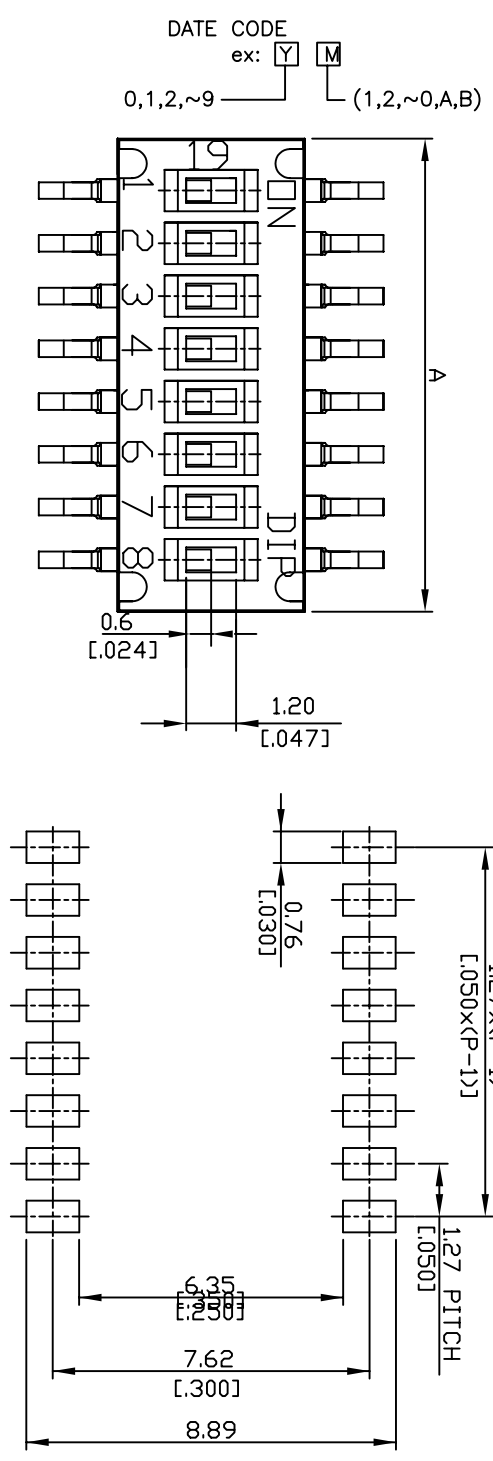


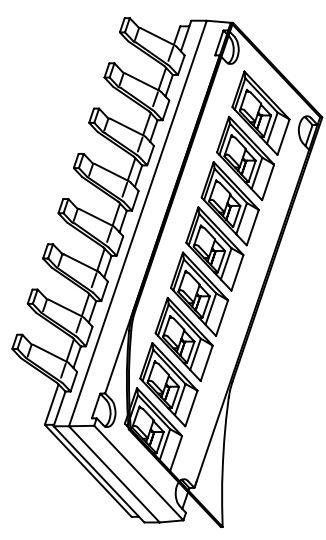
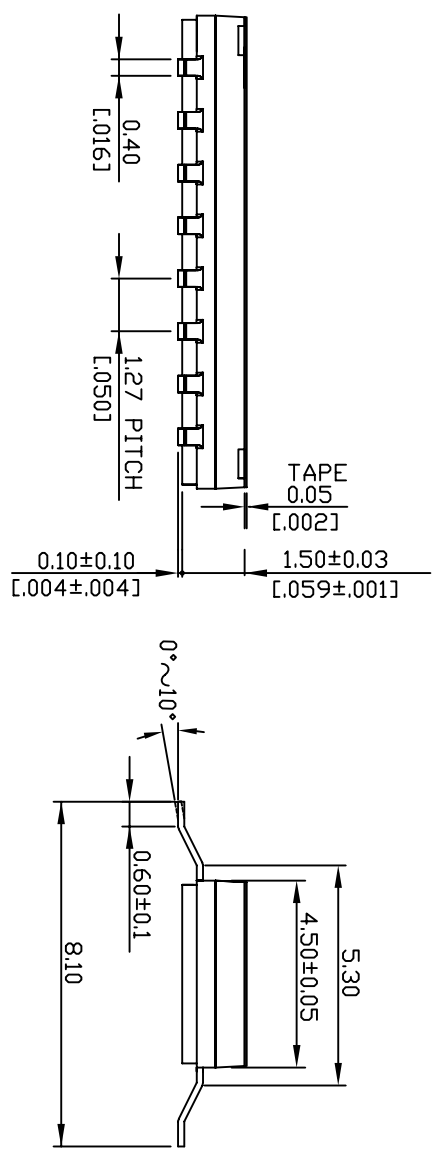
NOTE :

1. ALL DIMENSIONS ARE IN MILLIMETERS , BRACKETED DIMENSIONS ARE IN INCHS INCHS.
2. GENERAL TOLERANCE: ±0.2 mm
3. METERIAL: SEE PAGE 3 OF 3.



|                        |            |              |
|------------------------|------------|--------------|
| DHNF-02F-V             | 2          | 3.77 [1.48]  |
| DHNF-04F-V             | 4          | 6.31 [2.48]  |
| DHNF-06F-V             | 6          | 8.85 [3.48]  |
| DHNF-08F-V             | 8          | 11.39 [4.48] |
| DHNF-10F-V             | 10         | 13.93 [5.48] |
| PROD.NO.               | NO. OF POS | DIM A        |
| SCHEMATIC(TYP.)        |            |              |
|                        |            |              |
| (2,4,6,8,10 POS AVAIL) |            |              |

P.C.B LAYOUT

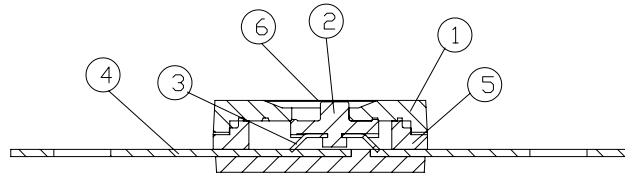


| 符號 | 原尺寸 | 修改後尺寸 | 變更日期 |
|----|-----|-------|------|
| 1  | (A) |       |      |
| 2  | (B) |       |      |
| 3  | (C) |       |      |
| 4  | (D) |       |      |
| 5  | (E) |       |      |

SCALE (比例) : 4 : 1  
 TOLERANCE (公差) :  
 0.00 mm ± 0.25mm  
 0.0 mm ± 0.40mm  
 FILE NAME : Y0691

|   |             |                 |                        |      |    |
|---|-------------|-----------------|------------------------|------|----|
| <b>德利威電子股份有限公司</b><br><b>DAILYWELL ELECTRONICS CO.,LTD.</b> |             | TITLE           | S.M.T. TYPE HALF PITCH | SIZE | A4 |
|   |             | 圖名              |                        | 圖紙   |    |
| DWG NO.   | DHNF SERIES |                 | UNIT                   | inch |    |
| 圖號  |             |                 | 單位                     | mm   |    |
| REV.  | DATE        | SHEET           | 張數                     |      |    |
| 版本  | A           | JUL - 21 - 2008 | 1 of 1                 |      |    |
| CHECKED BY  | RICHARD     | DRAWN BY        | IRENE                  |      |    |
| 審核  |             | 製圖              |                        |      |    |

| ZITEM | DESC.    | Q'TY | MATERIALS                                      | TREATMENT    | REMARK |
|-------|----------|------|--|--------------|--------|
| 1.    | COVER    | 1    | HIGH – TEMP.<br>THERMOPLASTIC<br>NYLON UL94V-0 | MOLDED BLACK | -      |
| 2.    | ACTUATOR |      | HIGH – TEMP.<br>THERMOPLASTIC<br>LCP           | MOLDED WHITE | -      |
| 3.    | CONTACT  |      | PHOSPHOR BRONZE                                | GOLD PLATED  | -      |
| 4.    | TERMINAL |      | BRASS  | GOLD PLATED  | -      |
| 5.    | BASE     | 1    | HIGH – TEMP.<br>THERMOPLASTIC<br>NYLON UL94V-0 | MOLEDE BLACK | -      |
| 6.    | TAPE     |      | KATPON   | -            | -      |



① Prod. No. : D H N (F) -     -  - V -

DHN TERMINAL LENGTH 8.1 mm

DHN TERMINAL LENGTH 6.7 mm

Number Of Position: \_\_\_\_\_

02 = 2 Position

04 = 4 Position

06 = 6 Position

08 = 8 Position

10 = 10 Position

Package Style:

= Tube

T/R= Tape & Reel

V=Lead Free

Seal:

=Regular

T =Top Tape Sealed

=in ON position

F =in OFF position

=Gold 3u" MIN

A =Gold 10u" MIN

|      |           |       |
|------|-----------|-------|
|      |           |       |
|      |           |       |
|      |           |       |
|      |           |       |
|      |           |       |
|      |           |       |
| A    | DWG. REL. | 邱明義   |
| REV. | ECO. NO.  | APPD. |

|  |                        |
|--|------------------------|
| TITLE:   | APPD. : 邱明義            |
| HALF PITCH DIP SWITCH  | CHKD. : 邱明義            |
| RRD. NO. : DHN(F)- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> -V | PR. : 蔡麗娟              |
| FILE NO. : E-V-CD19  | REV : A SHEET : 1 of 1 |

# DHN(F)-V SPECIFICATION

FILE No. : E-V-AD17  
 REV. : A  
 Page : 1 / 4

**1. Style:**

This specification describes "WASHABLE OF DUAL IN-LINE PACKAGE SWITCHES", mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristics.

1.1 Operating Temperature Range : -40°C~+85°C

1.2 Storage Temperature Range : -40°C~+85°C

**2. Current Range:**

2.1 Non-Switching: 100mA, 50V DC

2.2 Switching: 25mA, 24V DC

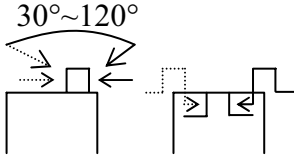
**3. Type of Actuation:** Actuated by sliding

**4. Test Sequence:**

| MELECTRIC PERFORMANCE | ITEM | DESCRIPTION                     | TEST CONDITIONS   | REQUIREMENTS   |
|-----------------------|------|---------------------------------|---|--|
|                       | 1.   | Visual Examination              | By visual examination check without any out pressure & testing.   | There shall be no defects that affect the serviceability of the product. |
|                       | 2.   | Contact Resistance              | 1)To be measured between the two terminals associated with each switch pole.<br>2)Measurements shall be made with a 1 kHz shall current contact resistance meter. | 100mΩ max. (initial)   |
|                       | 3.   | Insulation Resistance           | 500 V DC , 1 minute±5 sec.  | 100MΩ min  |
|                       | 4.   | Dielectric withstanding Voltage | 300 V AC (50Hz or 60 Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.                                 | There shall be no breakdown or flashover.                                |
|                       | 5.   | Capacitance                     | 1MHz±10kHz  | 5 pF max.  |

# DHN(F)-V SPECIFICATION

FILE No. : E-V-AD17  
 REV. : A  
 Page : 2 / 4

|                               |           |  |  |  |   |
|-------------------------------|-----------|--|--|--|---|
| <b>MECHANICAL PERFORMANCE</b> | 6         | Operation Force  | <p>Applied in the direction of operation.<br/>                 ON→OFF<br/>                 OFF→ON</p>  | 500 gf max<br>(4.9N max)                       |   |
|                               | 7         | Stop Strength  | 1 kgf is applied in the operating direction and pulling direction operated for a period of 15 seconds.   | There shall be no sign of damage mechanically. |   |
|                               | 8         | Soldering Heat Resistance  | 1)Soldering Temperature :  |  | 1)As shown in item 3~6<br>2)Contact Resistance: 2Ω max.<br>(final-after test) |
|                               |           |  | PROD SERIES  | SMT TYPE TERMINAL                              |   |
|                               |           |  | TEMP   | 260±5°C  |   |
| TIME                          |           |  | 5~10sce  |  |   |
|                               |           | 2)Duration of Solder Immersion: 5±1seconds.<br>3)Frequency of Solder Process: 1 times max.<br>(PCB is 1.6 mm in thickness.)  |  |  |   |
| 9                             | Vibration | Shall be vibrated in accordance with Method 201A of MIL-STD-202F<br>1)Frequency: 10-55-10 Hz 1 min/cycle.<br>2)Direction: 3 vertical directions including the direction of operation<br>3)Test Time: 2 hours each direction. | 1)As shown in item 2~6<br>2)Contact Resistance: 2Ω max.)<br>(final-after test)   |  |   |
| 10                            | Shock     | Shall be shocked in accordance with Method 213B Condition A of MIL-STD-202F<br>1)Acceleration : 50G<br>2)Action Time : 11±1 m seconds<br>3)Testing Direction : 6 sides<br>4)Test cycle : 3 times in each direction           | 1)As shown in item 2~6<br>2)Contact Resistance: 2Ω max.<br>(final-after test)  |  |   |

# DHN(F)-V SPECIFICATION

FILE No. : E-V-AD17  
 REV. : A  
 Page : 3 / 4

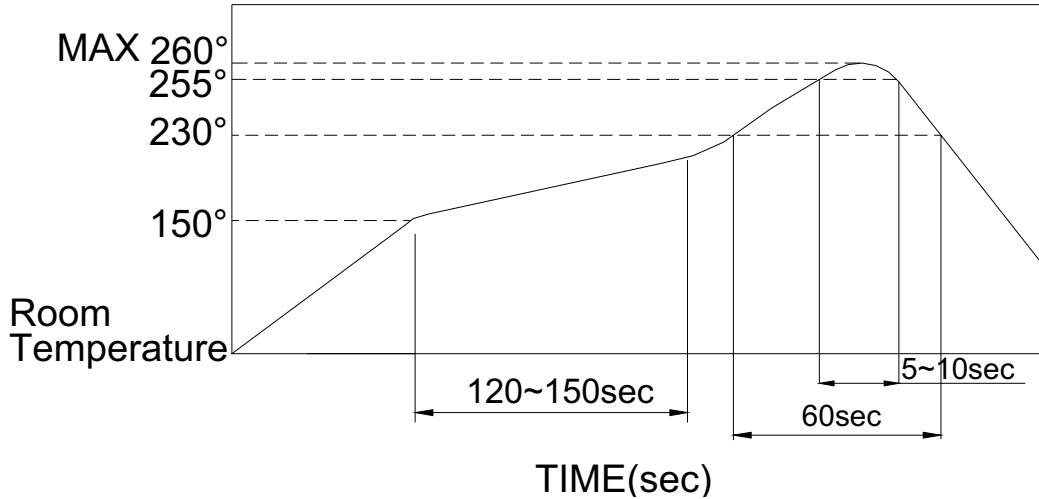
|                      |           |                             |  |   |
|----------------------|-----------|-----------------------------|--|---|
| <b>DURABILITY</b>    | <b>11</b> | Operation Life              | Measurements shall be made following the test set forth below:<br>1)25mA,24 V DC resistive load<br>2)Rate of Operation : 15~20 cycles/minute<br>3)Cycle of Operation : 1000 cycles   | 1)As shown in item 3,4<br>2)Contact Resistance: 2Ω max. (final-after test)                      |
| <b>WEATHER-PROOF</b> | <b>12</b> | Resistance Low Temperature  | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made :<br>1)Temperature : -40±3℃<br>2)Time : 96 hours                                | 1)As shown in item 2~6<br>2)Contact Resistance: 2Ω max. (final-after test)                      |
|                      | <b>13</b> | Resistance High Temperature | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made :<br>1)Temperature : 85±2℃<br>2)Time : 96 hours                                 | 1)As shown in item 3~6<br>2)Contact Resistance : 2Ωmax. (final-after test)                      |
|                      | <b>14</b> | Resistance Humidity         | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made :<br>1)Temperature : 40±2℃<br>2)Relative Humidity : 90~95%<br>3)Time : 96 hours | 1)As shown in item 4~6<br>2)Contact Resistance : 2Ωmax.<br>3)Insulation Resistance: 10 MΩ min . |

# DHN(F)-V SPECIFICATION

FILE No. : E-V-AD17  
 REV. : A  
 Page : 4 / 4

## 5. SOLDERING CONDITIONS:

### ■ Condition for Soldering



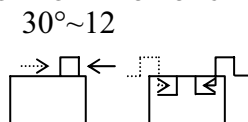
- The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface temperature depending on board's material, size, thickness, etc. Care, therefore, should be used not to allow switch's surface temperature to exceed 260°C.

### ■ Manual Soldering

|                           |               |
|---------------------------|---------------|
| Soldering Temperature     | Max,350°C     |
| Continuous Soldering Time | Max,5 seconds |

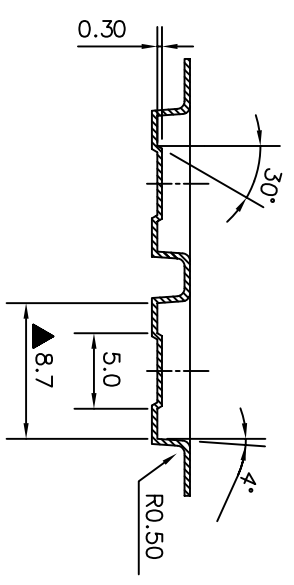
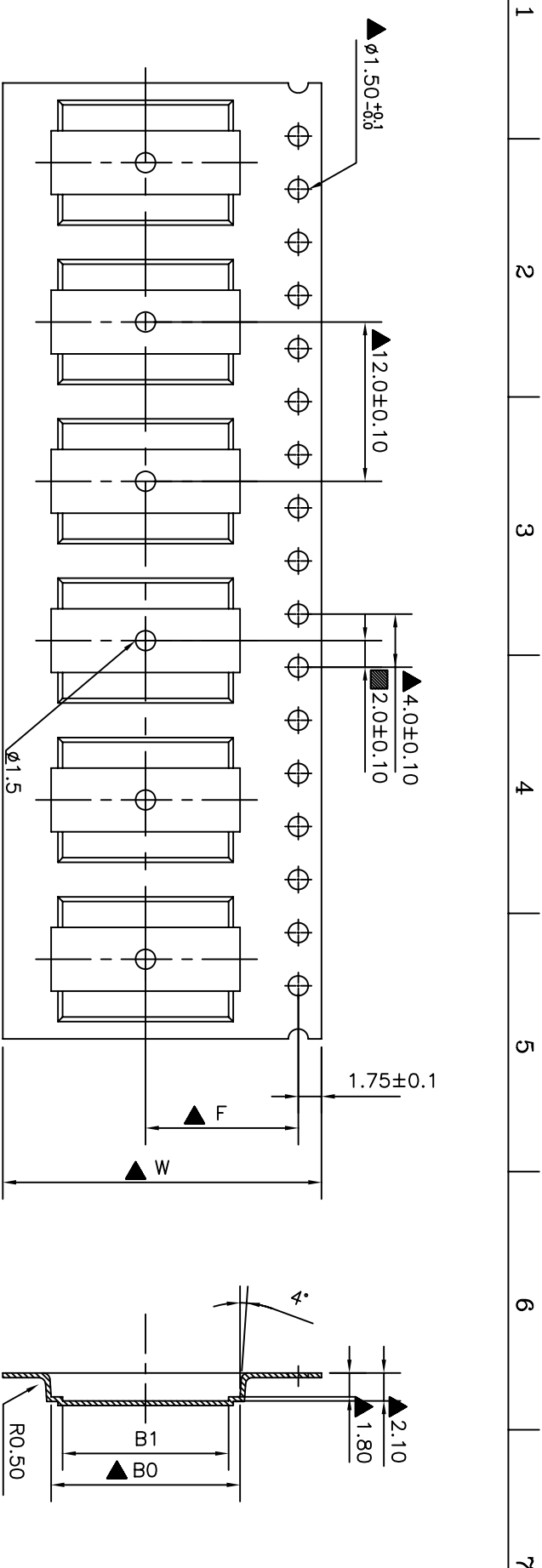
### ■ Precautions in Handling

1. Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
2. Don't clean the switch body except with top tape sealed type, which can only spray of cleaning method from top of s/w.
3. Slide the DHN(F) actuator from Z axial direction with in 30°~120° of max 300 gf / 10 sec operation.



4. The suggest tool for actuator adjust is as below. ( example for 4 position )





1. Pitch Tolerance Over Any 10 Pitch±0.20.
2. Material : PS Black-Thickness : 0.35±0.05mm.
3. General Tolerances Max±0.1mm.

|              |           |           |           |             |        |
|--------------|-----------|-----------|-----------|-------------|--------|
| DHNF.FHDS-10 | 6217A0000 | 24.00±0.3 | 11.00±0.1 | 14.23       | 12.50  |
| DHNF.FHDS-08 | 621780000 |           |           | △11.65±0.20 | 9.96   |
| DHNF.FHDS-06 | 621760000 | 16.00±0.3 | 7.50±0.1  | △9.15±0.20  | 7.42   |
| DHNF.FHDS-04 | 621740000 |           |           | 6.61        | 4.88   |
| DHNF.FHDS-02 | 621720000 | 12.00±0.3 | 5.5±0.1   | 4.07        | 2.34   |
| PART NAME    | PART NO   | DIM W     | DIM F     | DIM B0      | DIM B1 |

|          |             |          |         |        |   |  |            |                      |
|----------|-------------|----------|---------|--------|---|--|------------|----------------------|
| △A       | 新增DHNF共用此膠捲 | 05.30'08 | APPD:   | QTY:   | 德利威電子股份有限公司<br>Dailywell Electronic Co., Ltd. |  | PART NAME: | DHNF.FHDS-□□ CARRIER |
| △C       | 變更B0公差尺寸    |          | CHKD:   | SCALE: |   |  | MAT'L:     | PS-B                 |
| △B       | 變更B0公差尺寸    | 10.14'05 | DR:     | REV:   |   |  | FINISH:    |                      |
| △A       | DWG.REL     | 11.06'01 | DESIGN: | UNITS: |   |  | DWG NO:    | EP-C30               |
| ZONE REV | DESCRIPTION | DATE     | APPD.   | UNITS: | 見附表   |  |            |                      |

F

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