

THE INFORMATION CONTAINED HEREIN IS CONSIDERED  
"PROPRIETARY" TO BEL FUSE INC. AND SHALL NOT BE  
COPIED, REPRODUCED OR DISCLOSED WITHOUT THE  
WRITTEN APPROVAL OF BEL FUSE INC.

| LED1 POLARITY |        |       | LED2 POLARITY |        |        |
|---------------|--------|-------|---------------|--------|--------|
| PIN 13        | PIN 14 | COLOR | PIN 15        | PIN 16 | COLOR  |
| -             | +      | GREEN | -             | +      | YELLOW |

RoHS  
2002/95/EC



# ELECTRICAL CHARACTERISTICS @ 25°C

## URNS RATIO

|     |               |
|-----|---------------|
| TP1 | 1CT : 1CT ±2% |
| TP2 | 1CT : 1CT ±2% |
| TP3 | 1CT : 1CT ±2% |
| TP4 | 1CT : 1CT ±2% |

## OCL @ 100kHz/100mVRMS

|             |            |
|-------------|------------|
| 8mA DC BIAS | 350µH MIN. |
|-------------|------------|

## INS. LOSS

|                  |             |
|------------------|-------------|
| 0.1MHz TO 1MHz   | -1.1 dB MAX |
| 1MHz TO 65MHz    | -0.5 dB MAX |
| 65MHz TO 100MHz  | -0.8 dB MAX |
| 100MHz TO 125MHz | -1.2 dB MAX |

## RET. LOSS (MIN)

|              |                       |
|--------------|-----------------------|
| 0.5MHz-40MHz | -18 dB                |
| 40MHz-100MHz | -12+20LOG(f/80MHz) dB |

## CROSS TALK

|                |             |
|----------------|-------------|
| 1MHz - 60MHz   | -35 dB MIN. |
| 60MHz - 100MHz | -25 dB MIN. |

## CM TO CM REJ

|                 |            |
|-----------------|------------|
| 100kHz - 100MHz | -30 dB MIN |
|-----------------|------------|

## CM TO DM REJ

|                 |            |
|-----------------|------------|
| 100kHz - 100MHz | -35 dB MIN |
|-----------------|------------|

## HIPOT (Isolation Voltage): 1500 Vrms

100% OF PRODUCTION TESTED TO COMPLY WITH  
IEEE 802.3 ISOLATION REQUIREMENTS.

## LED 1

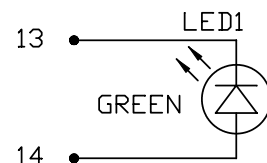
|                          |                          |
|--------------------------|--------------------------|
| VF (FORWARD VOLTAGE)     | IF=20mA GREEN 2.2V TYP.  |
| λD (DOMINANT WAVELENGTH) | IF=20mA GREEN 565nm TYP. |

## LED 2

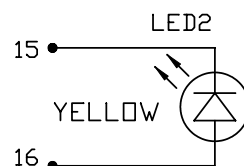
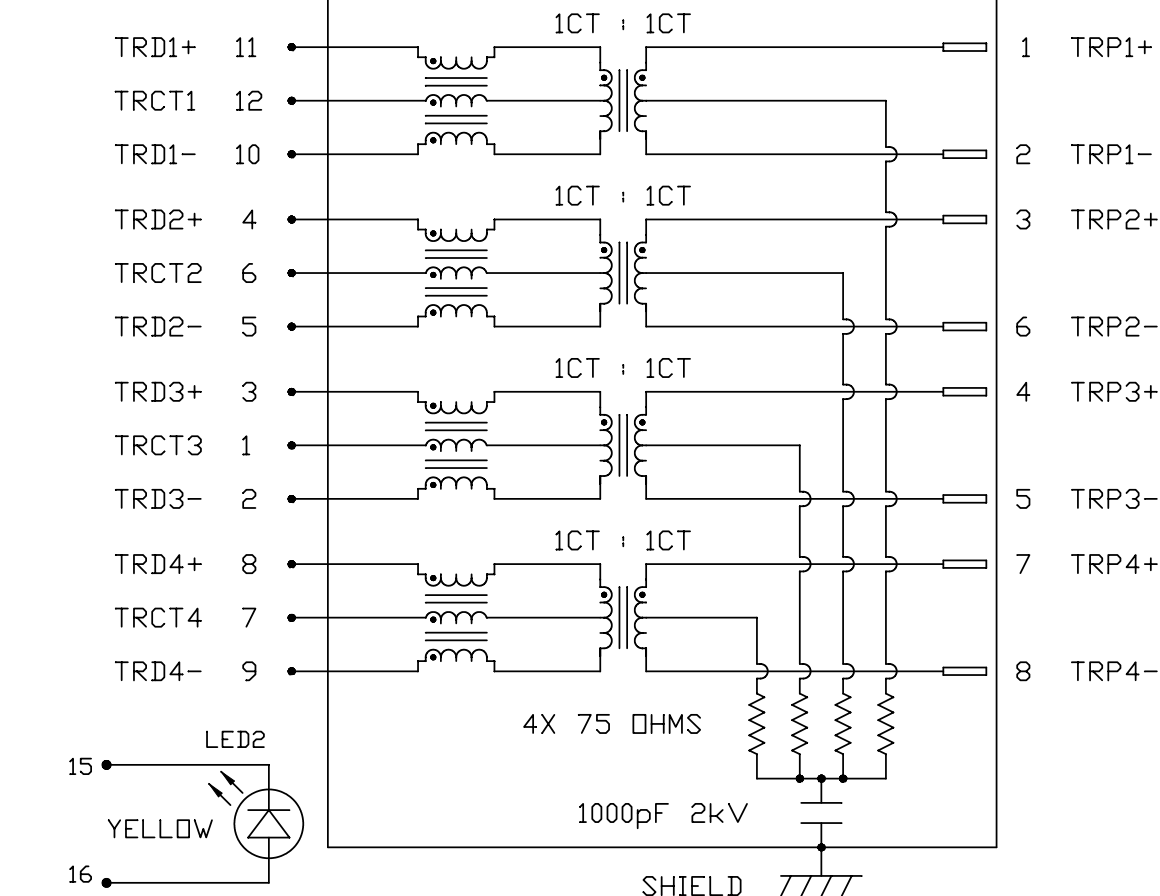
|                          |                           |
|--------------------------|---------------------------|
| VF (FORWARD VOLTAGE)     | IF=20mA YELLOW 2.1V TYP.  |
| λD (DOMINANT WAVELENGTH) | IF=20mA YELLOW 590nm TYP. |

## USB ELECTRICAL:

|                          |                  |
|--------------------------|------------------|
| INSULATION RESISTANCE:   | 1000 MEGAΩ (MIN) |
| CONTACT RESISTANCE:      | 25 MILLIΩ (MAX)  |
| DIELECTRIC WITHSTANDING: | 750 VAC          |



## SCHEMATIC



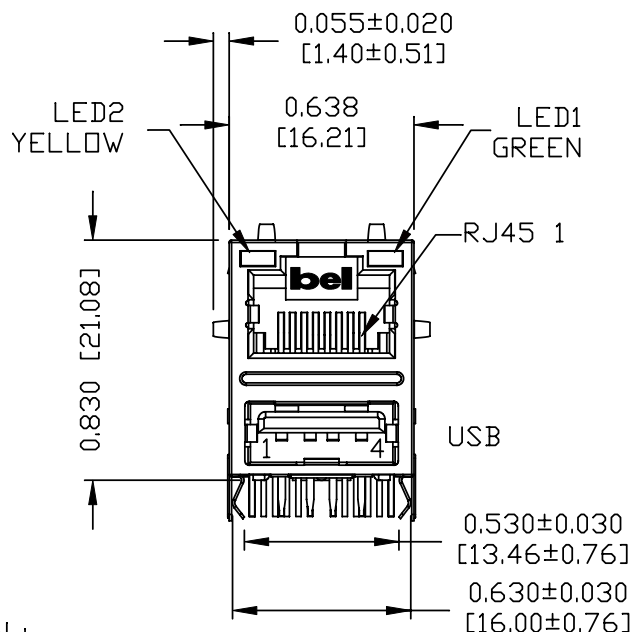
| ORIGINATED BY  | DATE     | TITLE                                                                         | PART NO. / DRAWING NO.                          | STANDARD DIM. |  | [ ] METRIC DIM. AS REFERENCE |           |
|----------------|----------|-------------------------------------------------------------------------------|-------------------------------------------------|---------------|--|------------------------------|-----------|
|                |          |                                                                               |                                                 | TOL. IN INCH  |  | UNIT : INCH [mm]             | REV. : B  |
| CHOW WANGCHUNG | 07-08-09 | gigabit MagJack® Combo<br>(single USB, 8 cores)<br>0821-1D1T-43-F<br>PATENTED | 08211D1T43-F<br>FILE NAME<br>08211D1T43-F_B.DWG | .X            |  | SCALE : N/A                  | SIZE : A4 |
| DRAWN BY       | DATE     |                                                                               |                                                 | .XX           |  |                              | PAGE : 2  |
| LEE WEIDE      | 07-08-09 |                                                                               |                                                 | .XXX          |  |                              |           |

**bel**  
COMPONENTS FOR A  
CONNECTED  
PLANET

THE INFORMATION CONTAINED HEREIN IS CONSIDERED  
"PROPRIETARY" TO BEL FUSE INC. AND SHALL NOT BE  
COPIED, REPRODUCED OR DISCLOSED WITHOUT THE  
WRITTEN APPROVAL OF BEL FUSE INC.



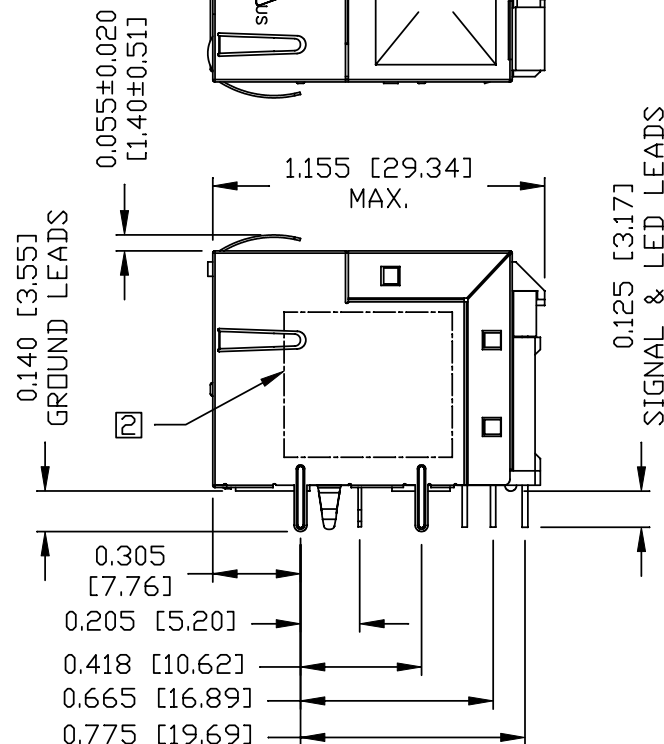
## MECHANICAL SPECIFICATION



### RJ45 MECHANICAL:

PLASTIC HOUSING: THERMOPLASTIC PBT  
FLAMMABILITY RATING UL 94V-0  
CONTACT PLATING: 30 MICRO-INCH HARD GOLD PLATING  
PINS: TIN-COATED COPPER WIRE, DIA 0.018 INCH.  
METAL SHIELD: NICKEL PLATED ON COPPER ALLOY.  
(ALL GROUND LEADS ARE SOLDER DIPPED)

1. MARK PART WITH MFG. LOGO, MFG. NAME, PART NUMBER AND DATE CODE.  
2. MARKING "PATENTED".  
3. JACK CAVITY CONFORMS TO FCC RULES AND REGULATIONS.  
cULus UL RECOGNIZED - FILE #E196366 AND E169987.

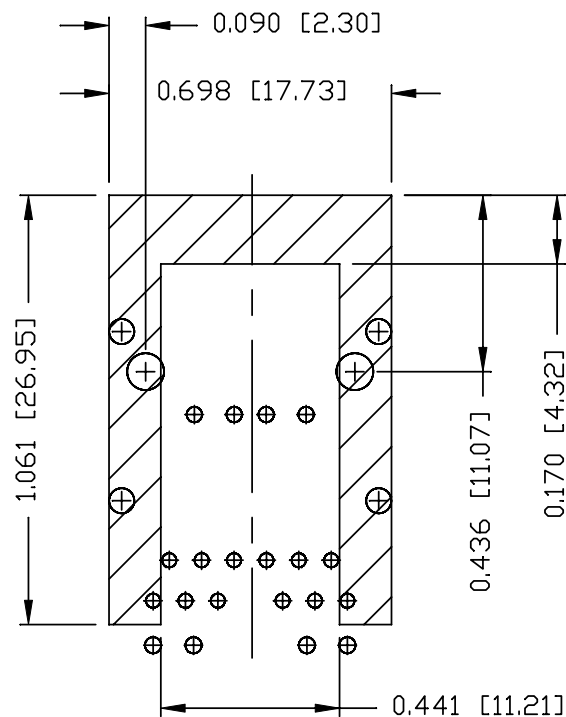


### USB MECHANICAL:

MATING FORCE: 35 NEWTONS MAXIMUM  
UNMATING FORCE: 10 NEWTONS MINIMUM  
CONTACT: PROSPER BRONZE,  
30 MICRO-INCH GOLD PLATING ON CONTACT AREA  
AND LEAD-FREE TIN ON SOLDER TAIL.  
4. RoHS COMPLIANCE, PER EU DIRECTIVE 2002/95/EC.  
5. THE PRODUCT IS PATENTED, THE PATENT NUMBER IS  
U.S. PAT. 5,736,910.

| ORIGINATED BY | DATE     | TITLE                                           | PART NO. / DRAWING NO. | STANDARD DIM.<br>TOL. IN INCH | [ ] METRIC DIM. AS REFERENCE |
|---------------|----------|-------------------------------------------------|------------------------|-------------------------------|------------------------------|
| LIU QIN       | 07-08-09 | gigabit MagJack® Combo<br>(single USB, 8 cores) | 08211D1T43-F           | .X                            | UNIT : INCH [mm] REV. : B    |
| DRAWN BY      | DATE     | 0821-1D1T-43-F                                  | FILE NAME              | .XX                           | SCALE : N/A SIZE : A4        |
| XIAN JIAXIN   | 07-08-09 | PATENTED                                        | 08211D1T43-F_B.DWG     | .XXX ±0.010                   | PAGE : 3                     |





NOTES:

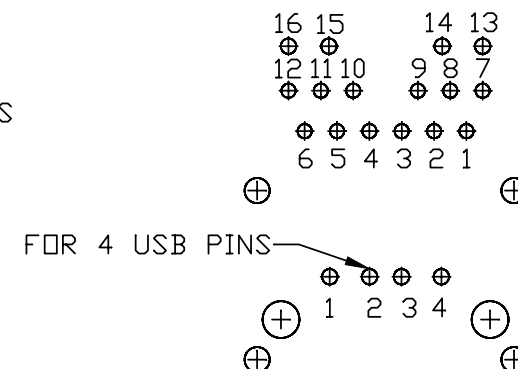
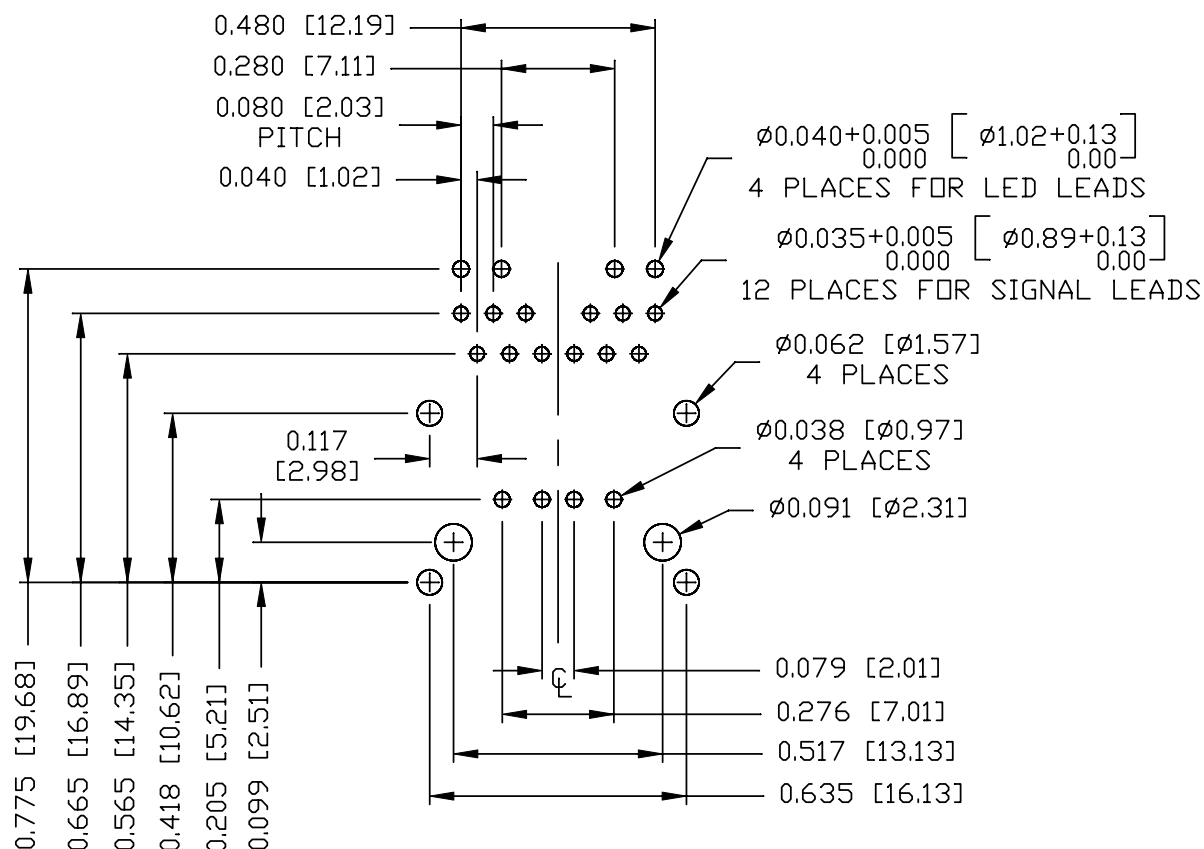
THE SHADED AREA ON THE CUSTOMER BOARD ARE  
 RECOMMENDED TO BE CLEAR OFF ANY VIA HOLE OR  
 COMPONENT PAD.

| ORIGINATED BY | DATE     | TITLE                                           | PART NO. / DRAWING NO. | STANDARD DIM.<br>TOL. IN INCH | [ ] METRIC DIM. AS REFERENCE |
|---------------|----------|-------------------------------------------------|------------------------|-------------------------------|------------------------------|
| LIU QIN       | 07-08-09 | gigabit MagJack® Combo<br>(single USB, 8 cores) | 08211D1T43-F           |                               | UNIT : INCH [mm] REV. : B    |
| DRAWN BY      | DATE     |                                                 | FILE NAME              | .X                            | SCALE : N/A SIZE : A4        |
| XIAN JIAXIN   | 07-08-09 | 0821-1D1T-43-F<br>PATENTED                      | 08211D1T43-F_B.DWG     | .XX                           |                              |
|               |          |                                                 |                        | .XXX                          | ±0.004                       |
|               |          |                                                 |                        |                               | PAGE : 4                     |

THE INFORMATION CONTAINED HEREIN IS CONSIDERED  
"PROPRIETARY" TO BEL FUSE INC. AND SHALL NOT BE  
COPIED, REPRODUCED OR DISCLOSED WITHOUT THE  
WRITTEN APPROVAL OF BEL FUSE INC.

RECOMMENDED PCB FOOTPRINT  
COMPONENT SIDE VIEW

RoHS  
2002/95/EC

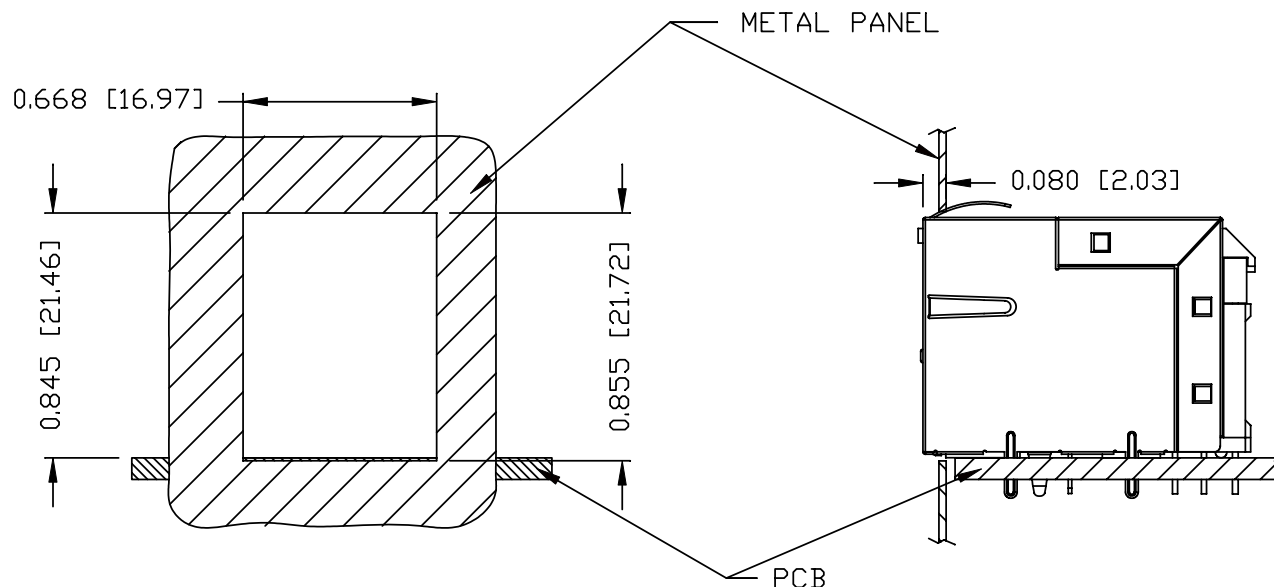


|                          |                  |                                                                                        |                                        |                               |        |                              |           |
|--------------------------|------------------|----------------------------------------------------------------------------------------|----------------------------------------|-------------------------------|--------|------------------------------|-----------|
| ORIGINATED BY<br>LIU QIN | DATE<br>07-08-09 | TITLE<br>gigabit MagJack® Combo<br>(single USB, 8 cores)<br>0821-1D1T-43-F<br>PATENTED | PART NO. / DRAWING NO.<br>08211D1T43-F | STANDARD DIM.<br>TOL. IN INCH |        | [ ] METRIC DIM. AS REFERENCE |           |
|                          |                  |                                                                                        |                                        | .X                            |        | UNIT : INCH [mm]             | REV. : B  |
| DRAWN BY<br>XIAN JIAXIN  | DATE<br>07-08-09 |                                                                                        | FILE NAME<br>08211D1T43-F_B.DWG        | .XX                           |        | SCALE : N/A                  | SIZE : A4 |
|                          |                  |                                                                                        |                                        | .XXX                          | ±0.004 |                              | PAGE : 5  |

**bel**  
COMPONENTS FOR A  
CONNECTED  
PLANET



# SUGGESTED PANEL OPENING



## NOTES:

THE DISTANCE OF PANEL INSIDE SURFACE RELATIVE TO FRONT SURFACE OF PART IS ONLY A SUGGESTION.  
 IN CASE THIS DISTANCE IS DIFFERENT, THE REQUIRED PANEL OPENING DIMENSIONS CHANGE ACCORDINGLY.

## PACKING INFORMATION

PACKING TRAY : 0200-0148-48 (TOP)

0200-0148-49 (BOTTOM)

PACKING QUANTITY : 60 PCS FINISHED GOODS PER TRAY

8 TRAYS (480 PCS FINISHED GOODS) PER CARTON BOX

NOTE : CARDBOARDS ARE PLACED BETWEEN LAYERS OF PACKING TRAY INSIDE CARTON BOX  
 (INCLUDE THE UPPERMOST AND LOWERMOST TRAY)

| ORIGINATED BY | DATE     | TITLE                                                                         | PART NO. / DRAWING NO.                              | STANDARD DIM. |        | [ ] METRIC DIM. AS REFERENCE |           |
|---------------|----------|-------------------------------------------------------------------------------|-----------------------------------------------------|---------------|--------|------------------------------|-----------|
|               |          |                                                                               |                                                     | TOL. IN INCH  |        | UNIT : INCH [mm]             | REV. : B  |
| LIU QIN       | 07-08-09 | gigabit MagJack® Combo<br>(single USB, 8 cores)<br>0821-1D1T-43-F<br>PATENTED | 08211D1T43-F<br><br>FILE NAME<br>08211D1T43-F_B.DWG | .X            |        | SCALE : N/A                  | SIZE : A4 |
| DRAWN BY      | DATE     |                                                                               |                                                     | .XX           |        |                              |           |
| XIAN JIAXIN   | 07-08-09 |                                                                               |                                                     | .XXX          | ±0.004 |                              | PAGE : 6  |