

USB CONNECTORS

MINI USB CONNECTOR & CABLE

- [ESB3,4,5 SERIES](#)

USB CONNECTOR & CABLE

- [ESB0 SERIES \(Connector\)](#)
- [ESB1 SERIES \(Cable\)](#)

IEEE1394 CONNECTOR & CABLE

- [ESB6 SERIES \(Connector\)](#)
- [ESB2 SERIES \(Cable\)](#)

Mini USB CONNECTOR & CABLE

ESB 3,4,5 SERIES

U.S.Electronics Inc

Ph: (314) 423 7550

Fax: (314)423 0585



PATENT NO. : 139315
148380
ZL97250960.7 (CHINA)
ZL97243965.X(CHINA)



FEATURES

- Ultra-small size achieved universal series bus connector and cable.
- Both 4Pin type and 5Pin (One ID pin) type are 0.8mm pitch.
- 4Pin type is full compliant with current USB 1.0 specifications.
- 5Pin type is full compliant with current USB 2.0 specifications.
- Receptacle and plug housing are UL 94V-0 grade fire retardant.
- Gold plated contact ensure low contact resistance.
- To make sure your connections are perfect every time.
- EMI protection by shielding features.
- Ideal for connecting portable PCs as slim notebook PCs and handheld PCs to small, slim peripheral equipment (digital cameras, small mouse, PDA, MP3, Hub etc.).

SPECIFICATIONS

ESB3 SERIES (MINI TYPE)			
ELECTRICAL		MECHANICAL	
Voltage rating	30 VAC(rms)	Durability	1500 cycles
Current rating	1 Amp	Mating force	35N Max.
Contact resistance	50 mΩ Max.	Unmating force	2.9N Min.
Insulation resistance	100 MΩ Min.	---	---
Dielectric strength	100 VAC Min.		

PART NUMBERING SYSTEM (FOR CONNECTOR)

```

ESB  3  X  X  X  X  X  X  X  X
|     |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  +----- Special Code
|     |  |  |  |  |  |  |  +----- 0:Standard
|     |  |  |  |  |  |  |                1:No USE Mark
|     |  |  |  |  |  |  |  +----- Terminal Type: 0:SMT TYPE
|     |  |  |  |  |  |  |  +----- Terminal Pole: 0:4 Pin
|     |  |  |  |  |  |  |                            1:5 Pin
|     |  |  |  |  |  |  |  +----- Color: 0:Black
|     |  |  |  |  |  |  |  +----- Port Type: 1:Single Port
|     |  |  |  |  |  |  |  +----- Setting: 3:A Type (for 4pin only)
|     |  |  |  |  |  |  |                4:B Type (for 4pin & 5pin both)
|     |  |  |  |  |  |  |                5:C Type (for 5pin only)
|     |  |  |  |  |  |  |  +---- Contact Type: 3:Mini USB Connector
|     |  |  |  |  |  |  |  +-- Model Name: ESB Series

```

PART NUMBERING SYSTEM (FOR CABLE)

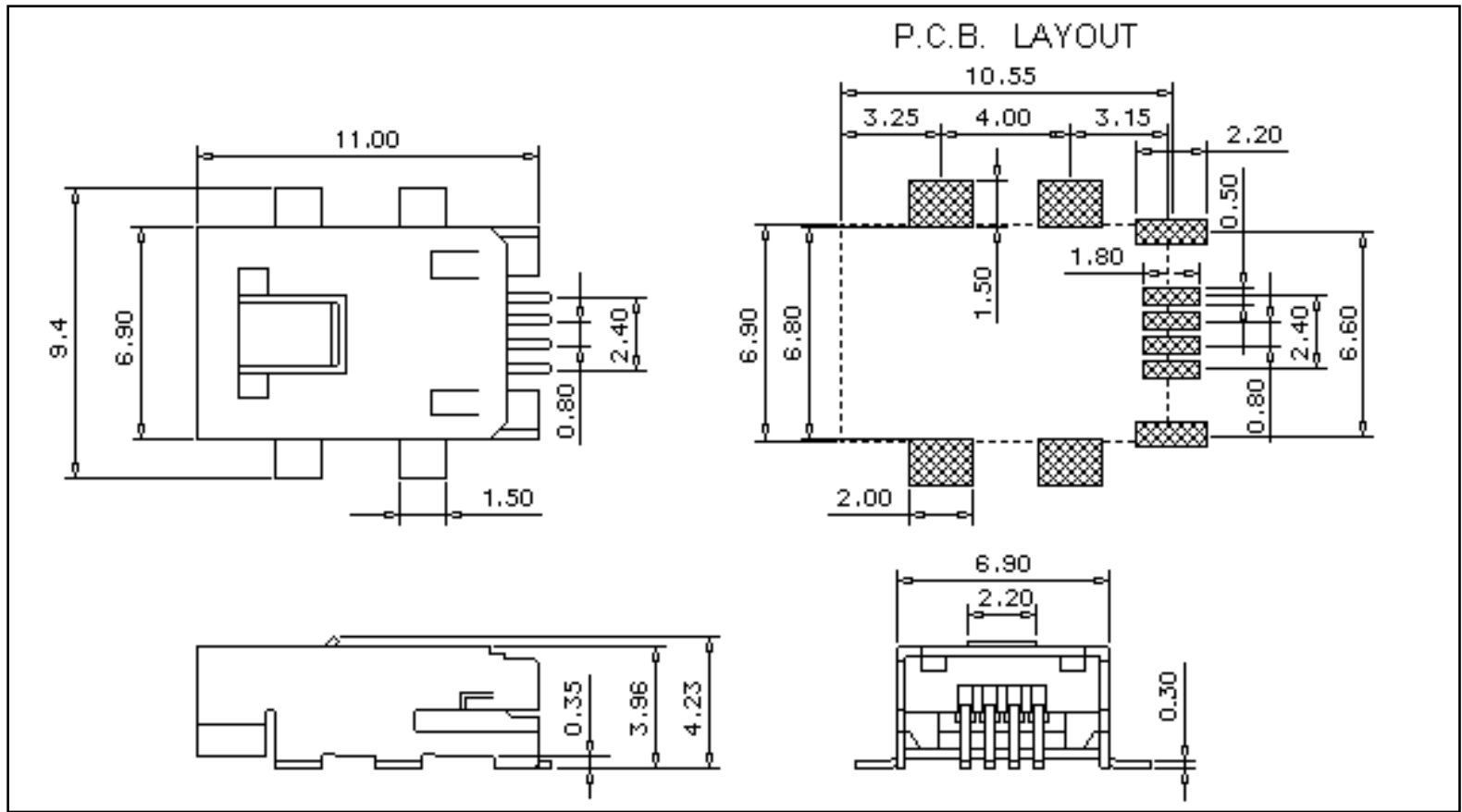
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ESB  X  X  X  X  X  X  X  X
|     |  |  |  |  |  |  |
|     |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  +----- Special Code
|     |  |  |  |  |  |  |  +----- Certificate:
|     |  |  |  |  |  |  |                0:UL CM TYPE
|     |  |  |  |  |  |  |                1:UL 2725
|     |  |  |  |  |  |  |  +----- Colour:
|     |  |  |  |  |  |  |                0:White Frost      1:Gray
|     |  |  |  |  |  |  |                2:Ivory        3:Black    4:Beige
|     |  |  |  |  |  |  |  +----- Rating:
|     |  |  |  |  |  |  |                0:Full-Rate Channel
|     |  |  |  |  |  |  |                1:Sub-Rate Channel
|     |  |  |  |  |  |  |  +----- Wire Gauge:
|     |  |  |  |  |  |  |                88:AWG 28/28   68:AWG 26/28
|     |  |  |  |  |  |  |                48:AWG 24/28   28:AWG 22/28
|     |  |  |  |  |  |  |                08:AWG 20/28
|     |  |  |  |  |  |  |  +----- Cable Length:
|     |  |  |  |  |  |  |                10:1.0M   18:1.8M   20:2.0M
|     |  |  |  |  |  |  |                30:3.0M   50:5.0M
|     |  |  |  |  |  |  |  +----- Setting:
|     |  |  |  |  |  |  |                1:A+Free type   6:A+housing
|     |  |  |  |  |  |  |                2:B+Free type   7:B+housing
|     |  |  |  |  |  |  |                3:A+B type     8:Socket+housing
|     |  |  |  |  |  |  |                4:A+A type     9:Plug+housing
|     |  |  |  |  |  |  |                5:B+B type    A:Big A+Mini B
|     |  |  |  |  |  |  |  +---- Type:
|     |  |  |  |  |  |  |                4:Mini USB Cable (4pin)
|     |  |  |  |  |  |  |                5:Mini USB Cable (5pin)
|     |  |  |  |  |  |  |  +-- Model Name: ESB Series

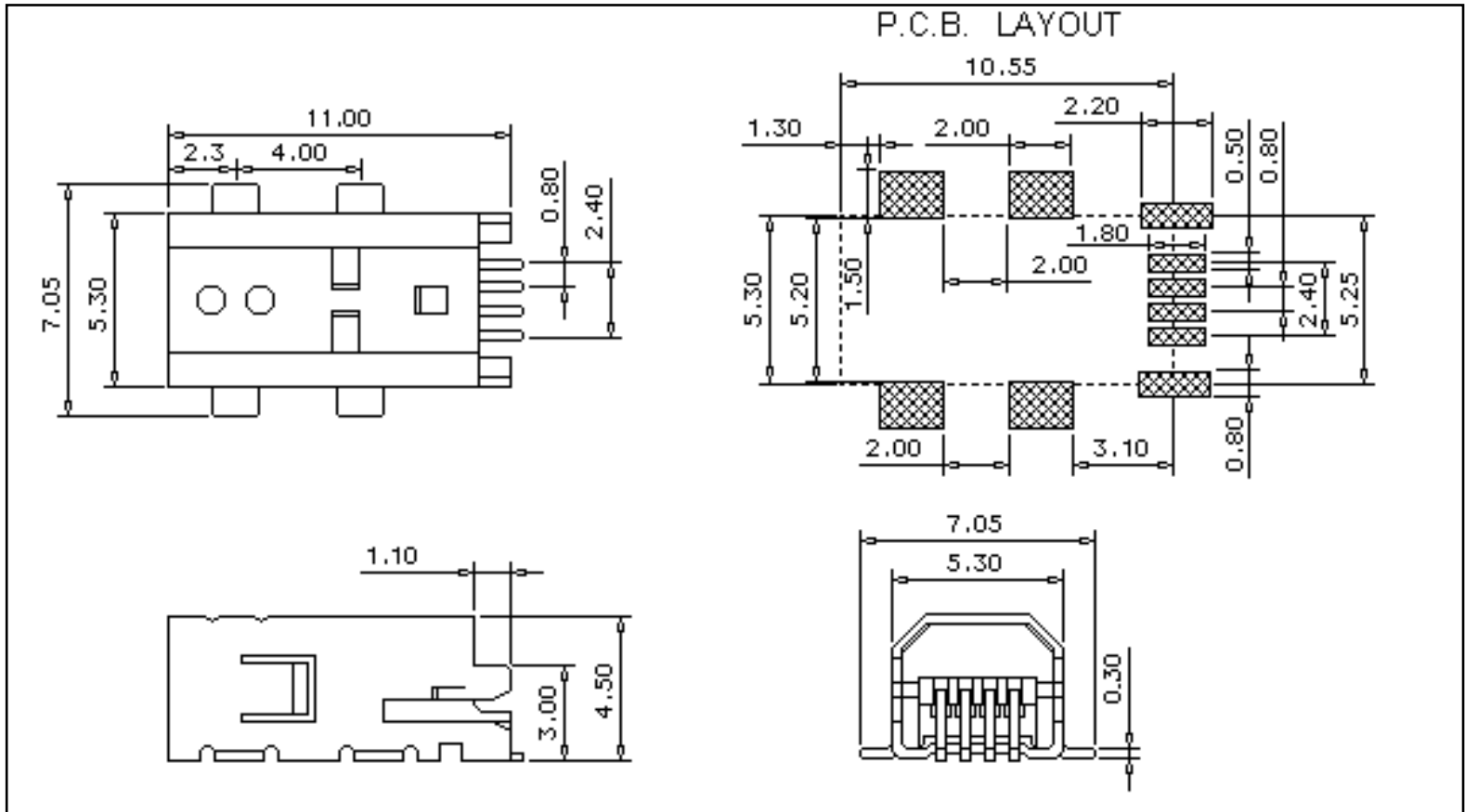
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DIMENSIONS (UNIT: mm)

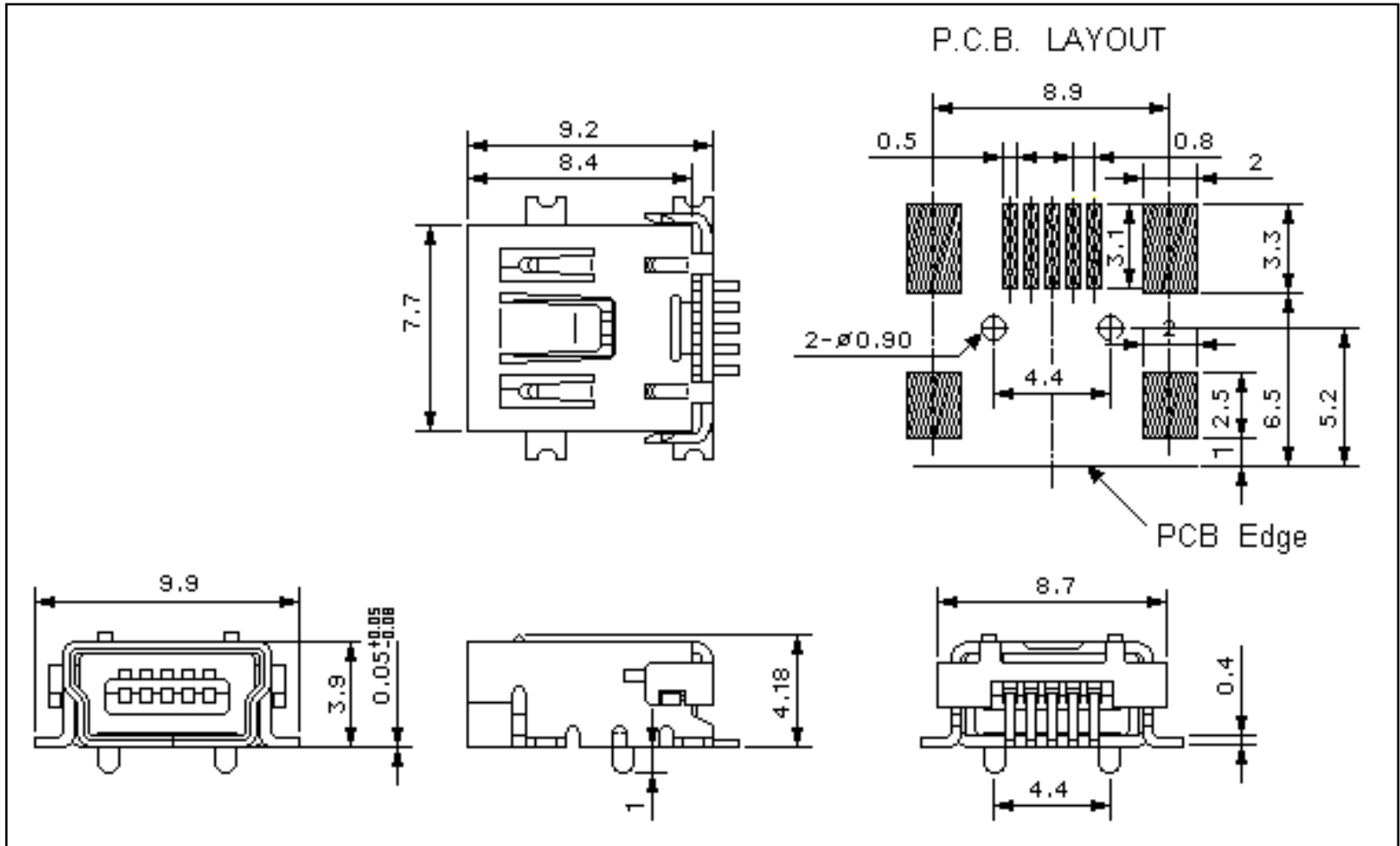
A TYPE CONNECTOR (4PIN)

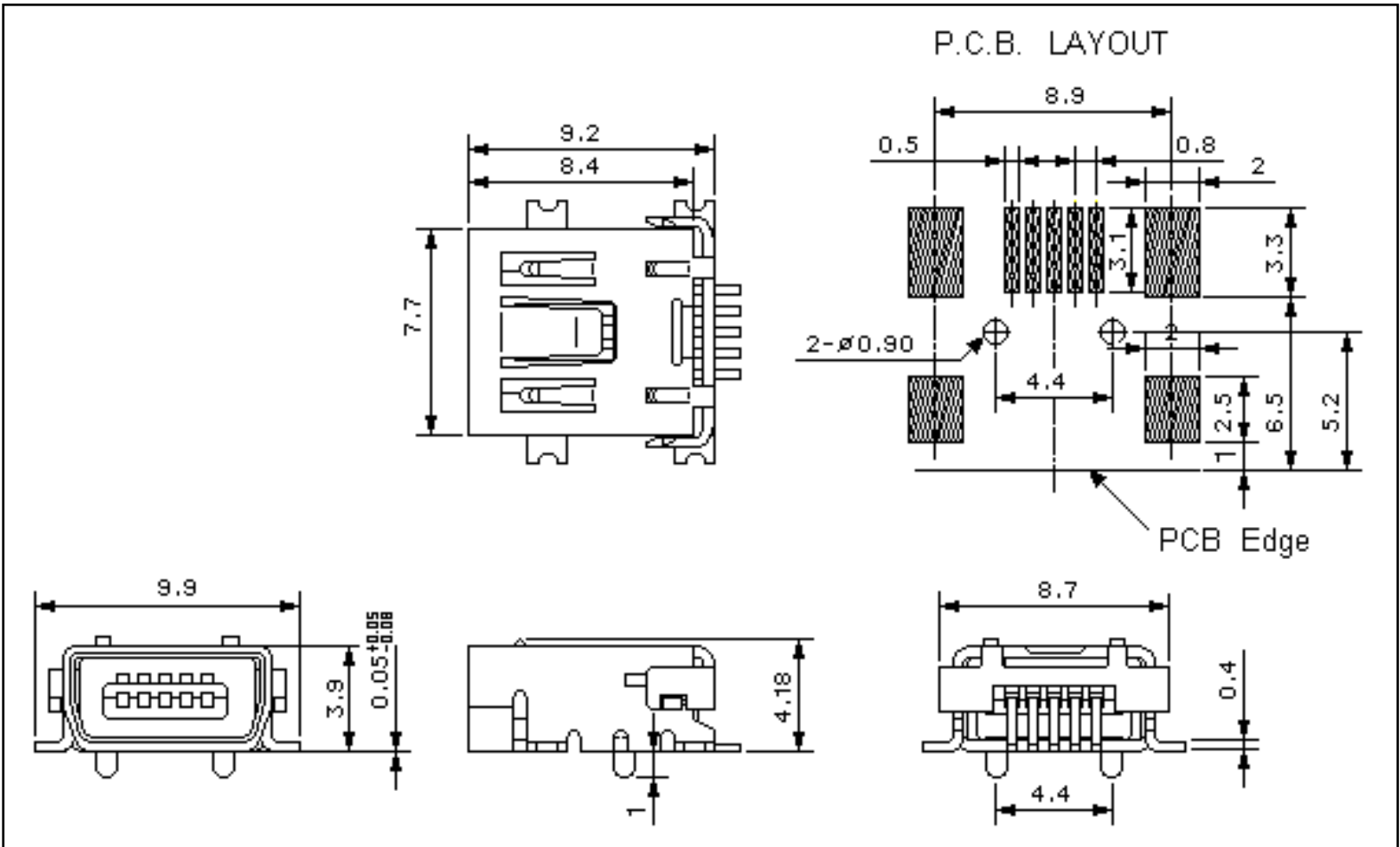


B TYPE CONNECTOR (4PIN)

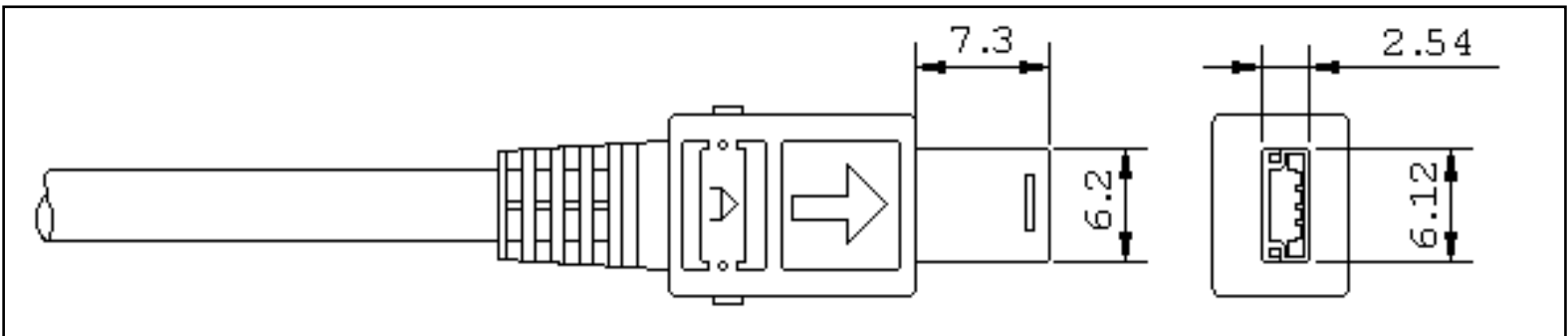


B TYPE CONNECTOR (5PIN)

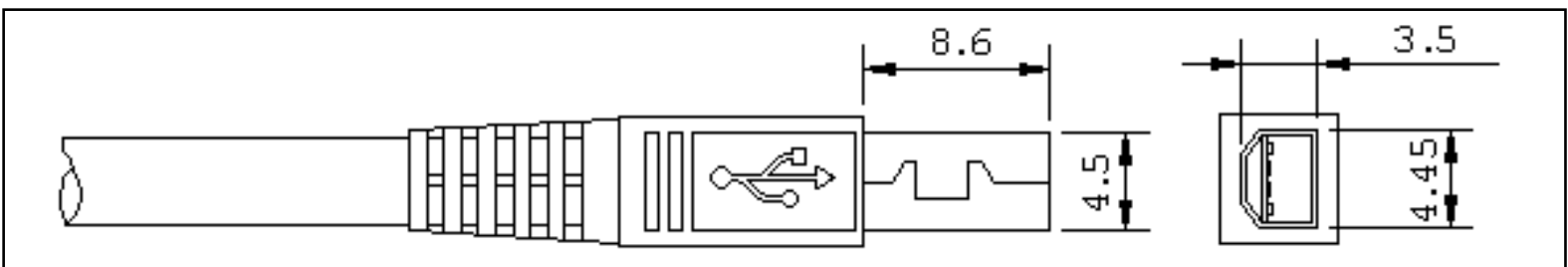




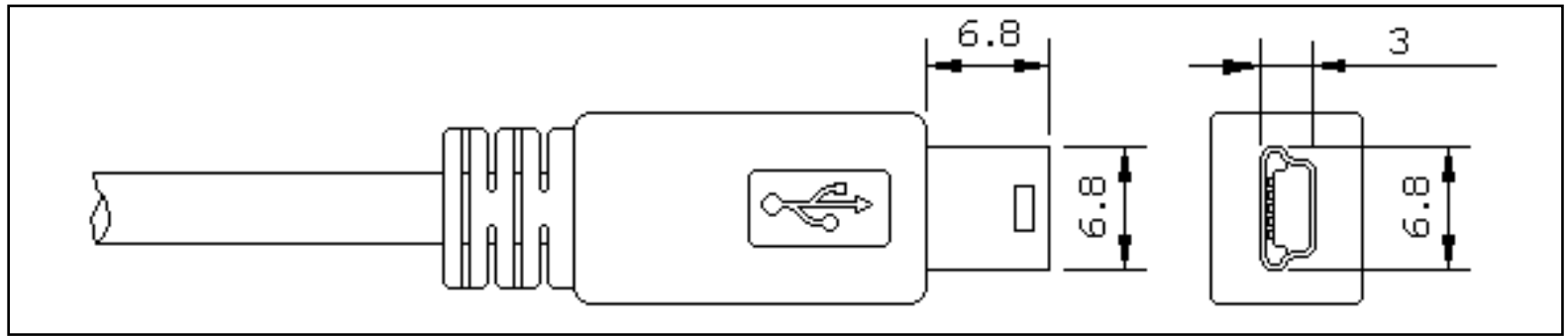
● MINI USB A TYPE CABLE (4PIN)



● MINI USB B TYPE CABLE (4PIN)



● **MINI USB B & C TYPE CABLE (5PIN)**



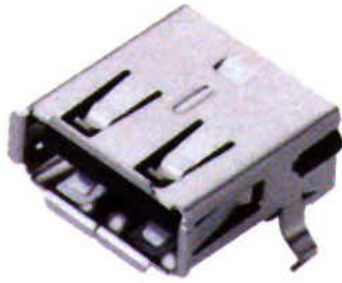
USB CONNECTOR & CABLE

ESB 0 SERIES (CONNECTOR)

U.S.Electronics Inc

Ph: (314) 423 7550

Fax: (314)423 0585

**PATENT NO. :139315****148380****ZL97250960.7 (CHINA)****ZL97243965.X(CHINA)**

FEATURES

- Raised design provides easy insertion and withdrawal, and guarantee even high reliability.
- Design of three certain restraints provides robustious structure.
- Gold plated contact to ensure low contact resistance.
- All materials are UL 94V-0 grade fire retardant.
- Up to 5 meters per cable segment.
- To make sure your connections are perfect every time.

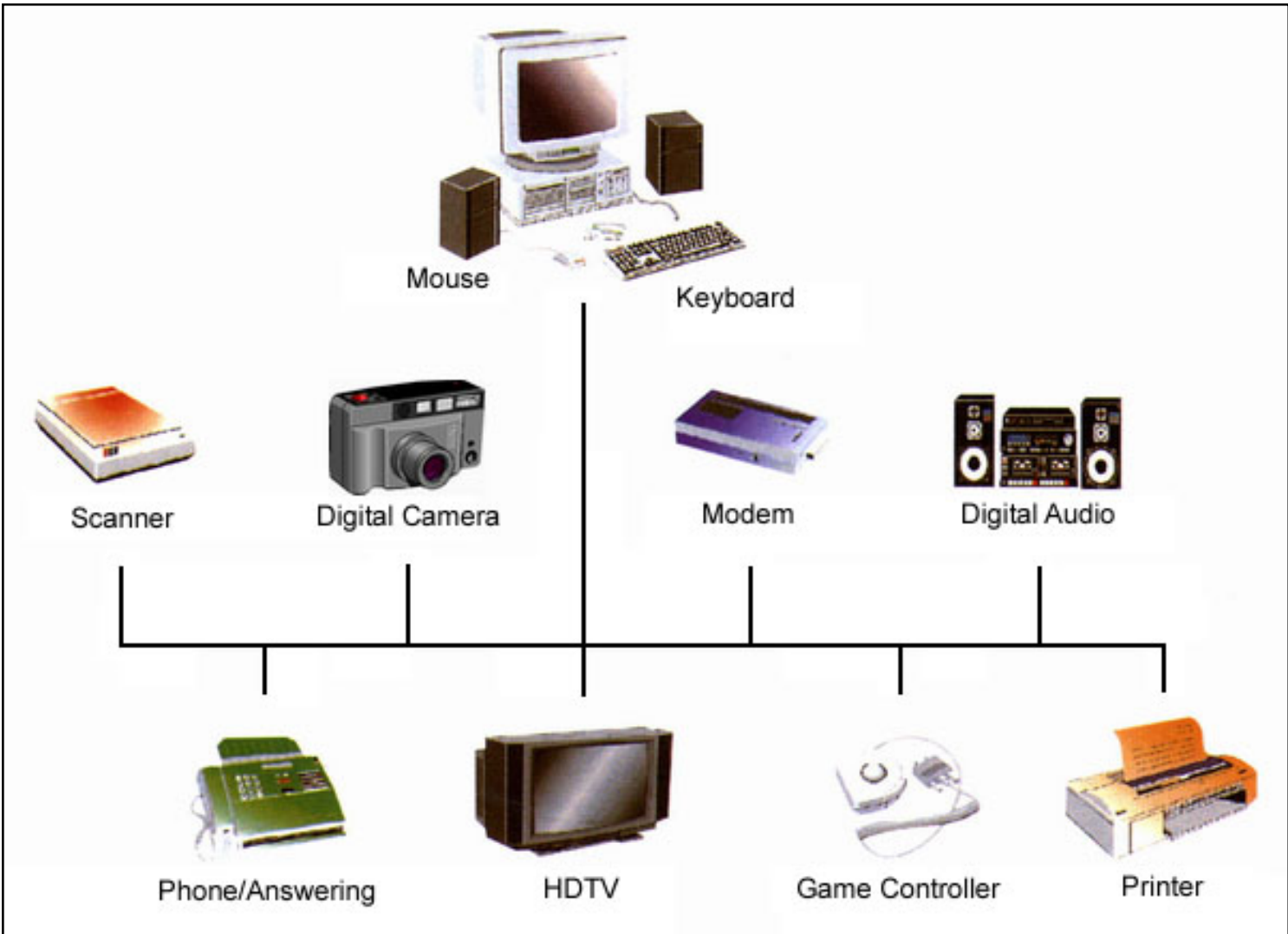
SPECIFICATIONS

ELECTRICAL		MECHANICAL	
Voltage rating	30 VAC(rms)	Durability	1500 cycles
Current rating	1 Amp	Mating force	35N Max.
Contact resistance	30 m Ω Max.	Unmating force	2.9N Min.
Insulation resistance	1000 M Ω Min.	Temperature	storage -40°C to +60°C operating 0°C to +40°C
Dielectric strength	750 VAC Min.		

PART NUMBERING SYSTEM


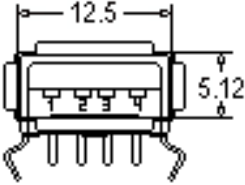
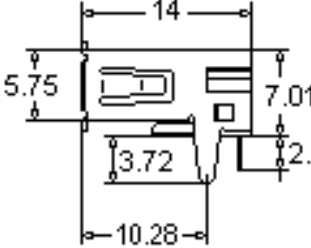
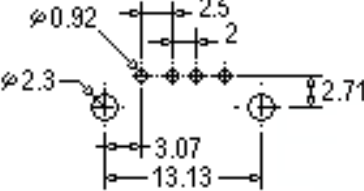

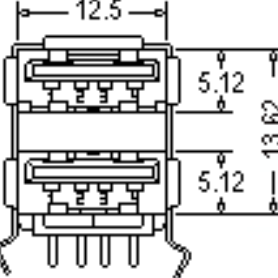
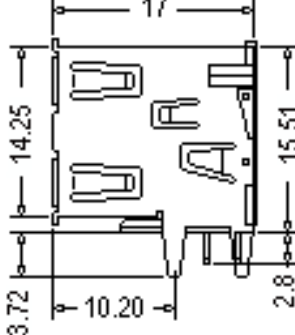
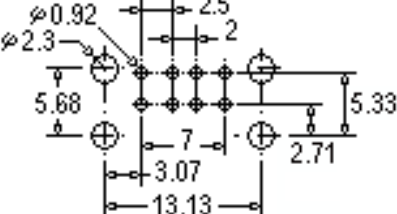
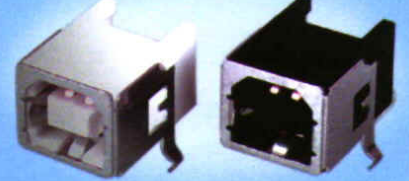
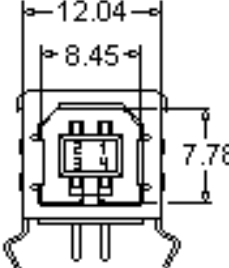
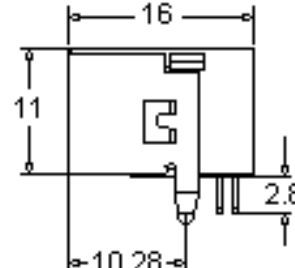
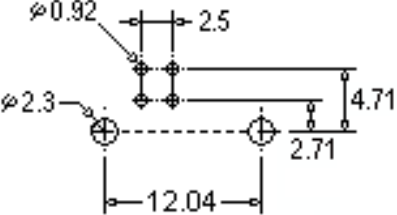
ESB	0	X	X	X	X	X	X	X	
									+----- Special Code
									+----- 0:Standard
									1:No USE Mark
									+----- Terminal Type: 0:Standard
									1:Straight pin
									+----- 0:Without shield
									1:With shield
									+----- Color: 0:Black
									1:White
									+----- Port Type: 1:Single Port
									2:Double Port
									+----- Setting: 1:A Type
									2:B Type
									+----- Contact Type: 0:USB Connector
									+----- Model Name: ESB Series

USB CONNECTOR APPLICATION EXAMPLES

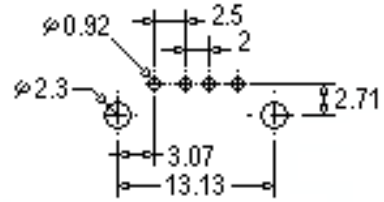
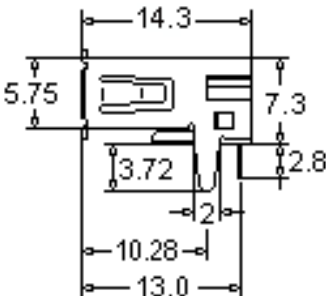
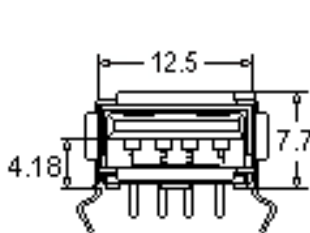
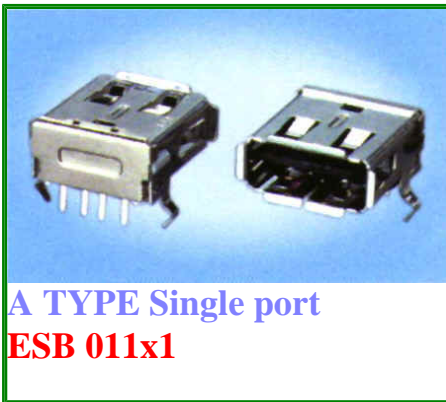


DIMENSIONS (UNIT: mm)

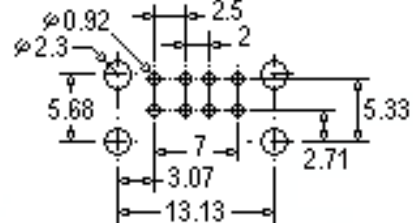
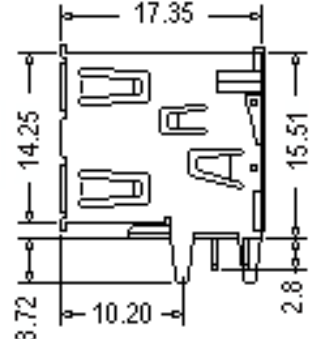
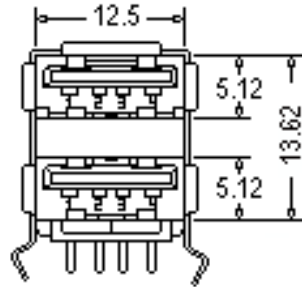
RIGHT ANGLE TYPE

 <p>A TYPE Single Port ESB 011</p>			 <p>P.C.B. Layout</p>
 <p>A TYPE Double Port ESB 012</p>			 <p>P.C.B. Layout</p>
 <p>B TYPE ESB 021</p>			 <p>P.C.B. Layout</p>

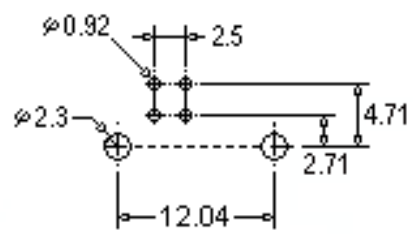
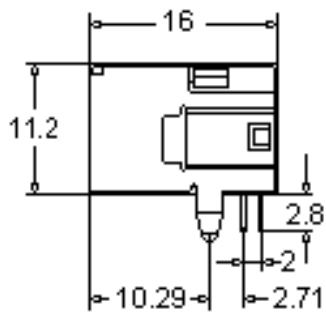
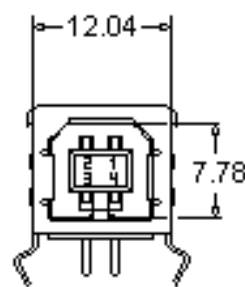
RIGHT ANGLE TYPE / WITH SHIELD



P.C.B. Layout

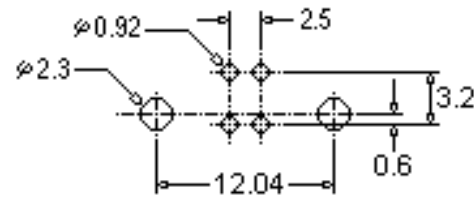
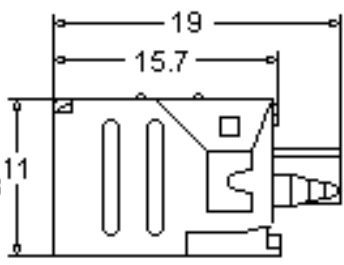
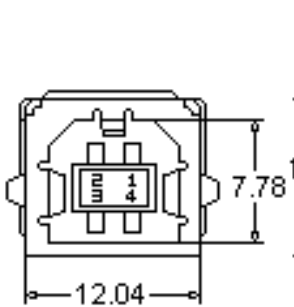


P.C.B. Layout



P.C.B. Layout

STRAIGHT PIN TYPE



USB CONNECTOR & CABLE

ESB 1 SERIES (CABLE)

U.S.Electronics Inc

Ph: (314) 423 7550

Fax: (314)423 0585

FEATURES

- The standard USB cable will consist of one pair of 20-28 AWG wire for power distribution with another 28 AWG pair twisted, with a shield and overall jacket.
- This will be used for typical peripherals operating at the rated 12 Mbs signaling.
- An alternative cable of identical gauge but without the twisted conductors and shield can be used for 1.5 Mbs signaling.

SPECIFICATIONS

ELECTRICAL		MECHANICAL	
Contact resistance	30 m Ω Max.	Mating force	35N Max.
Insulation resistance	1000 M Ω Min.	Unmating force	10N Min.
Dielectric strength	750 VAC Min.	Durability	1500 cycles
Capacitance	Max. 2pF (1K Hz test)	Temperature	storage -40°C to +60°C operating 0°C to +40°C
ENVIRONMENTAL		Vibration	No discontinuities of 1 μ s or longer duration.
Thermal shock	-55°C to +85°C, 5cycles.	Physical shock	No discontinuities of 1 μ s or longer duration.
Temperature life	85°C for 250 hours.		
Humidity	96 hours at 40°C with 90% to 95%RH.		

PART NUMBERING SYSTEM

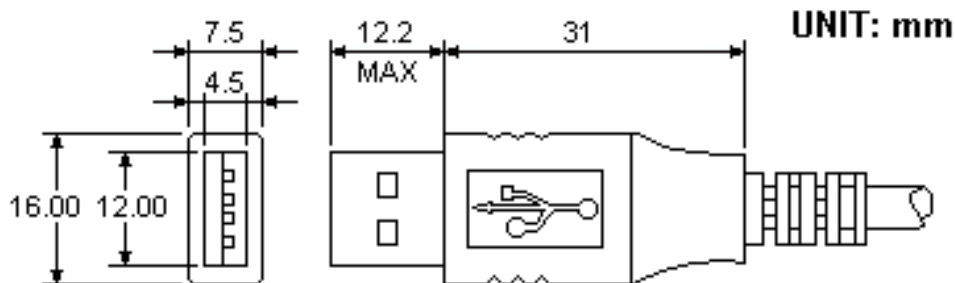
<u>ESB</u>	<u>1</u>	<u>X</u>	<u>XX</u>	<u>XX</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
									+----- Special Code
									+----- Certificate: 0:UL CM Type
									1:UL 2725
									+----- Color: 0:White Frost
									1:Gray 3:Black
									2:Ivory 4:Beige
									+----- Rating: 0:Full-Rate Channel
									1:Sub-Rate Channel
									+----- Wire Gauge: 88:AWG 28/28
									68:AWG 26/28
									48:AWG 24/28
									28:AWG 22/28
									08:AWG 20/28
									+----- Cable Length: 10:1.0M 18:1.8M
									20:2.0M 30:3.0M
									50:5.0M
									+----- Setting: 1:A+Free Type 2:B+Free Type
									3:A+B Type 4:A+A Type
									5:B+B Type 6:A+Housing
									7:B+Housing 8:Socket+housing
									9:Plug+housing
									+----- Type: 1:Cable(plug)
									+----- Model Name: ESB Series

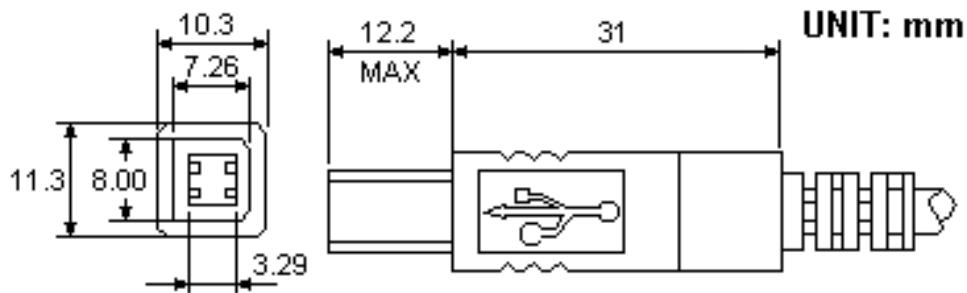
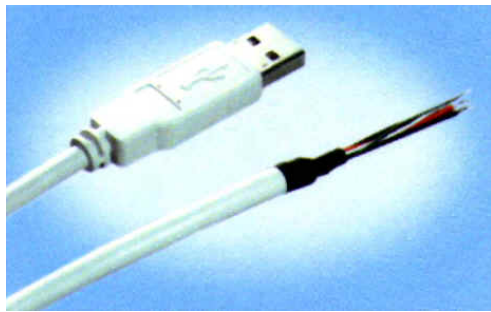
DIMENSIONS (UNIT: mm)

● USB CABLE (ESB 1 SERIES)

PAPT NUMBER

SETTING





ESB 11XXXXXX

A+Free type



ESB 12 XXXXXX

B+Free type



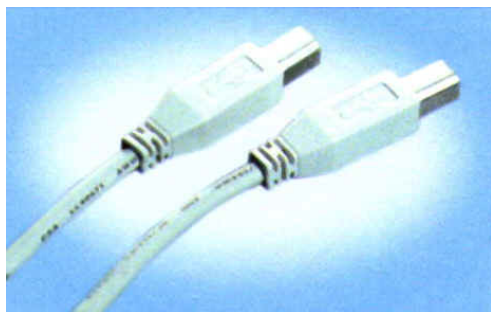
ESB 13 XXXXXX

A+B type



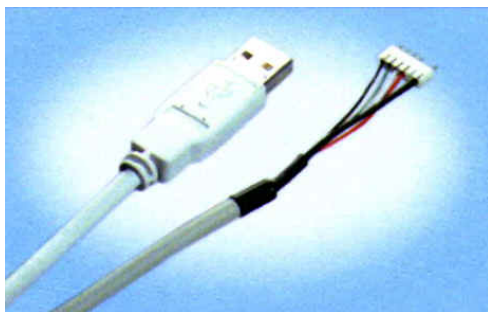
ESB 14 XXXXXX

A+A type



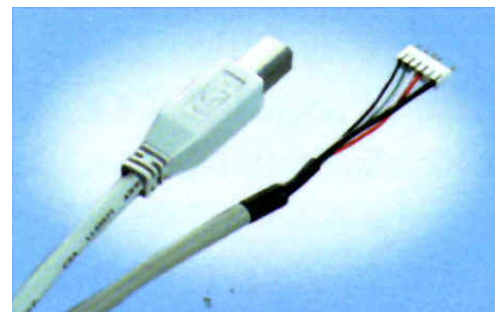
ESB 15 XXXXXX

B+B type



ESB 16 XXXXXX

A+Housing
(Housing made as require)



ESB 17 XXXXXX

B+Housing
(Housing made as require)

IEEE1394 CONNECTOR & CABLE

U.S.Electronics Inc

Ph: (314) 423 7550

Fax: (314)423 0585

ESB 6 SERIES (CONNECTOR)

FEATURES

- Raised design provides easy insertion and withdrawal, and guarantee even high reliability.
- Gold plated contact ensure low contact resistance.
- All plastics are UL 94V-0 grade fire retardant .
- Up to 4.5 meters per cable segment.
- To make sure your connections are perfect every time.

SPECIFICATIONS

ELECTRICAL		MECHANICAL	
Contact resistance	30 mΩ Max.	Durability	1500 cycles
Insulation resistance	100 MΩ Min.	Unmating force	9.8N Min., 39.2N Max.
Dielectric strength	500 VDC Min.	Temperature	storage -40°C to +60°C operating 0°C to +40°C
ENVIRONMENTAL			
Thermal shock	-55°C to +85°C, 5cycles.	Vibration	No discontinuities of 1μs or longer duration.
Temperature life	85°C for 250 hours.		
Humidity	96 hours at 40°C with 90% to 95%RH.	Mechanical shock	No discontinuities of 1μs or longer duration.

PART NUMBERING SYSTEM

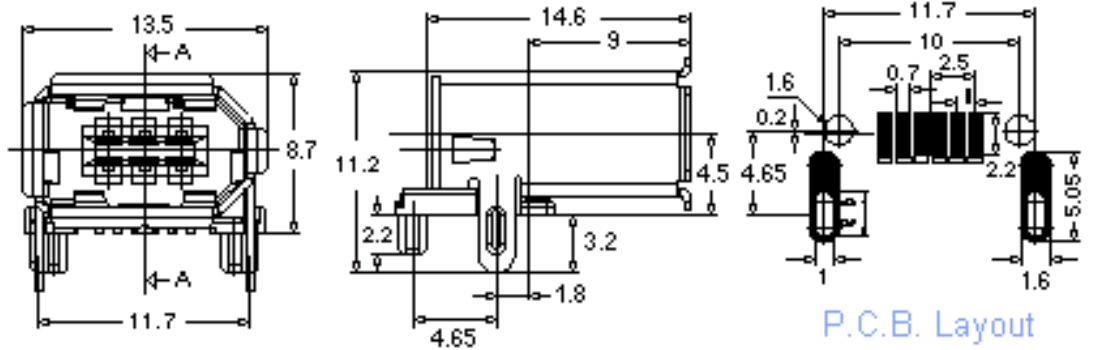
```

ESB  6  6  1  0  1  0  0  X
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  | +----- Special Code
|    |  |  |  |  |  |  | +----- 0:Standard
|    |  |  |  |  |  |  |                   1:No USE Mark
|    |  |  |  |  |  |  | +----- Terminal Type: 0:Standard
|    |  |  |  |  |  |  | +----- 1:With shield
|    |  |  |  |  |  |  | +----- Color: 0:Black
|    |  |  |  |  |  |  |                   1:White
|    |  |  |  |  |  |  | +----- Port Type: 1:Single Port
|    |  |  |  |  |  |  | +----- Setting: 6:Surface Mount Type
|    |  |  |  |  |  |  | +----- Contact Type: 6:IEEE1394 Connector
|    |  |  |  |  |  |  | +----- Model Name: ESB Series

```


DIMENSIONS (UNIT: mm)

IEEE 1394 CONNECTOR



IEEE1394 CONNECTOR & CABLE

ESB 2 SERIES (CABLE)

U.S.Electronics Inc

Ph: (314) 423 7550

Fax: (314)423 0585

FEATURES

- Raised design provides easy insertion and withdrawal, and guarantee even high reliability.
- All plastics are UL 94V-0 grade fire retardant .
- Up to 4.5 meters per cable segment.
- To make sure your connections are perfect every time.
- The standard cable will consist of two twisted pair and two power conductors, The two twisted pairs carry the balanced differential data signals.

SPECIFICATIONS

ELECTRICAL		MECHANICAL	
Contact resistance	30 m Ω Max.	Durability	1500 cycles
Insulation resistance	100 M Ω Min.	Unmating force	9.8N Min., 39.2N Max.
Dielectric strength	500 VDC Min.	Temperature	storage -40°C to +60°C operating 0°C to +40°C
ENVIRONMENTAL			
Thermal shock	-55°C to +85°C, 5cycles.	Vibration	No discontinuities of 1 μ s or longer duration.
Temperature life	85°C for 250 hours.		
Humidity	96 hours at 40°C with 90% to 95%RH.	Mechanical shock	No discontinuities of 1 μ s or longer duration.

PART NUMBERING SYSTEM

ESB	2	X	XX	XX	X	X	
							+----- Color: 0:White Frost
							1:Gray 2:Ivory
							3:Black 4:Beige
							+----- Rating: 0:100M byte, 1:200M byte, 2:400M byte
							+----- Wire Gauge: (6pin)63:30AWG/2
							22AWG/1
							(4pin)43:30AWG/2
							+----- Cable Length: 10:1.0M
							20:2.0M
							45:4.5M(Max.)
							+----- Setting: 1:6(pin)+6(pin)
							2:6(pin)+4(pin)
							3:4(pin)+4(pin)
							+----- Contact Type: 2:IEEE 1394 Cable
							+----- Model Name: ESB Series

U.S.Electronics Inc, Ph:(314) 423 7550, Fax: (314) 423 0585, url: www.us-electronics.com

DIMENSIONS (UNIT: mm)

IEEE 1394 CABLE (ESB 2 SERIES)

