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

USB3-X-X-X-( )M

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 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.:**	

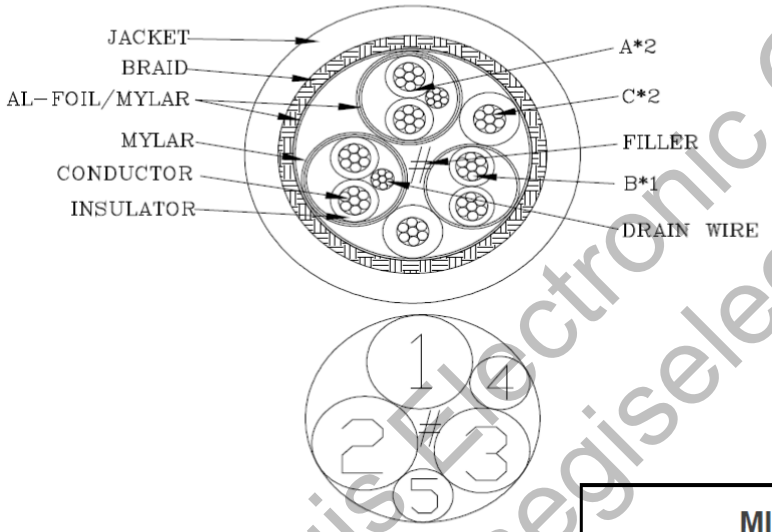
Structure			Structure A	Structure B	Structure C
Conductors	Structure AWG	AWG	28# (7/36)	28# (7/36)	26# (7/34)
	Material	--	Tinned Copper	Tinned Copper	Tinned Copper
	O.D.	mm	0.38 Ref	0.38 Ref	0.471 Ref
Insulation	Material	--	FOAM-SKIN-PE	FOAM-PE	SR-PVC
	Diameter	mm	0.89±0.07	0.84±0.05	1±0.07
	Average Thickness	mm	0.255	0.230	0.265
	Color	--	AS Color Code	AS Color Code	AS Color Code
Twist	Direction	--	Left (Z)	Left (Z)	--
	Diameter	mm	1.78 Ref	1.4 Ref	--
Drain wire	Structure AWG	AWG	28# (7/36)		
	Material	--	Tinned Copper		
Shielding 1	Material	--	AL-foil/mylar	AL-foil/mylar	--
	Conductive Side	--	**Inside**	**Inside**	--
	Overlap Rate	%	25 MIN	25 Ref	--
Separator 2	Material	--	Hot-melt-Mylar	--	--
	Conductive Side	--	--	--	--
	Overlap Rate	%	25 MIN	--	--
Layer	Direction	--	Left (Z)		
	Pitch	mm	75 Ref		
	Diameter	mm	3.9 Ref		
Shielding 3	Material	--	--	AL-foil/mylar	--
	Conductive Side	--	--	Outside	--
	Overlap Rate	%	--	25 MIN	--
Shielding 4	Shield	--	Braid		
	Material	--	Tinned Copper		
	Coverage Rate	%	85 MIN		
Jacket	Material	--	PVC		
	Diameter	mm	5.5 ± 0.19		
	Min Thickness	mm	0.50		
	Extrusion	--	Semi substantiate		
	Externals	--	Plane		
	Color	--	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)

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

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

Transmission Characters

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

3.Intra-pair skew:15PS/M
4.Differential to Common Mode Conversion: -20 dB@(2.0m)
5.Conductor resistance unbalance : 5%(1PR:GREEN*WHITE)
6.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

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

Physical Characters

1.Flame test of cable:
1.1 VW-1
2.Tensil strength test (before aging) :
2.1 Sheath : ＞ 1.05kg/mm2
2.2 Insulation : ＞1.12kg/mm2
3.Tensil strength test (after aging):
3.1 Sheath: ＞70%
3.2 Insulation:＞70%
4.Elongation(before aging):
4.1 Sheath : ＞100%
4.2 Insulation : ＞100%
5. Elongation(after aging):
5.1 Sheath : ＞65%
5.2 Insulation : ＞70%
6.Requirements for green environment protection:Accord with RoHS

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

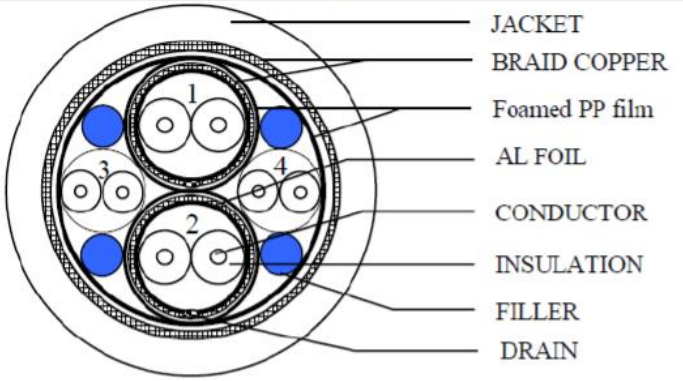
Y161015007 (E0894)
Rev. A, 10/21/2016, 8/12/19

USB 3.0 Cable Type #: 2

SPECIFICATION: (1P*26#+ADBP)2C+1P*26#+1P*24#+FPB

ITEM		SPECIFICATION		
CONDUCTOR	AWG	26AWG	26AWG	24AWG
	MATERIAL	TINNED COPPER	TINNED COPPER	TINNED COPPER
	COND.SIZE	19/0.10±0.008 mm	19/0.10±0.008 mm	41/0.08±0.008 mm
INSULATION	MIN.AVG.THICK	0.23 mm	0.23 mm	0.23 mm
	MATERIAL	FM-PE+SKIN	HD-PE	HD-PE
	O . D	1.20±0.10 mm	0.90±0.05 mm	0.95±0.05 mm
	N O.	1P*2	1P	1P
Face Outside AL.MYLAR	COVERAGE	100%		/
	OVERLAP	25% MIN		/
DRAIN	MATERIAL	TINNED COPPER		
	SIZE	19/0.08±0.008 mm		
BRAID COPPER	MATERIAL	TINNED COPPER	/	/
	SIZE	16*6/0.08±0.008MM	/	/
	COVERAGE	90%MIN		
Foamed PP film	COVERAGE	100%	/	/
	OVERLAP	25%MIN	/	/
	N O.	(1P+ADBP)2C	1P	1P
Foamed PP film	COVERAGE	100%		
	OVERLAP	25% MIN		
BRAID COPPER	MATERIAL	TINNED COPPER		
	SIZE	16*10/0.08±0.008MM (Coverage：85%MIN)		
JACKET	MIN.AVG.THICK	0.76 mm		
	MATERIAL	MIXING PVC		
	COLOUR	PURPLE		
	O . D	7.00 ± 0.30 mm		

CONSTRUCTION D.W.G



COLOUR CODE:

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

1P*26#: 1.GREEN *WHITE

1P*24#: 1. BLACK RED

MINIMUM BEND RADIUS: 10X O.D.

ELECTRICAL CHARACTERISTICS

USB2.0 UTP

1. Rating Temperature: 80℃ ; VOLTAGE: 30V
2. Conductor Resistance: at 20℃ max
   26AWG: 150Ω/km;
3. Insulation Resistance: 10MΩ/km min at 20℃ 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):

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@0.1GHz
   5.0dB@1.25GHz
   7.5dB@2.5GHz
   25dB@7.5GHz
4. Differential to common mode:
   20dB/cable @ 0.1~7.5GHz

PHYSICAL PROPERTIES OF JACKET

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

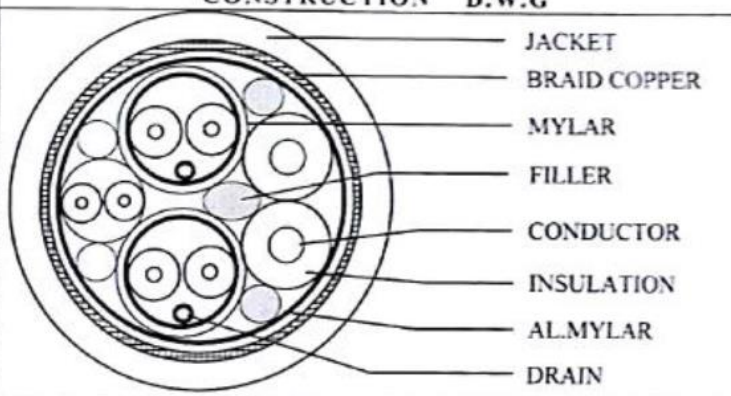
YS2018111302, 8/12/19

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

USB 3.0 Cable Type #: 3

SPECIFICATION:	(1P*24#+DAM)2C+1P*26#+2C*18#+F+AL+B / UL2725			
ITEM		SPECIFICATION		
CONDUCTOR	AWG	24AWG	26AWG	18AWG
	MATERIAL	TINNED COPPER	TINNED COPPER	TINNED COPPER
	COND.SIZE	7/0.20±0.008MM	7/0.16±0.008MM	43/0.16±0.008MM
INSULATION	MIN.AVG.THICK	0.35MM	0.23MM	0.23MM
	MATERIAL	FM-PE+SKIN	HD-PE	PVC
	O . D	1.35±0.10MM	1.00±0.10MM	1.80±0.10MM
	N O.	1P*2	1P	2C
DRAIN	AWG	24AWG	/	/
	MATERIAL	TINNED COPPER	/	/
	SIZE	7/0.20±0.008MM	/	/
Face Inside AL.MYLAR	COVERAGE	100%	/	/
	OVERLAP	25% MIN	/	/
Hot-MYLAR	COVERAGE	100%	/	/
	OVERLAP	25%MIN	/	/
	N O.	(1P+DAM)2C	1P	2C
Face Outside AL.MYLAR	COVERAGE	100%		
	OVERLAP	25% MIN		
DRAIN	MATERIAL	/		
	SIZE	/		
BRAID COPPER	MATERIAL	TINNED COPPER		
	SIZE	24*9/0.10±0.008MM (COVERAGE :85% MIN)		
JACKET	MIN.AVG.THICK	0.50MM		
	MATERIAL	PVC		
	COLOUR	BLACK		
	O . D	7.50±0.20MM		

CONSTRUCTION D.W.G



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.

ELECTRICAL CHARACTERISTICS

USB2.0 UTP

1. Rating Temperature: 80℃ ; VOLTAGE: 30V
2. Conductor Resistance: at 20℃max
   24AWG: 94.2Ω/km; 18AWG: 23.2Ω/km
3. Insulation Resistance: 10MΩ/km min at 20℃ 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):

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

PHYSICAL PROPERTIES OF JACKET

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

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

(E1013), 8/12/19

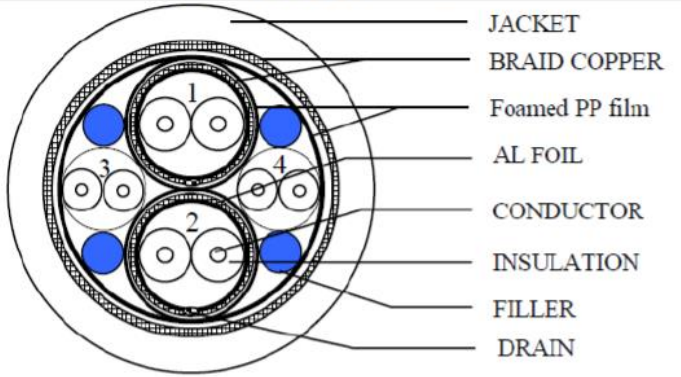
APPROVED		CUSTOMER	奕樹
CHECKED		REV	A / 1
DRAWING	*CHEN*	DATE	2018/5/17

USB 3.0 Cable Type #: 4

SPECIFICATION: (1P*26#+ADBP)2C+1P*26#+1P*24#+FPB

ITEM		SPECIFICATION		
CONDUCTOR	AWG	26AWG	26AWG	24AWG
	MATERIAL	TINNED COPPER	TINNED COPPER	TINNED COPPER
	COND.SIZE	19/0.10±0.008 mm	19/0.10±0.008 mm	41/0.08±0.008 mm
INSULATION	MIN.AVG.THICK	0.23 mm	0.23 mm	0.23 mm
	MATERIAL	FM-PE+SKIN	HD-PE	HD-PE
	O . D	1.20±0.10 mm	0.90±0.05 mm	0.95±0.05 mm
	N O.	1P*2	1P	1P
Face Outside AL.MYLAR	COVERAGE	100%		/
	OVERLAP	25% MIN		/
DRAIN	MATERIAL	TINNED COPPER		
	SIZE	19/0.08±0.008 mm		
BRAID COPPER	MATERIAL	TINNED COPPER	/	/
	SIZE	16*6/0.08±0.008MM	/	/
	COVERAGE	90%MIN		
Foamed PP film	COVERAGE	100%	/	/
	OVERLAP	25%MIN	/	
	N O.	(1P+ADBP)2C	1P	1P
Foamed PP film	COVERAGE	100%		
	OVERLAP	25% MIN		
BRAID COPPER	MATERIAL	TINNED COPPER		
	SIZE	16*10/0.08±0.008MM (Coverage：85%MIN)		
JACKET	MIN.AVG.THICK	0.76 mm		
	MATERIAL	MIXING PVC		
	COLOUR	PURPLE		
	O . D	7.00 ± 0.30 mm		

CONSTRUCTION D.W.G



COLOUR CODE:

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

1P*26#: 1.GREEN *WHITE

1P*24#: 1. BLACK RED

MINIMUM BEND RADIUS: 10X O.D.

ELECTRICAL CHARACTERISTICS

USB2.0 UTP

1. Rating Temperature: 80℃ ; VOLTAGE: 30V
2. Conductor Resistance: at 20℃ max
   26AWG: 150Ω/km;
3. Insulation Resistance: 10MΩ/km min at 20℃ 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):

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@0.1GHz
   5.0dB@1.25GHz
   7.5dB@2.5GHz
   25dB@7.5GHz
4. Differential to common mode:
   20dB/cable @ 0.1~7.5GHz

PHYSICAL PROPERTIES OF JACKET

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

YS2018111302, 8/12/19

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