

## ABNORMAL TEST RESULT

## OF MODEL PBW30F

1. Did Cheese Cloth or Paper Glow?

No.

2. Did Ground Fuse Open?

No.

3. Dielectric breakdown?

No.

4. Other Results?

See the following pages .

( FMEA : 2/11 ~ 9/11)

( Abnormal Test Result: 10/11 ~ 11/11)

There was no emission of flame, molten metal, ignition of cheesecloth, dielectric breakdown, opening of the ground fuse, other indication of a shock or fire hazard.

F M E A

| Component | Mode  | Comment                                 | Output Voltage (V)               |
|-----------|-------|---|----------------------------------|
| C101      | Open  | Normal operation.                       |                                  |
|           | Short | F101 opened, No hazard                  | AVR1:0 AVR2:0                    |
| C102      | Open  | Normal operation.                       |                                  |
|           | Short | F101 opened, No hazard                  | AVR1:0 AVR2:0                    |
| C103      | Open  | Normal operation.                       |                                  |
|           | Short | F101 opened, No hazard                  | AVR1:0 AVR2:0                    |
| C108      | Open  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |
| C109      | Open  | See 10 Page.                            |                                  |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |
| C110      | Open  | Normal operation.                       |                                  |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |
| C113      | Open  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |
| C114      | Open  | Normal operation.                       |                                  |
|           | Short | Normal operation.                       |                                  |
| C115      | Open  | Normal operation.                       |                                  |
|           | Short | Normal operation.                       |                                  |
| C120      | Open  | Normal operation.                       |                                  |
|           | Short | Normal operation.                       |                                  |
| C502      | Open  | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:increased |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |
| C506      | Open  | Normal operation.                       |                                  |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                    |

F M E A

| Component | Mode  |         | Comment                                 | Output Voltage (V)               |
|-----------|-------|---------|---|----------------------------------|
| C507      | Open  |         | Output voltage decreased.<br>No hazard. | AVR1:increased<br>AVR2:decreased |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C508      | Open  |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           | Short |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| C509      | Open  |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           | Short |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| C510      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C514      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C516      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C520      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C521      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C524      | Open  |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           | Short |         | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| C526      | Open  |         | Normal operation.                       |                                  |
|           | Short |         | No Hazard.                              | AVR1:0 AVR2:0                    |
| C528      | Open  | only 5V | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           | Short | only 5V | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| D101      | Open  |         | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |         | See 10 Page.                            |                                  |

## F M E A

| Component | Mode  |                 | Comment                                 | Output Voltage (V)               |
|-----------|-------|-----------------|---|----------------------------------|
| D102      | Open  |                 | Normal operation.                       |                                  |
|           | Short |                 | Normal operation.                       |                                  |
| D103      | Open  |                 | See 10 Page.                            |                                  |
|           | Short |                 | See 10 Page.                            |                                  |
| D104      | Open  |                 | Normal operation.                       |                                  |
|           | Short |                 | No Hazard.                              | AVR1:0 AVR2:0                    |
| D501      | Open  |                 | Normal operation.                       |                                  |
|           | Short |                 | Normal operation.                       |                                  |
| D506      | Open  |                 | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |                 | See 10 Page.                            |                                  |
| D507      | Open  |                 | Normal operation.                       | AVR1:0 AVR2:0                    |
|           | Short |                 | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| D508      | Open  |                 | Normal operation.                       |                                  |
|           | Short |                 | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| IC101     | Open  | 1 (CNT)         | See 10 Page.                            |                                  |
|           |       | 2 (S)           | See 10 Page.                            |                                  |
|           |       | 3 (D)           | See 10 Page.                            |                                  |
|           | Short | 1 (CNT) - 2 (S) | See 10 Page.                            |                                  |
|           |       | 1 (CNT) - 3 (D) | See 10 Page.                            |                                  |
|           |       | 2 (S) - 3 (D)   | See 10 Page.                            |                                  |
| IC501     | Open  | K               | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | A               | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | R               | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | A-K             | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |

## F M E A

| Component | Mode  |      | Comment                                 | Output Voltage (V)               |
|-----------|-------|------|---|----------------------------------|
| IC501     | Short | K-R  | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           |       | R-A  | No Hazard.                              | AVR1:0 AVR2:0                    |
| J101      | Open  |      | Normal operation.                       |                                  |
| J111      | Open  |      | No Hazard.                              | AVR1:0 AVR2:0                    |
| J503      | Open  |      | Normal operation.                       |                                  |
| L101      | Open  |      | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |      | Normal operation.                       |                                  |
| L102      | Open  |      | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |      | Normal operation.                       |                                  |
| L507      | Open  |      | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |      | Normal operation.                       |                                  |
| L508      | Open  |      | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |      | Normal operation.                       |                                  |
| LED501    | Open  |      | Normal operation.                       |                                  |
|           | Short |      | Normal operation.                       |                                  |
| PC201     | Open  | A, K | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C, E | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | A-K  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C-E  | No Hazard.                              | AVR1:0 AVR2:0                    |
| PC202     | Open  | A, K | Normal operation.                       |                                  |
|           |       | C, E | Normal operation.                       |                                  |
|           | Short | A-K  | Normal operation.                       |                                  |
|           |       | C-E  | No Hazard.                              | AVR1:0 AVR2:0                    |
| SK101     | Open  |      | Normal operation.                       |                                  |

## F M E A

| Component | Mode  |             | Comment                | Output Voltage (V) |
|-----------|-------|-------------|------------------------|--------------------|
| SK101     | Short |             | F101 opened, No hazard | AVR1:0 AVR2:0      |
| SS101     | Open  |             | No Hazard.             | AVR1:0 AVR2:0      |
|           | Short |             | F101 opened, No hazard | AVR1:0 AVR2:0      |
| SS501     | Open  | Cathode     | See 10 Page.           |                    |
|           |       | Alternative | See 10 Page.           |                    |
|           | Short |             | See 10 Page.           |                    |
| SS502     | Open  | Cathode     | See 10 Page.           |                    |
|           |       | Alternative | See 10 Page.           |                    |
|           | Short |             | See 10 Page.           |                    |
| T101      | Open  | 2           | See 10 Page.           |                    |
|           |       | 3           | See 10 Page.           |                    |
|           |       | 4           | See 10 Page.           |                    |
|           |       | 5           | See 10 Page.           |                    |
|           |       | 6           | See 10 Page.           |                    |
|           |       | 7           | See 11 Page.           |                    |
|           |       | 9           | See 11 Page.           |                    |
|           |       | 10          | See 11 Page.           |                    |
|           | Short | 2-3         | See 11 Page.           |                    |
|           |       | 4-5         | See 11 Page.           |                    |
|           |       | 7-6         | See 11 Page.           |                    |
|           |       | 9-10        | See 11 Page.           |                    |
| TH101     | Open  |             | No Hazard.             | AVR1:0 AVR2:0      |
| TR101     | Open  | E           | Normal operation.      |                    |
|           |       | C           | Normal operation.      |                    |

## F M E A

| Component | Mode  |       | Comment                                 | Output Voltage (V)               |
|-----------|-------|-------|---|----------------------------------|
| TR101     | Open  | B     | Normal operation.                       |                                  |
|           | Short | E-C   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C-B   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | E-B   | Normal operation.                       |                                  |
| TR102     | Open  | E     | Normal operation.                       |                                  |
|           |       | C     | Normal operation.                       |                                  |
|           |       | B     | Normal operation.                       |                                  |
|           | Short | E-C   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C-B   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | E-B   | Normal operation.                       |                                  |
| TR103     | Open  | E     | Normal operation.                       |                                  |
|           |       | C     | Normal operation.                       |                                  |
|           |       | B     | Normal operation.                       |                                  |
|           | Short | E-C   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C-B   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | E-B   | Normal operation.                       |                                  |
| TR501     | Open  | E     | Normal operation.                       |                                  |
|           |       | C     | Normal operation.                       |                                  |
|           |       | B     | Normal operation.                       |                                  |
|           | Short | E-C   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | C-B   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | E-B   | Normal operation.                       |                                  |
| VR501     | Open  | brush | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
|           |       |       | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |

F M E A

| Component | Mode  | Comment                                 | Output Voltage (V)                           |
|-----------|-------|---|--|
| VR501     | Short | Output voltage increased.<br>No hazard. | AVR1:increased(120%)<br>AVR2:increased(120%) |
| ZD501     | Open  | Normal operation.                       |  |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                                |
| ZD504     | Open  | Normal operation.                       |  |
|           | Short | No Hazard.                              | AVR1:0 AVR2:0                                |
| R105      | Open  | Normal operation.                       |  |
| R106      | Open  | Normal operation.                       |  |
| R107      | Open  | Normal operation.                       |  |
| R108      | Open  | Normal operation.                       |  |
| R109      | Open  | Normal operation.                       |  |
| R111      | Open  | Normal operation.                       |  |
| R113      | Open  | No Hazard.                              | AVR1:0 AVR2:0                                |
| R114      | Open  | See 11 Page.                            |  |
| R115      | Open  | Normal operation.                       |  |
| R116      | Open  | Normal operation.                       |  |
| R117      | Open  | Normal operation.                       |  |
| R118      | Open  | Normal operation.                       |  |
| R121      | Open  | Normal operation.                       |  |
| R122      | Open  | Normal operation.                       |  |
| R123      | Open  | Normal operation.                       |  |
| R501      | Open  | Normal operation.                       |  |
| R502      | Open  | Normal operation.                       |  |
| R503      | Open  | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased             |
| R504      | Open  | Normal operation.                       |  |



F M E A

| Component | Mode | Comment                                 | Output Voltage (V)               |
|-----------|------|---|----------------------------------|
| R505      | Open | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| R506      | Open | No Hazard.                              | AVR1:0 AVR2:0                    |
| R507      | Open | No Hazard.                              | AVR1:0 AVR2:0                    |
| R509      | Open | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| R517      | Open | Normal operation.                       |                                  |
| R519      | Open | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| R521      | Open | Normal operation.                       |                                  |
| R522      | Open | Normal operation.                       |                                  |
| R523      | Open | Normal operation.                       |                                  |
| R529      | Open | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| R530      | Open | Normal operation.                       |                                  |
| R531      | Open | Normal operation.                       |                                  |
| R532      | Open | Normal operation.                       |                                  |
| R551      | Open | Normal operation.                       |                                  |
| R552      | Open | Normal operation.                       |                                  |
| R553      | Open | Normal operation.                       |                                  |
| R554      | Open | No Hazard.                              | AVR1:0 AVR2:0                    |

## ABNORMAL TEST RESULT

| Component | Mode  |               | Comment                                 | Output Voltage (V)               |
|-----------|-------|---------------|---|----------------------------------|
| C109      | Open  |               | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |
| C502      | Open  |               | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:increased |
| C507      | Open  |               | Output voltage decreased.<br>No hazard. | AVR1:increased<br>AVR2:decreased |
| D101      | Short |               | No Hazard.                              | AVR1:0 AVR2:0                    |
| D103      | Open  |               | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short |               | No Hazard.                              | AVR1:0 AVR2:0                    |
| D506      | Short |               | No Hazard.                              | AVR1:0 AVR2:0                    |
| IC101     | Open  | 1 (CNT)       | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 2 (S)         | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 3 (D)         | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | 1 (CNT)-2 (S) | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 1 (CNT)-3 (D) | F101 opened, No hazard                  | AVR1:0 AVR2:0                    |
|           |       | 2 (S)-3 (D)   | F101 opened, No hazard                  | AVR1:0 AVR2:0                    |
| SS501     | Open  | Cathode       | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | Alternative   | Normal operation.                       |                                  |
|           | Short |               | No Hazard.                              | AVR1:0 AVR2:0                    |
| SS502     | Open  | Cathode       | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | Alternative   | Normal operation.                       |                                  |
|           | Short |               | No Hazard.                              | AVR1:0 AVR2:0                    |
| T101      | Open  | 2             | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 3             | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 4             | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 5             | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 6             | No Hazard.                              | AVR1:0 AVR2:0                    |



ABNORMAL TEST RESULT

| Component | Mode  |      | Comment                                 | Output Voltage (V)               |
|-----------|-------|------|---|----------------------------------|
| T101      | Open  | 7    | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 9    | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 10   | No Hazard.                              | AVR1:0 AVR2:0                    |
|           | Short | 2-3  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 4-5  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 7-6  | No Hazard.                              | AVR1:0 AVR2:0                    |
|           |       | 9-10 | No Hazard.                              | AVR1:0 AVR2:0                    |
| R114      | Open  |      | Output voltage decreased.<br>No hazard. | AVR1:decreased<br>AVR2:decreased |