

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 m Ω Max. | Unmating force | 2.9N Min. |
| Insulation resistance | 100 M Ω 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
    
```

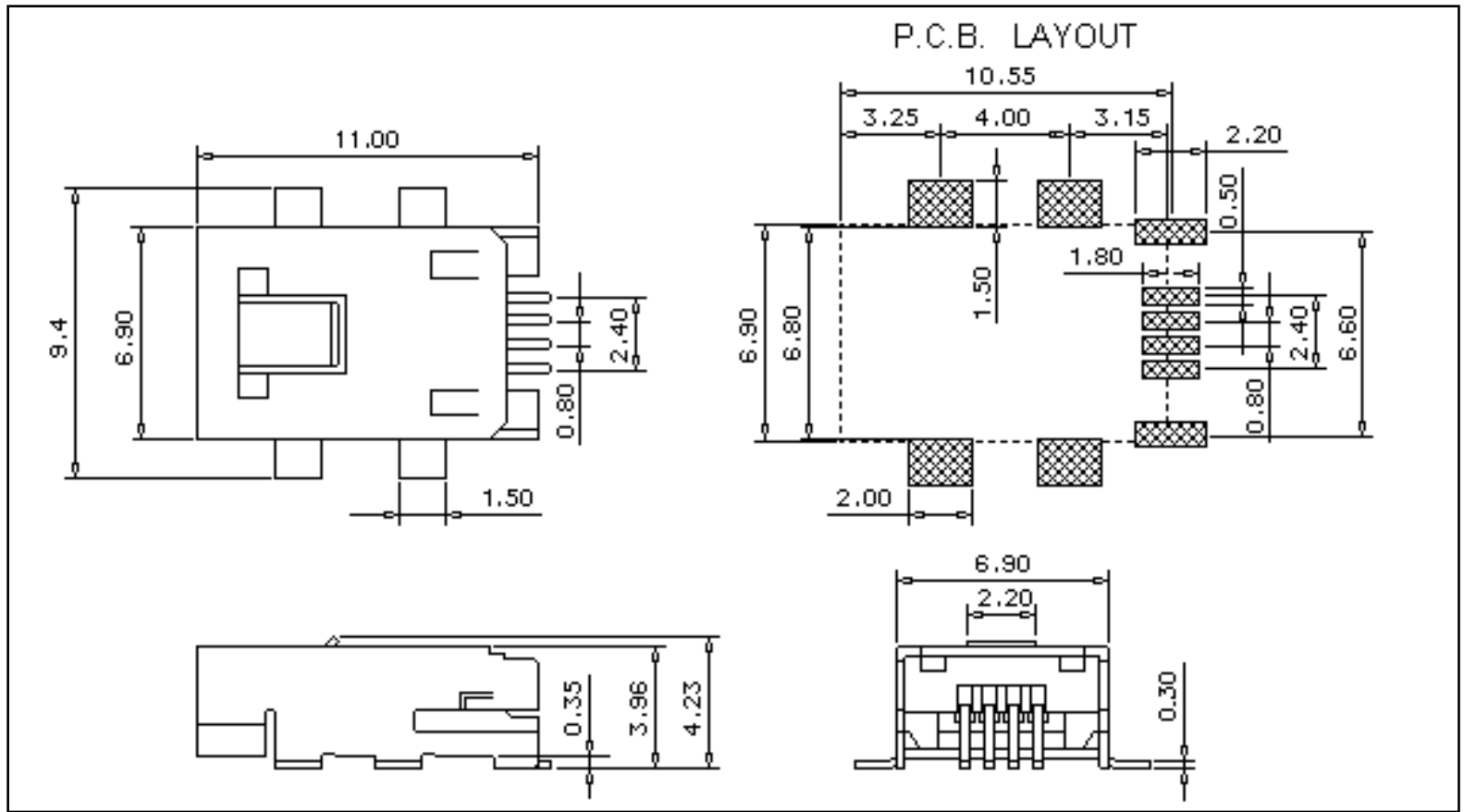
PART NUMBERING SYSTEM (FOR CABLE)

```

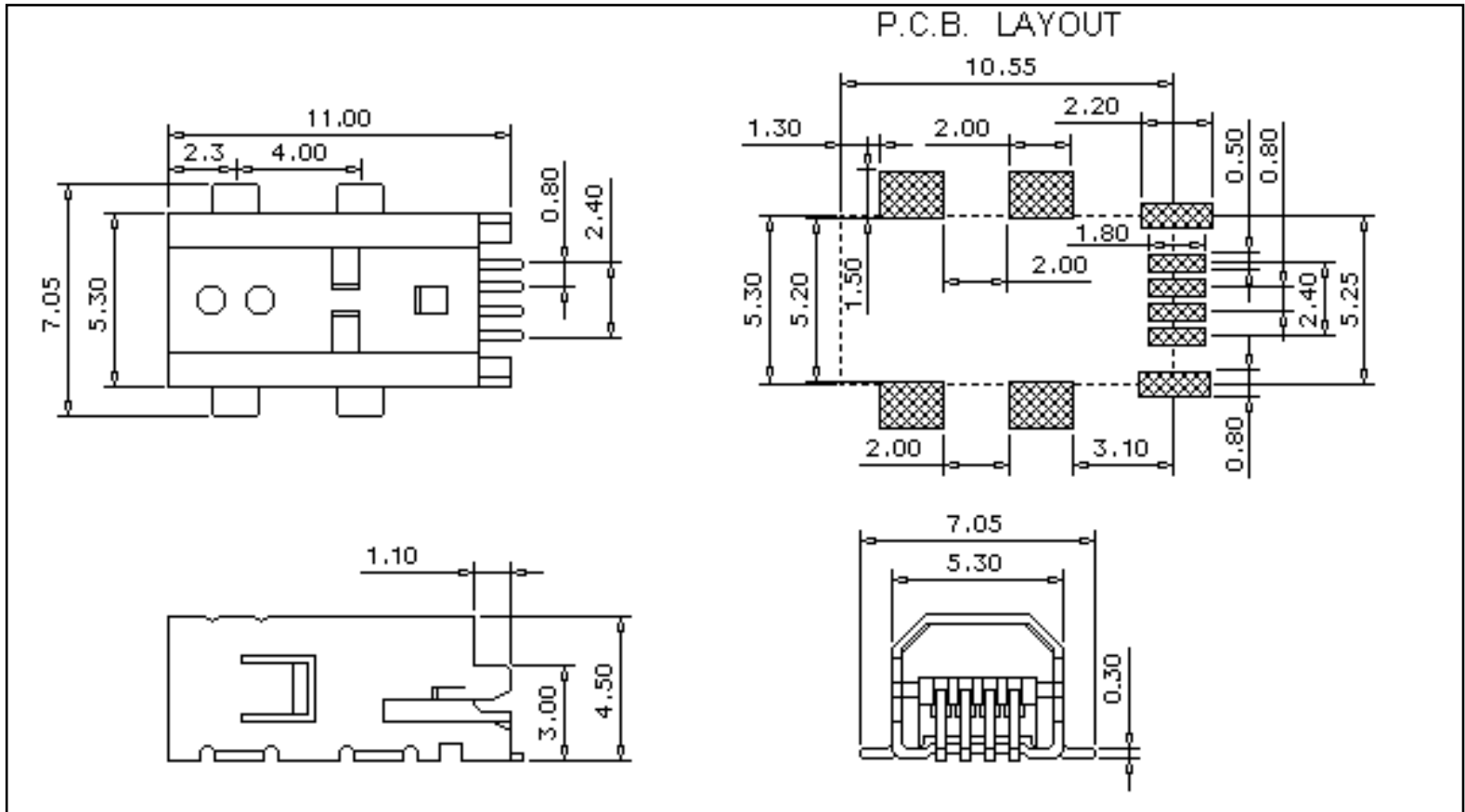
ESB  X  X  X  X  X  X  X  X
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  |
|    |  |  |  |  |  |  +----- Special Code
|    |  |  |  |  |  +----- Certificate:
|    |  |  |  |  |          0:UL CM TYPE
|    |  |  |  |  |          1:UL 2725
|    |  |  |  |  +----- 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
    
```

DIMENSIONS (UNIT: mm)

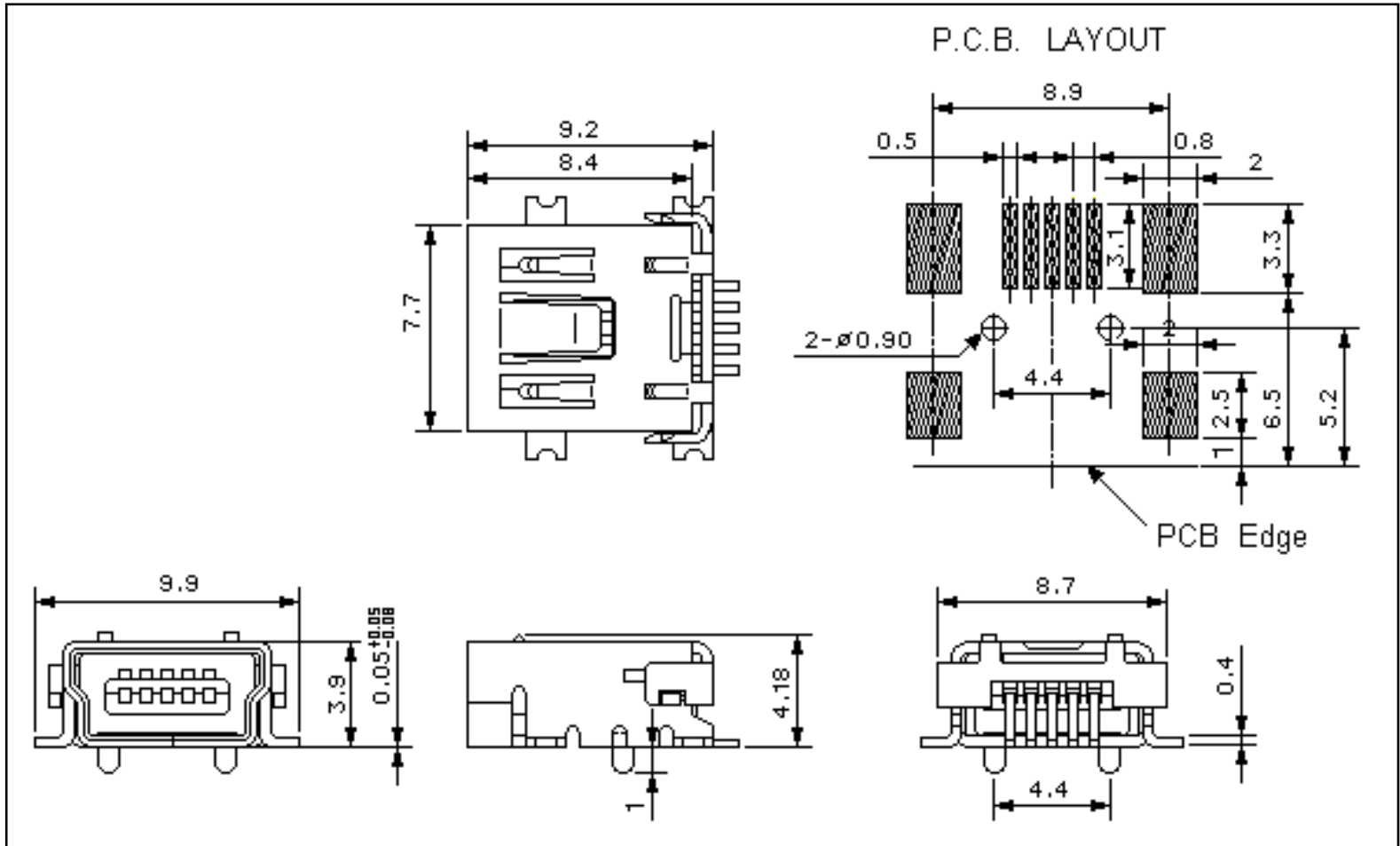
A TYPE CONNECTOR (4PIN)

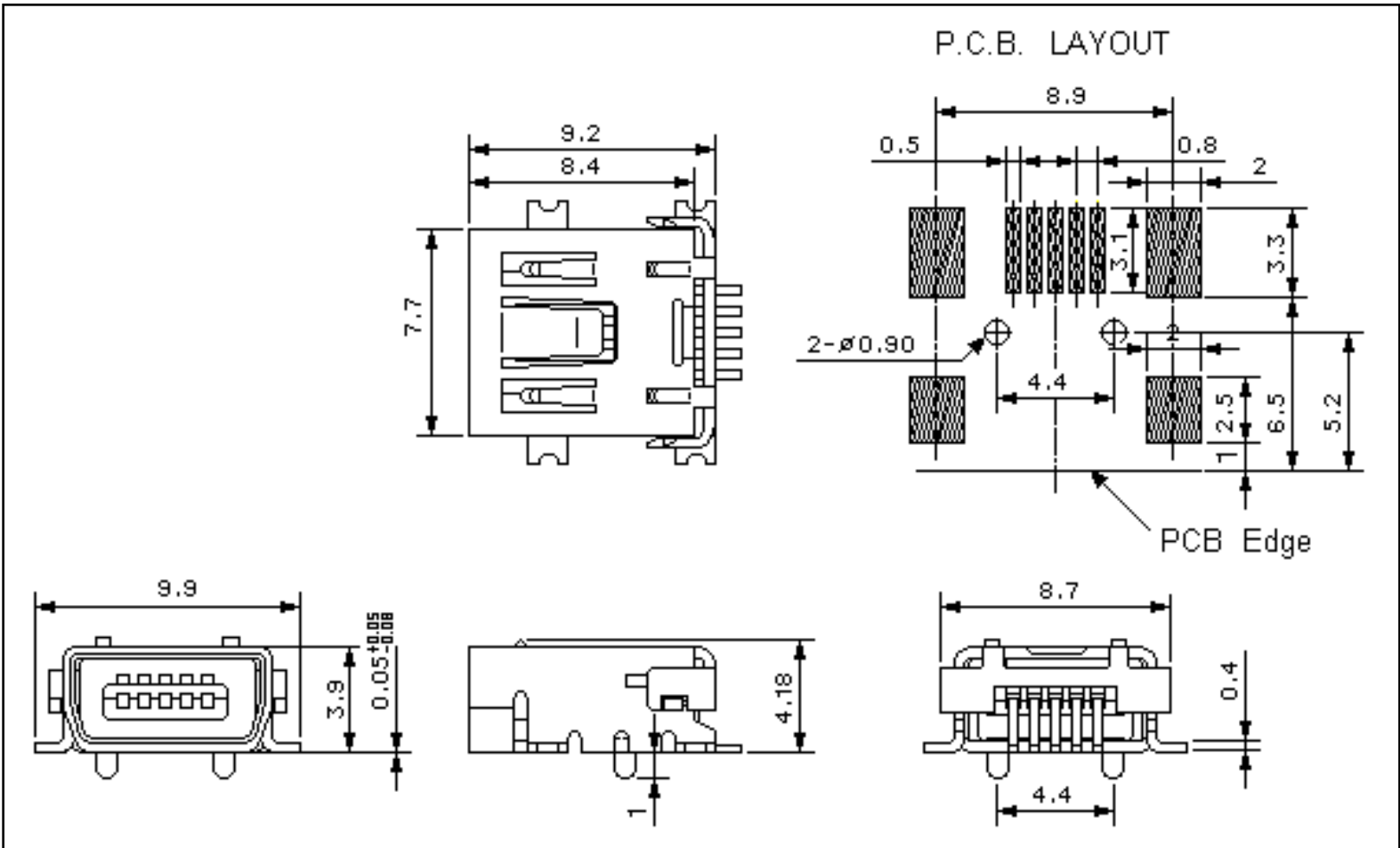


B TYPE CONNECTOR (4PIN)

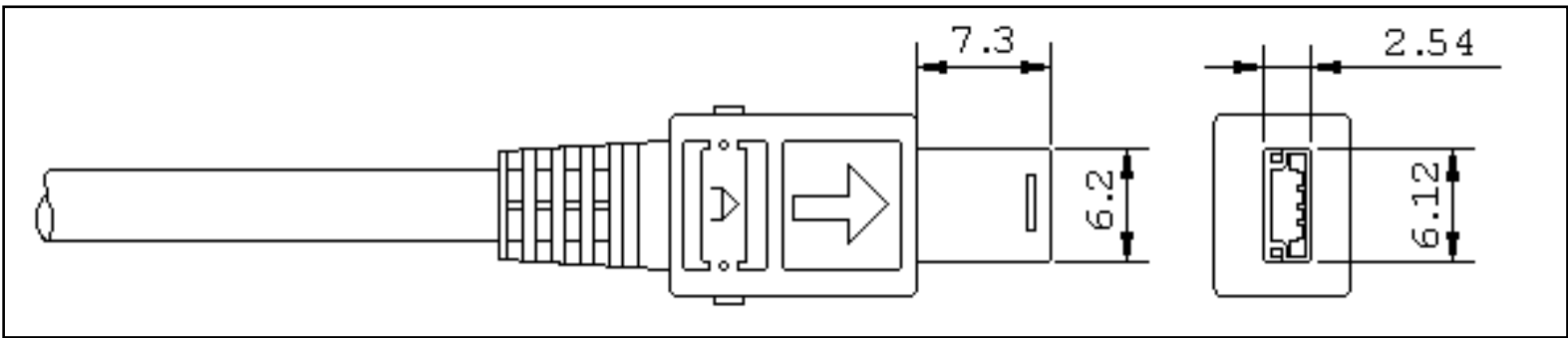


B TYPE CONNECTOR (5PIN)

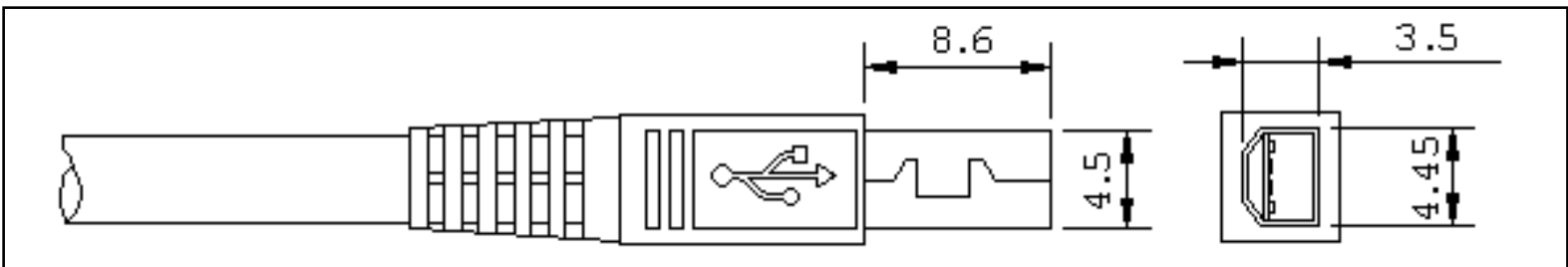




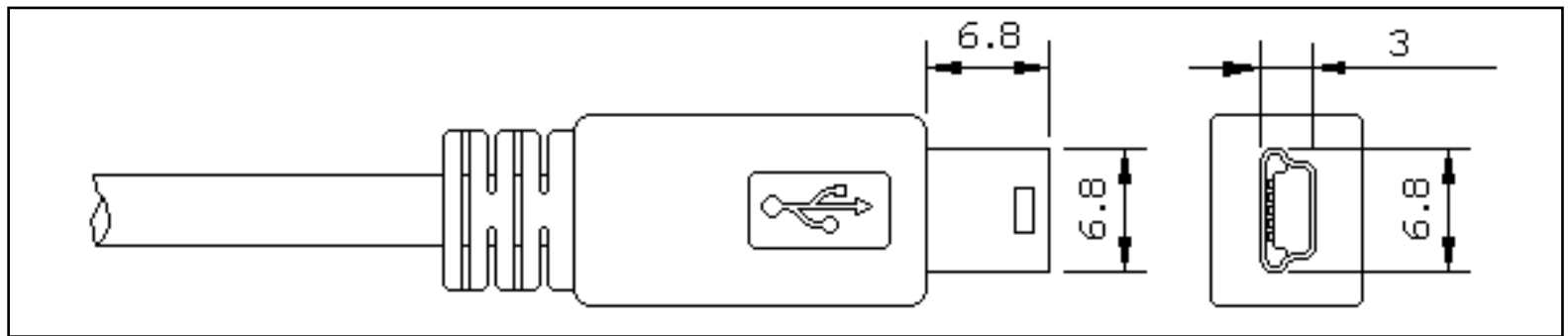
● MINI USB A TYPE CABLE (4PIN)



● MINI USB B TYPE CABLE (4PIN)



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



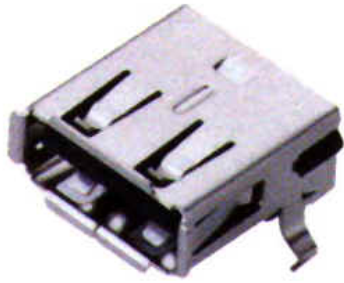
USB CONNECTOR & CABLE

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)**

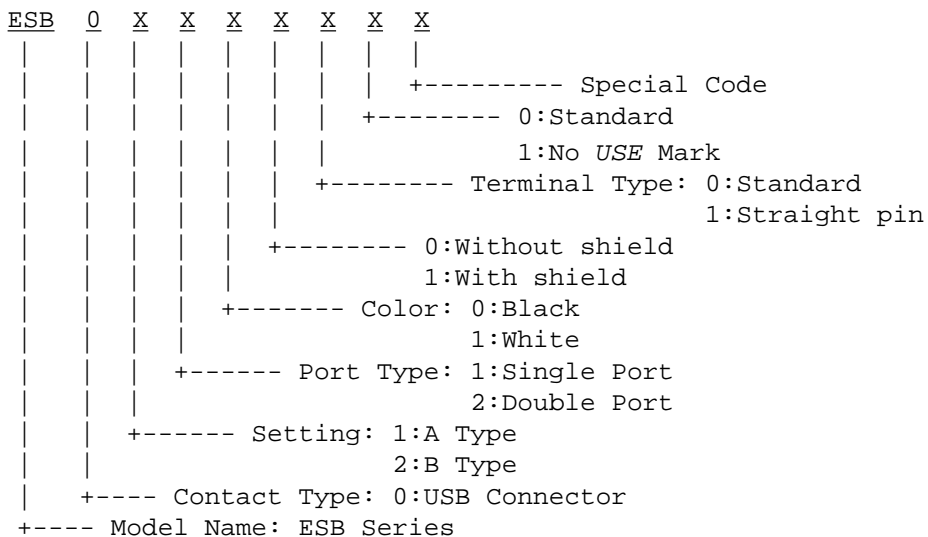
FEATURES

- 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.

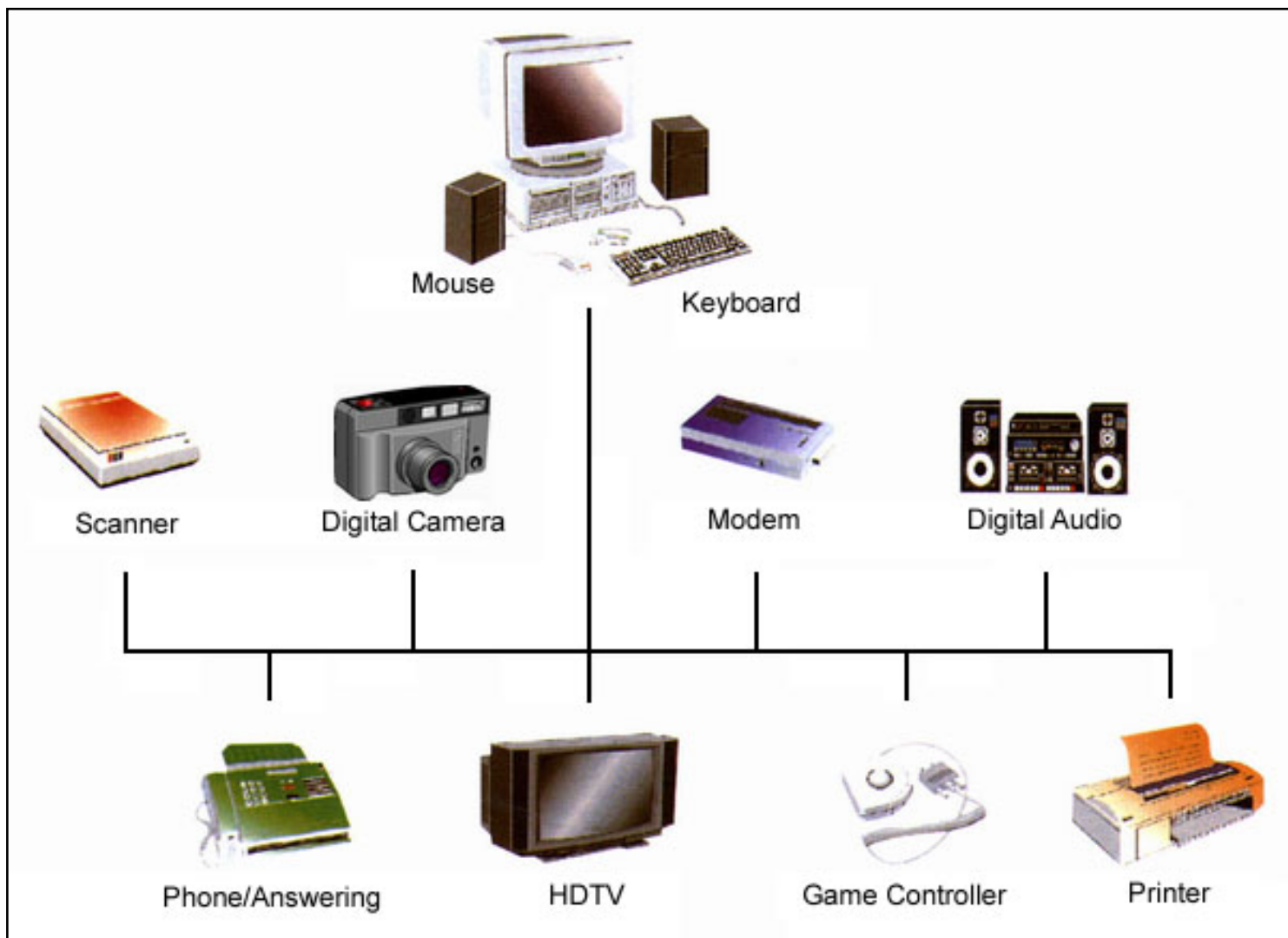
SPECIFICATIONS

| 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

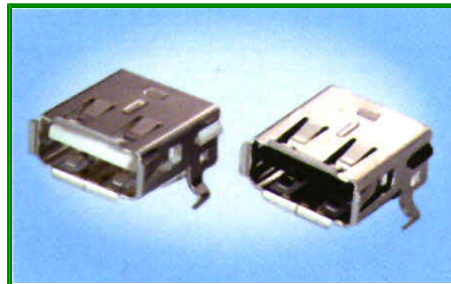


USB CONNECTOR APPLICATION EXAMPLES

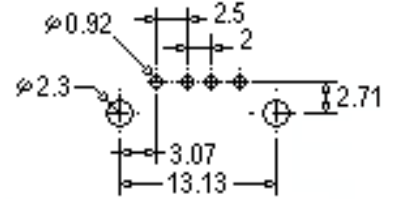
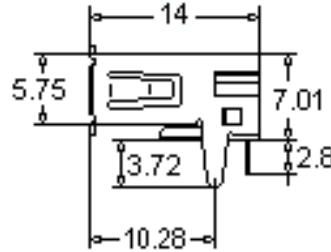
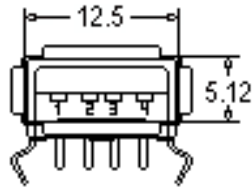


DIMENSIONS (UNIT: mm)

RIGHT ANGLE TYPE



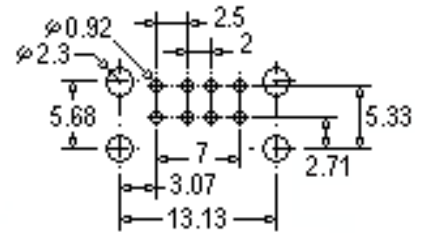
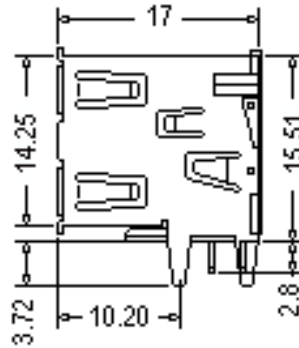
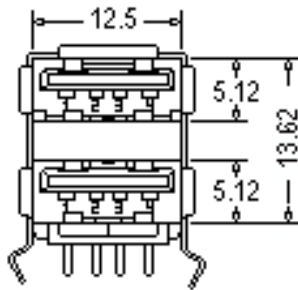
A TYPE Single Port
ESB 011



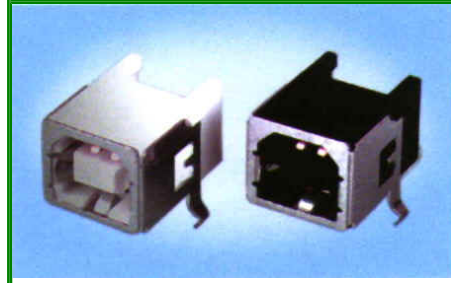
P.C.B. Layout



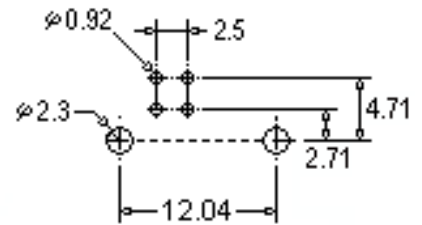
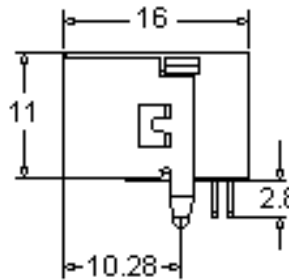
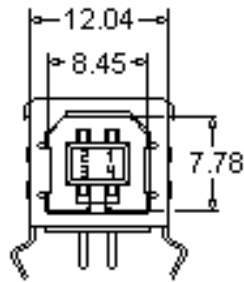
A TYPE Double Port
ESB 012



P.C.B. Layout

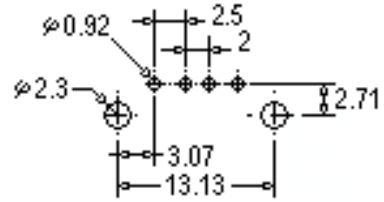
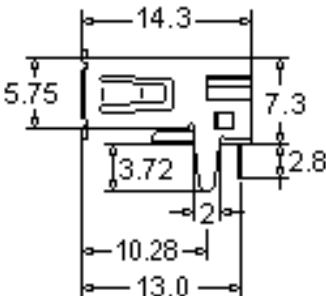
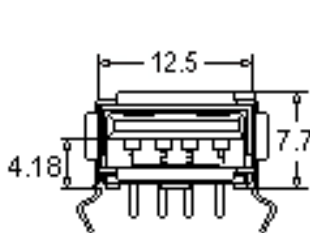
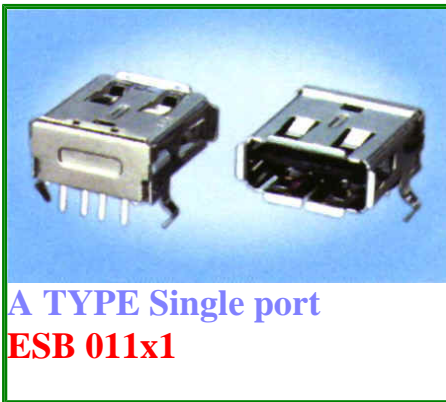


B TYPE
ESB 021

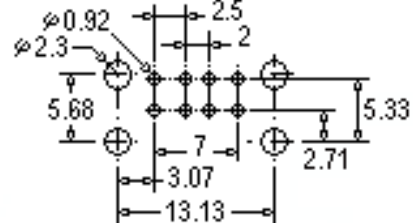
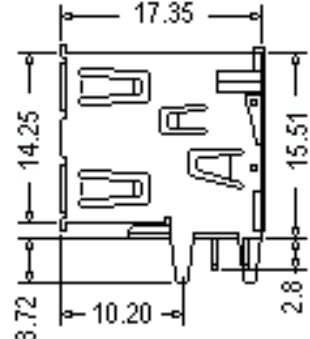
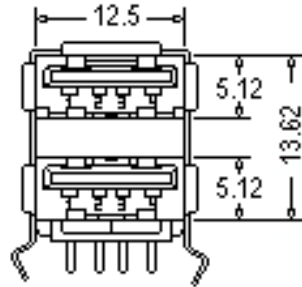


P.C.B. Layout

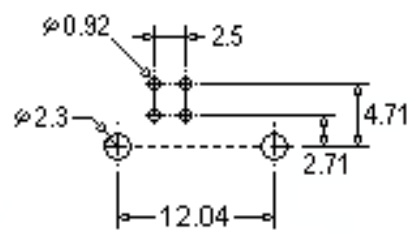
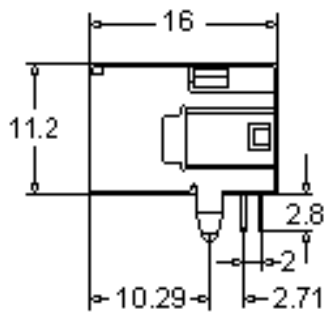
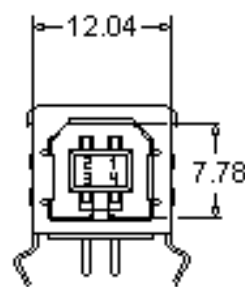
RIGHT ANGLE TYPE / WITH SHIELD



P.C.B. Layout

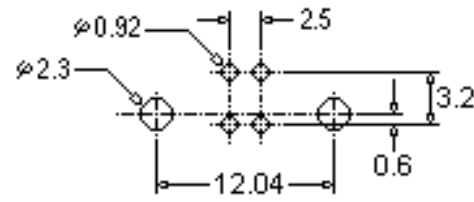
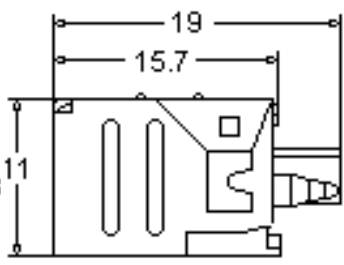
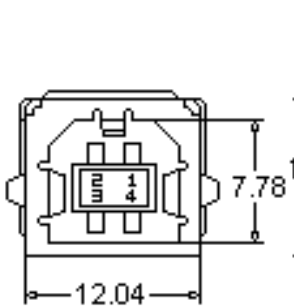


P.C.B. Layout



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

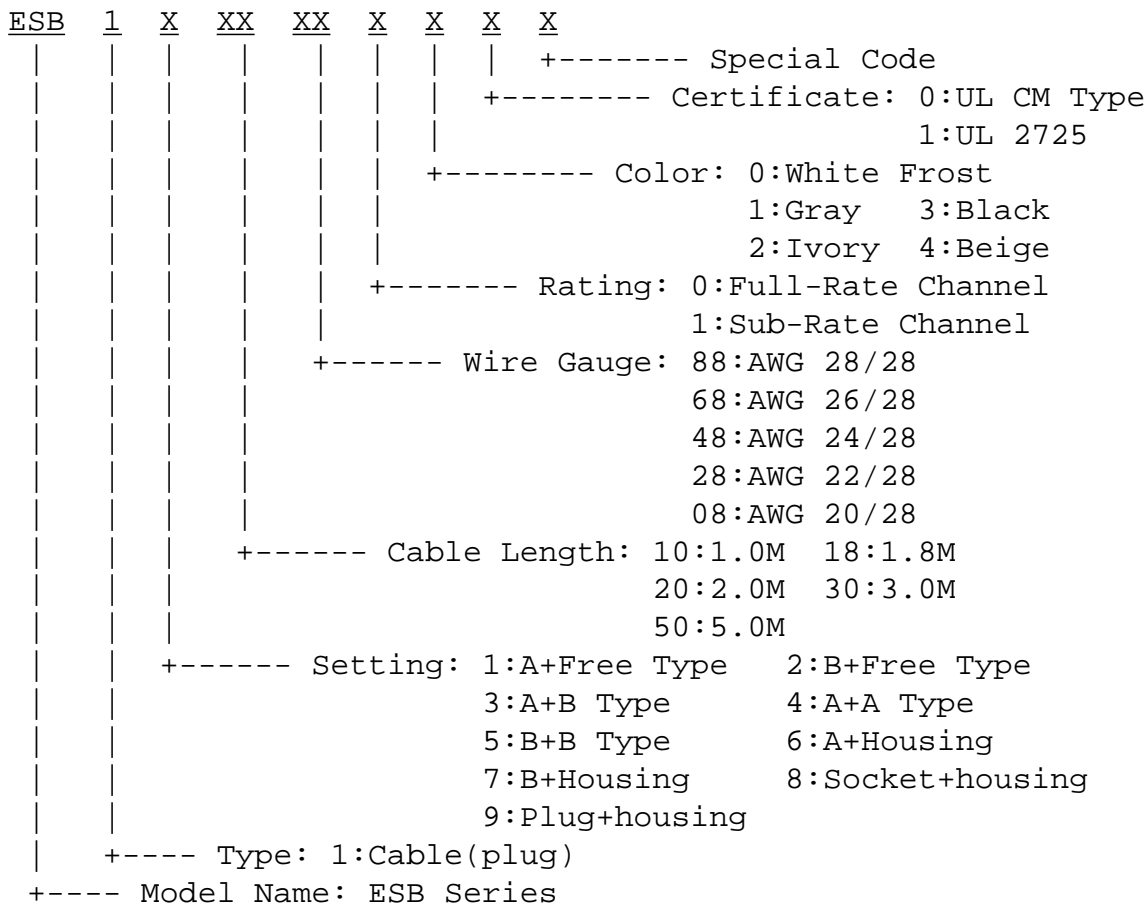
FEATURES

- 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. | | |
| Temperature life | 85°C for 250 hours. | Physical shock | No discontinuities of 1 μ s or longer duration. |
| Humidity | 96 hours at 40°C with 90% to 95%RH. | | |

PART NUMBERING SYSTEM

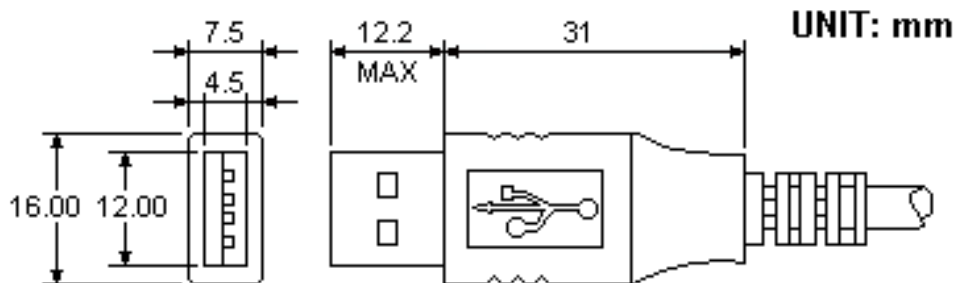


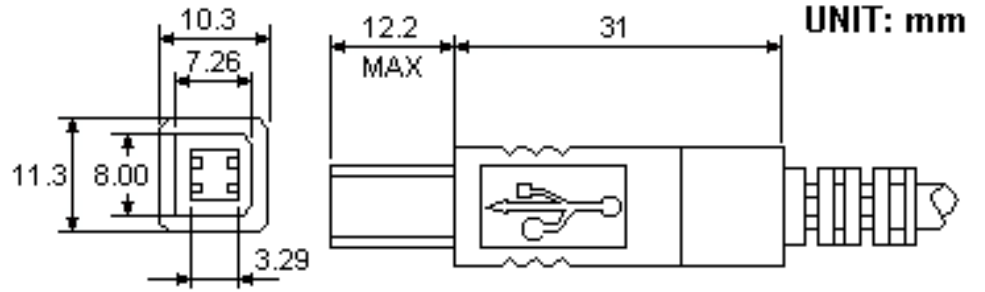
DIMENSIONS (UNIT: mm)

● USB CABLE (ESB 1 SERIES)

PAPT NUMBER

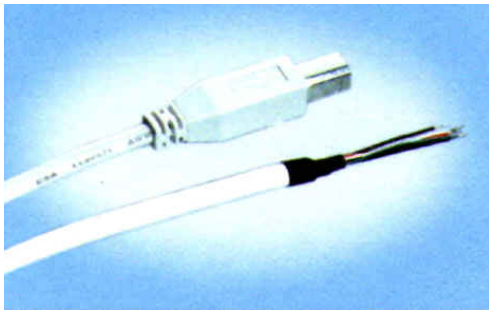
SETTING





ESB 11XXXXXX

A+Free type



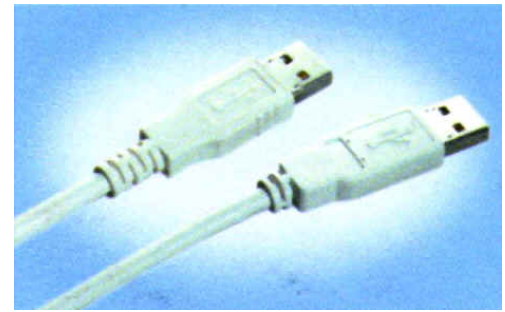
ESB 12 XXXXXX

B+Free type



ESB 13 XXXXXX

A+B type



ESB 14 XXXXXX

A+A type



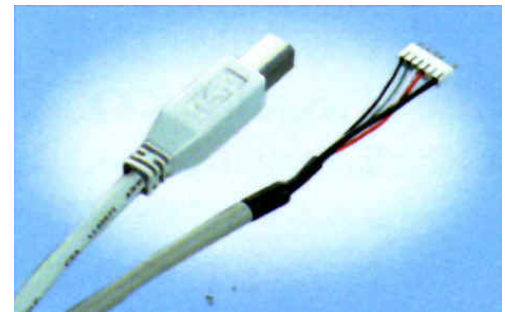
ESB 15 XXXXXX

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

ESB 6 SERIES (CONNECTOR)

Fax: (314)423 0585

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

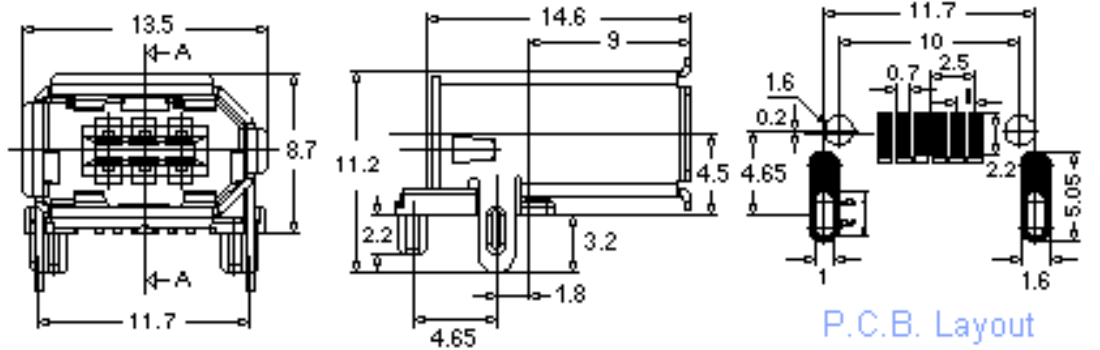
| ELECTRICAL | | MECHANICAL | |
|-----------------------|--|-------------------|--|
| Contact resistance | 30 m Ω Max. | Durability | 1500 cycles |
| Insulation resistance | 100 M Ω Min. | Unmating force | 9.8N Min., 39.2N Max. |
| Dielectric strength | 500 VDC Min. | Temperature | storage -40°C to +60°C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

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)

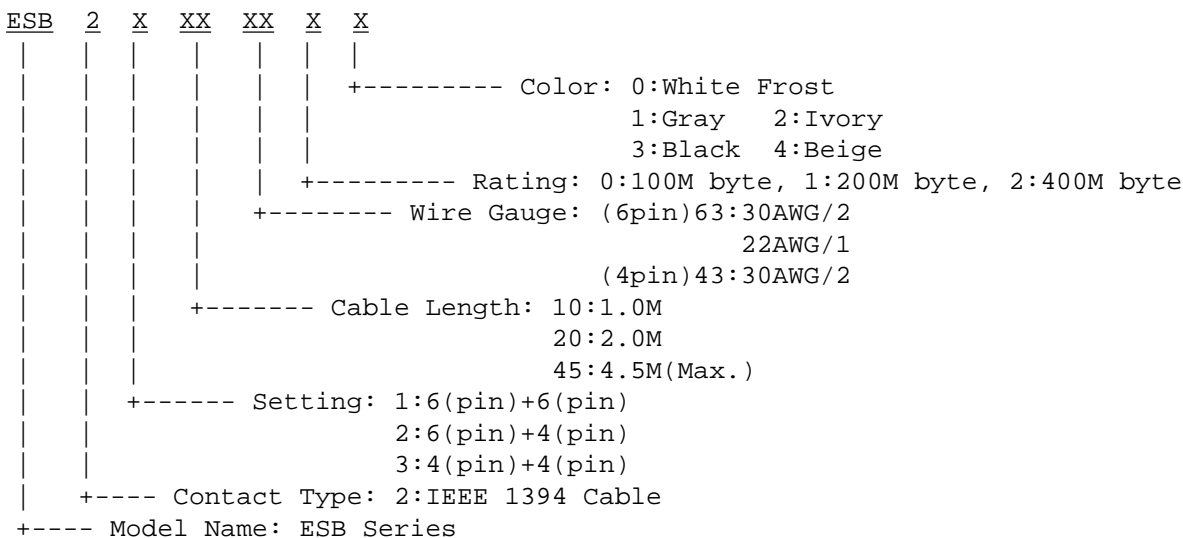
FEATURES

- 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 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

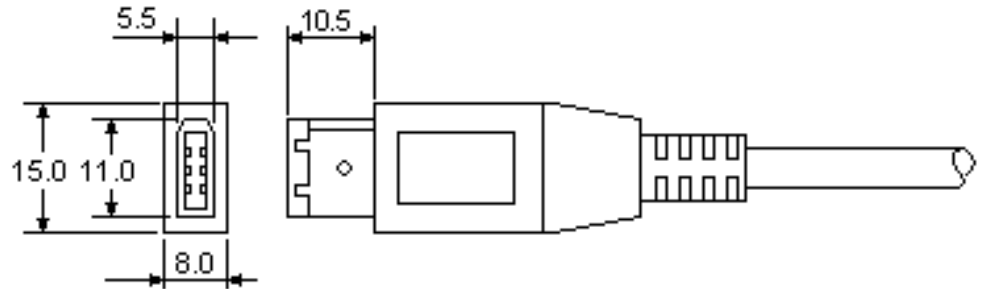


DIMENSIONS (UNIT: mm)

IEEE 1394 CABLE (ESB 2 SERIES)



6 PIN TYPE



4 PIN TYPE

