70%
- Elongation(before aging):
 - Sheath : > 100%
 - Insulation : > 100%
- Elongation(after aging):
 - Sheath : > 65%
 - Insulation : > 70%
- Requirements for green environment protection: Accord with RoHS



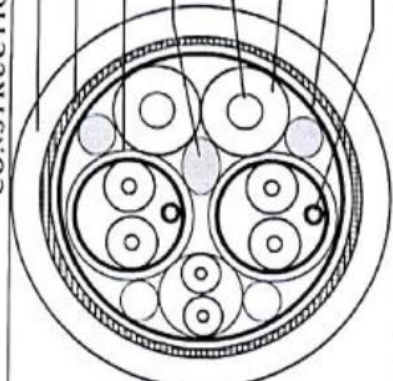

COMPONENTS EXPRESS, INC.
10330 Argonne Woods Drive, Ste100
Woodridge, IL 60517

Y161015007 (E0894)
Rev. A, 10/21/2016, 8/12/19

USB 3.0 Cable Type #: 2

SPECIFICATION:		(1P*26#+ADBP)2C+1P*26#+1P*24#+FPB	
ITEM	SPECIFICATION		
CONDUCTOR	26AWG TINNED COPPER	26AWG TINNED COPPER	24AWG TINNED COPPER
INSULATION	COND SIZE MIN.AVG.THICK	19/0.10±0.008 mm 0.23 mm	41/0.08±0.008 mm 0.23 mm
Face Outside	MATERIAL	FM-PE+SKIN	HD-PE
AL.MYLAR	O . D	1.20±0.10 mm	0.90±0.05 mm
DRAIN	N O.	1P*2	1P
BRAID COPPER	COVERAGE	100%	/
Foamed PP film	OVERLAP	25% MIN	/
Foamed PP film	MATERIAL	TINNED COPPER	TINNED COPPER
BRAID COPPER	SIZE	19/0.08±0.008 mm	16*10.0.08±0.008MM (Coverage : 85%MIN)
JACKET	COLOUR	PURPLE	PURPLE
	O . D	7.00 ± 0.30 mm	7.00 ± 0.30 mm
<p>CONSTRUCTION D.W.G</p> <p>COLOUR CODE: (1P*26#+ADBP)*2C: 1. YELLOW * BLUE 2. ORANGE * PURPLE IP*26#: 1.GREEN *WHITE IP*24#: 1. BLACK RED</p> <p>MINIMUM BEND RADIUS: 10X O.D.</p>			
<p>COMPONENTS EXPRESS, INC. 10330 Argonne Woods Drive, Ste100 Woodridge, IL 60517</p> <p>YS2018111302, 8/12/19</p>			
<p>APPROVED</p>		<p>CUSTOMER</p>	
<p>CHECKED</p>		<p>REV</p>	
<p>DRAWING</p>		<p>DATE</p>	
		<p>CHEN 2018/11/13</p>	
<p>PHYSICAL PROPERTIES OF JACKET</p>			
<p>ELECTRICAL CHARACTERISTICS</p>		<p>USB3.0 STP*2P</p>	
<p>1. Rating Temperature: 80°C ; VOLTAGE: 30V 2. Conductor Resistance: at 20°C max 26AWG: 150Ω/km; 3. Insulation Resistance: 10MΩ/km min at 20°C de 500V 4. Propagation Delay Skew:100ps (Full-/High-speed only) 5. Time Delay: 5.2ns/m(max) 6. Impedance: 90±15%Ω 7. Attenuation(Full/High-speed only):</p>		<p>1. Differential Impedance:90±7Ω 2. Intra-Pair Skew : 15ps /m 3. Attenuation/Insertion Loss: 1.5dB@0.1GHz 5.0dB@1.25GHz 7.5dB@2.5GHz 25dB @ 7.5GHz 4. Differential to common mode: 20dB cable @ 0.1-7.5GHz</p>	
F(MHz)	Attenuation(dB)	F(MHz)	Attenuation(dB)
0.064	0.08	24	0.95
0.266	0.11	48	1.35
0.512	0.13	96	1.90
0.772	0.15	200	3.20
1	0.20	400	5.80
4	0.39		
8	0.57		
12	0.76		

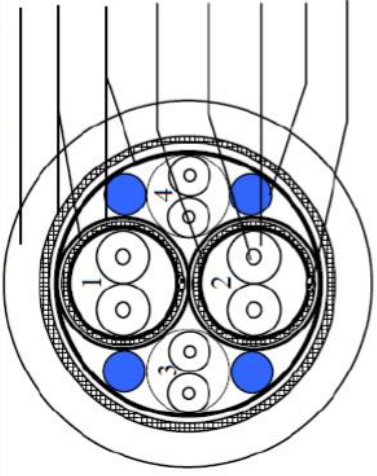
USB 3.0 Cable Type #: 3

SPECIFICATION:		(1P*24#+DAM)2C+1P*26#+2C*18#+F+AL+B / UL2725																																					
ITEM		SPECIFICATION																																					
CONDUCTOR	AWG	24AWG	18AWG																																				
	MATERIAL	TINNED COPPER	TINNED COPPER																																				
	COND.SIZE	7/0.20±0.008MM	43/0.16±0.008MM																																				
	MIN.AVG.THICK	0.35MM	0.23MM																																				
INSULATION	MATERIAL	FM-PE+SKIN	PVC																																				
	O . D	1.35±0.10MM	1.80±0.10MM																																				
	N.O.	1P*2	2C																																				
DRAIN	AWG	24AWG	/																																				
	MATERIAL	TINNED COPPER	/																																				
	SIZE	7/0.20±0.008MM	/																																				
	COVERAGE	100%	/																																				
	OVERLAP	25% MIN	/																																				
	COVERAGE	100%	/																																				
	OVERLAP	25%MIN	/																																				
	N.O.	(1P+DAM)2C	/																																				
Face Outside	COVERAGE	100%	2C																																				
AL.MYLAR	OVERLAP	/	/																																				
Hot-MYLAR	COVERAGE	100%	/																																				
	OVERLAP	25%MIN	/																																				
	N.O.	(1P+DAM)2C	/																																				
Face Outside	COVERAGE	100%	2C																																				
AL.MYLAR	OVERLAP	25% MIN	/																																				
DRAIN	MATERIAL	/	/																																				
	SIZE	/	/																																				
BRAID	MATERIAL	TINNED COPPER	/																																				
COPPER	SIZE	24*9/0.10±0.008MM (COVERAGE :85% MIN)	/																																				
	MIN.AVG.THICK	0.50MM	/																																				
JACKET	MATERIAL	PVC	/																																				
	COLOUR	BLACK	/																																				
	O . D	7.50±0.20MM	/																																				
ELECTRICAL CHARACTERISTICS		PHYSICAL PROPERTIES OF JACKET																																					
USB2.0 UTP 1. Rating Temperature: 80°C ; VOLTAGE: 30V 2. Conductor Resistance: at 20°C max 24AWG: 94.2Ω/km; 18AWG: 23.2Ω/km 3. Insulation Resistance: 10MΩ/km min at 20°C dc 500V 4. Propagation Delay Skew: 100ps (Full-/High-speed only) 5. Time Delay: 5.2ns/m(max.) 6. Impedance: 90±15%Ω 7. Attenuation(Full/High-speed only):		1. Tensile Strength: Unaged: 1500PSI min Aged: 70% min 2. Elongation: Unaged: 100% min Aged: 65% 3. Heat shock test: NO CRACKING 4. Cold bend test: NO CRACKING 5. Deformation test: MAX 50% 6. Flame test: PASS VW-1																																					
<table border="1"> <thead> <tr> <th>F(MHz)</th> <th>Attenuation(dB)</th> <th>F(MHz)</th> <th>Attenuation(dB)</th> </tr> </thead> <tbody> <tr> <td>0.064</td> <td>0.08</td> <td>24</td> <td>0.95</td> </tr> <tr> <td>0.256</td> <td>0.11</td> <td>48</td> <td>1.35</td> </tr> <tr> <td>0.512</td> <td>0.13</td> <td>96</td> <td>1.90</td> </tr> <tr> <td>0.772</td> <td>0.15</td> <td>200</td> <td>3.20</td> </tr> <tr> <td>1</td> <td>0.20</td> <td>400</td> <td>5.80</td> </tr> <tr> <td>4</td> <td>0.39</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>0.57</td> <td></td> <td></td> </tr> <tr> <td>12</td> <td>0.76</td> <td></td> <td></td> </tr> </tbody> </table>		F(MHz)	Attenuation(dB)	F(MHz)	Attenuation(dB)	0.064	0.08	24	0.95	0.256	0.11	48	1.35	0.512	0.13	96	1.90	0.772	0.15	200	3.20	1	0.20	400	5.80	4	0.39			8	0.57			12	0.76			USB3.0 STP*2P 1. Differential Impedance: 90±7Ω 2. Intra-Pair Skew : 15ps /m 3. Attenuation/Insertion Loss: 1.5dB/1.5M@0.1GHz 5.0dB/1.5M@1.25GHz 7.5dB/1.5M@2.5GHz 25dB/1.5M@7.5GHz 4. Differential to common mode: 20dB/cable @ 0.1~7.5GHz 5. NEXT: 32dB@0.1GHz 32dB@2.5GHz 23dB@3.0GHz 23dB@7.5GHz	
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CONSTRUCTION 		D.W.G JACKET BRAID COPPER MYLAR FILLER CONDUCTOR INSULATION AL.MYLAR DRAIN																																					
COLOUR CODE: (1P*24#+DAM)2C: 1. YELLOW*BLUE 2. ORANGE*PURPLE 1P*26#: GREEN *WHITE 2C*18#: 1.BLACK 2.RED		MINIMUM BEND RADIUS: 10X O.D.																																					
		COMPONENTS EXPRESS, INC. 10330 Argonne Woods Drive, Ste100 Woodridge, IL 60517																																					
(E1013), 8/12/19		APPROVED																																					
CHECKED		CUSTOMER 奕樹																																					
DRAWING CHEN		REV A / I																																					
		DATE 2018/5/17																																					

USB 3.0 Cable Type #: 4

SPECIFICATION:		(1P*26#+ADBP)2C+1P*26#+1P*24#+FPB	
ITEM	SPECIFICATION		
CONDUCTOR	26AWG TINNED COPPER	26AWG TINNED COPPER	24AWG TINNED COPPER
INSULATION	COND.SIZE 19/0.10±0.008 mm	COND.SIZE 19/0.10±0.008 mm	COND.SIZE 41/0.08±0.008 mm
	MIN.AVG.THICK 0.23 mm	MIN.AVG.THICK 0.23 mm	MIN.AVG.THICK 0.23 mm
	MATERIAL FM-PE+SKIN	MATERIAL HD-PE	MATERIAL HD-PE
	O . D 1.20±0.10 mm	O . D 0.90±0.05 mm	O . D 0.95±0.05 mm
	N O. IP*2	N O. IP	N O. IP
Face Outside	COVERAGE 100%	COVERAGE 100%	COVERAGE 100%
AL.MYLAR	OVERLAP 25% MIN	OVERLAP 25% MIN	OVERLAP 25% MIN
DRAIN	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER
	SIZE 19/0.08±0.008 mm	SIZE 19/0.08±0.008 mm	SIZE 19/0.08±0.008 mm
BRAID	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER
COPPER	SIZE 16*6/0.08±0.008MM	SIZE 16*6/0.08±0.008MM	SIZE 16*10/0.08±0.008MM
	COVERAGE 90%MIN	COVERAGE 90%MIN	COVERAGE 85%MIN
Foamed PP film	COVERAGE 100%	COVERAGE 100%	COVERAGE 100%
	OVERLAP 25%MIN	OVERLAP 25%MIN	OVERLAP 25%MIN
	N O. (1P+ADBP)2C	N O. IP	N O. IP
Foamed PP film	COVERAGE 100%	COVERAGE 100%	COVERAGE 100%
	OVERLAP 25% MIN	OVERLAP 25% MIN	OVERLAP 25% MIN
BRAID	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER	MATERIAL TINNED COPPER
COPPER	SIZE 16*10/0.08±0.008MM	SIZE 16*10/0.08±0.008MM	SIZE 16*10/0.08±0.008MM
	MIN.AVG.THICK 0.76 mm	MIN.AVG.THICK 0.76 mm	MIN.AVG.THICK 0.76 mm
JACKET	MATERIAL MIXING PVC	MATERIAL MIXING PVC	MATERIAL MIXING PVC
	COLOUR PURPLE	COLOUR PURPLE	COLOUR PURPLE
	O . D 7.00 ± 0.30 mm	O . D 7.00 ± 0.30 mm	O . D 7.00 ± 0.30 mm
ELECTRICAL CHARACTERISTICS		PHYSICAL PROPERTIES OF JACKET	
USB2.0 UTP 1. Rating Temperature: 80°C ; VOLTAGE: 30V 2. Conductor Resistance: at 20°C max 26AWG: 150Ω/km; 3. Insulation Resistance: 10MΩ/km min at 20°C dc 500V 4. Propagation Delay Skew: 100ps (Full-/High-speed only) 5. Time Delay: 5.2ns/m(max) 6. Impedance: 90±15%Ω 7. Attenuation(Full/High-speed only):		USB3.0 STP*2P 1. Differential Impedance:90±7Ω 2. Intra-Pair Skew : 15ps /m 3. Attenuation/Insertion Loss: 1.5dB@0.1GHz 5.0dB@1.25GHz 7.5dB@2.5GHz 25dB@7.5GHz 4. Differential to common mode: 20dB/cable @ 0.1~7.5GHz	
F/MHz	Attenuation(dB)	F(MHz)	Attenuation(dB)
0.064	0.08	24	0.95
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0.772	0.15	200	3.20
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4	0.39		
8	0.57		
12	0.76		

CONSTRUCTION D.W.G



COLOUR CODE:

- (1P*26#+ADBP)*2C:
- 1. YELLOW * BLUE
- 2. ORANGE * PURPLE

IP*26#: 1.GREEN *WHITE

IP*24#: 1. BLACK RED

MINIMUM BEND RADIUS: 10X O.D.



COMPONENTS EXPRESS, INC.
 10330 Argonne Woods Drive, Ste 100
 Woodridge, IL 60517

YS2018111302, 8/12/19

APPROVED		CUSTOMER	奕樹
CHECKED		REV	A / 1
DRAWING	CHEN	DATE	2018/11/13