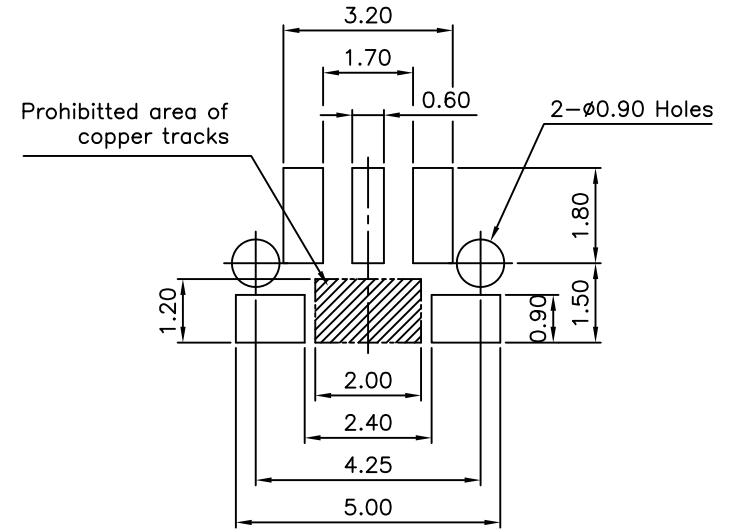
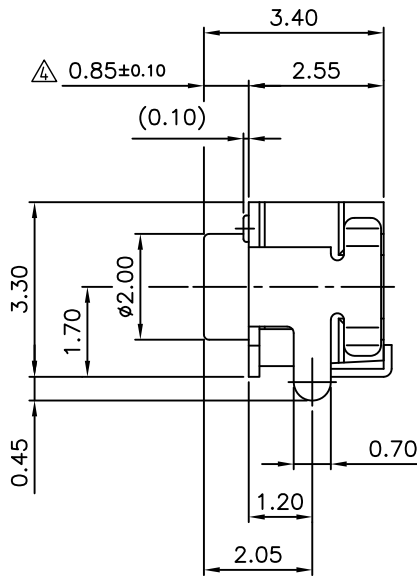


| MODEL      | ERP CODE     | O/FORCE    | STEM COLOR |
|------------|--------------|------------|------------|
| JTP 1133R  | 110011133034 | 160 ± 50gf | IVORY      |
| JTP 1133HR | 110011133057 | 80 ± 40gf  | GRAY       |
| JTP 1133RE | 110011133070 | 160 ± 50gf | RED        |
|            |              |            |            |

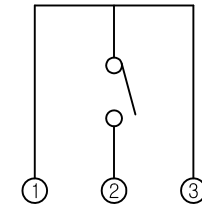
△  
△



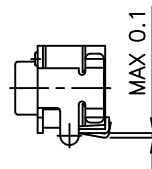
P.C.B MOUNTING SOLDER LAND DIMENSION

NOTE

1. RATING : 50mA , 12VDC
2. CONTACT RESISTANCE : 500mΩ Max
3. TRAVEL : 0.2 ±0.1mm
4. LIFE CYCLES : 100,000 CYCLES
5. GENERAL TOLERANCE : ±0.3
6. MANUFACTURING SPECIFICATION WOULD BE ACCORDANCE WITH JT0141-LF
- △ 7. TER' AND TER' VARIATION HAVE TO BE IN 0.1mm AFTER TER' BENDING



CIRCUIT DIAGRAM



| RevNo | Revision note                        | Date       | Signature | Checked |
|-------|--------------------------------------|------------|-----------|---------|
| △     | 모델 파생                                | 2009.07.22 | L.F       |         |
| △     | 사양 추가                                | 2008.12.10 | U.H.KIM   |         |
| △     | 설계 변경                                | 2008.07.24 | U.H.KIM   |         |
| △     | 모델 파생                                | 2008.07.03 | U.H.KIM   |         |
| △     | Ter'l 형상 혼돈에 따른 도면변경                 | 2007.11.22 |           |         |
| △     | T/Case Ter'l 형상 현실화 [ 도면 Redrawing ] | 2007.04.16 |           |         |

| Item        |                  | material etc |            | SWITCH K O R E A |        |
|-------------|------------------|--------------|------------|------------------|--------|
| Designed by | U.H.KIM          | Checked by   | M.W.SHIN   | Approved by      | T.H.OH |
| Filename    |                  | Date         | 2008.12.10 | Scale            | 10/1   |
| MODEL NAME  | TACT SWITCH      |              | PART NAME  | ASS'Y DIAGRAM    |        |
| MODEL NO    | JTP-1133R SERIES |              | CODE NO.   | Edition          | 3      |
|             |                  |              |            | Sheet            | 1/1    |

1.4 Test Conditions : The standard test conditions shall be 5℃~ 35℃ in temperature,





45 ~ 85% RH and 860~1060mbar in atmospheric pressure. Should any doubt arise in judgment, tests shall be conducted at 20±2℃, 65±5% RH and 860~1060mbar.

2. RATED VOLTAGE AND CURRENT

DC 12V 50mA

3. ELECTRIC PERFORMANCE




|     | PROPERTY              | TEST CONDITIONS                                                                                      | PERFORMANCE                              |
|-----|-----------------------|------------------------------------------------------------------------------------------------------|------------------------------------------|
| 3.1 | Contact arrangement   |                                                                                                      | *1 pole, 1 throw                         |
| 3.2 | Contact resistance    | Measured at DC 5V 10mA or by ohmmeter allowing a small current at 1KHz with 150% of Actuating force. | *less than 500mΩ                         |
| 3.3 | Insulation resistance | DC 100V is applied between terminals and between terminals and cover for 1 minute ± 5 seconds.       | *greater than 100MΩ                      |
| 3.4 | Dielectric strength   | AC 250V (50~60Hz) is applied between terminals and between terminals and cover for 1 minute.         | *No insulation defect shall be observed. |
| 3.5 | Bounce                | Measured by lightly striking the center of the stem at a rate of 3 operations/sec..                  | *less than 5m sec.                       |

|            |                                                                                     |          |      |      |         | APPD                                                                                | CHKD                                                                                | DSGD                                                                                | TITLE                     |
|------------|-------------------------------------------------------------------------------------|----------|------|------|---------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|
| 작동온도<br>변경 |  | 08.06.26 |      |      | m.j.kim |  |  |  | DOCUMENT<br>NO. JT0141-LF |
| ZONE       | SYMB                                                                                | DATE     | APPD | CHKD | DSGD    |                                                                                     |                                                                                     |                                                                                     |                           |

|     |                       |                                                                                                                                                                                                                                                      |                                                              |
|-----|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|     |                       | the stem returns to its free position.                                                                                                                                                                                                               |                                                              |
| 4.3 | Stop strength         | A static force of 3Kgf shall be applied to the direction of operation for 3 seconds.                                                                                                                                                                 | *Shall be free from mechanical and electrical abnormalities. |
| 4.4 | Stem withdrawal force | A static load of 500gf is applied to the direction of pulling for 3 seconds.                                                                                                                                                                         | *Shall be free from mechanical and electrical degradation.   |
| 4.5 | Solderability         | Dip in the solder bath of temperature $230\pm 2^{\circ}\text{C}$ for $2\pm 0.5(\text{sec})$ after dipping in the flux of room temperature for 5 sec to 10 sec.<br><br>The solder shall be covered on 90% min of dipping area on the plating surface. |                                                              |
| 4.6 | Travel                |                                                                                                                                                                                                                                                      | *As per individual manufactured drawing.                     |
| 4.7 | Arrangement of action |                                                                                                                                                                                                                                                      | *Tactile feed-back.                                          |

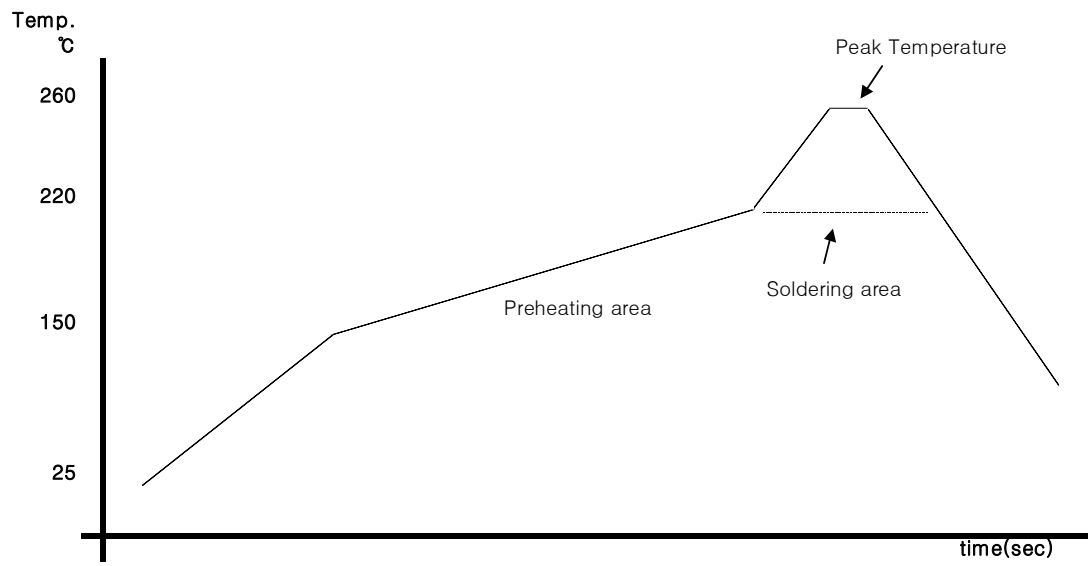
#### 5. DURABILITY

|     | PROPERTY         | TEST CONDITIONS                                                                                                                              | PERFORMANCE                                                                                                                            |
|-----|------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 5.1 | Operating life   | *100,000 cycle operation with a load of 150% of Actuating force at a rate of 15 ~ 20 cycles/min. with a resistive load supplying DC 12V 50mA | *Contact resistance :<br>500m $\Omega$ max.<br>*Bounce : 20m sec max.<br>*Actuating force :<br>Within $\pm 30\%$ of the initial value. |
| 5.2 | Shock resistance | An impact load of 30g is applied according to the method 205. MIL-STD 202.                                                                   | *The requirement in item 3 and 4 shall be met.                                                                                         |

|      |      |      |      |      |      |                                                                                     |                                                                                     |                                                                                     |                           |
|------|------|------|------|------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|
|      |      |      |      |      |      | APPD                                                                                | CHKD                                                                                | DSGD                                                                                | TITLE                     |
|      |      |      |      |      |      |  |  |  | DOCUMENT<br>NO. JT0141-LF |
| ZONE | SYMB | DATE | APPD | CHKD | DSGD |                                                                                     |                                                                                     |                                                                                     |                           |

|     |                 |                                                                                                                                                                                                                                                              |                                                                                                                                                    |
|-----|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.2 | Dry Heat Proof  | <p>After testing at 85°C for 96hrs. The sample is allowed to stand under normal temperature and for 1 hour and measurement is performed within 1hour after that.</p>                                                                                         | *The requirement in item 3 and 4 shall be satisfied.                                                                                               |
| 6.3 | Damp Heat Proof | <p>After testing at 60±2°C and 90~95% in relative humidity for 96hrs, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour and measurement is performed within 1 hour after that. Water drops should be wiped off.</p> | <p>*Insulation resistance : 10MΩ min.<br/>         *Dielectrid strength : same as item 3.4<br/>         *Contact resistance : same as item 3.2</p> |
| 6.4 | Thermal cycling | <div data-bbox="470 542 985 877" data-label="Figure"> </div> <p>After the test contacted under 5cycles, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour, and the measurement is performed within 1 hour.</p>      | *The requirement in item 3 and 4 shall be met.                                                                                                     |

|      |      |      |      |      |      |      |      |      |               |
|------|------|------|------|------|------|------|------|------|---------------|
|      |      |      |      |      |      | APPD | CHKD | DSGD | TITLE         |
|      |      |      |      |      |      |      |      |      | DOCUMENT      |
| ZONE | SYMB | DATE | APPD | CHKD | DSGD |      |      |      | NO. JT0141-LF |



< Temperature profile >



7.2 Manual soldering conditions

- 1) Soldering temperature : less than 350°C.
- 2) Soldering time : Within 3 seconds

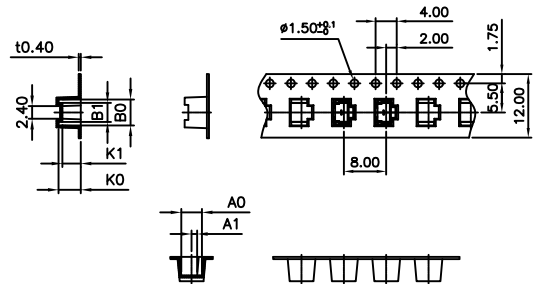
|                   |      |          |      |      |      | APPD | CHKD | DSGD | TITLE                     |
|-------------------|------|----------|------|------|------|------|------|------|---------------------------|
| Soldering<br>사양추가 | ⚠    | 07.05.09 |      |      |      |      |      |      | DOCUMENT<br>NO. JT0141-LF |
| ZONE              | SYMB | DATE     | APPD | CHKD | DSGD |      |      |      |                           |

(The above item is certified to use with following materials.)

| No. | 구성부품명<br>(Part name) | 원재료(Material)      |            |              |             | 난연성<br>(Flame class) | UL<br>(File No.) | 색상<br>(Color)      |
|-----|----------------------|--------------------|------------|--------------|-------------|----------------------|------------------|--------------------|
|     |                      | Material name      | Treatment  | Manufacturer | Nationality |                      |                  |                    |
| 1   | CASE                 | PPA                |            | SOLVAY       | USA         | UL 94V0              | E95746           | BLACK              |
| 2   | BRACKET              | TIN PLATE          | Sn Plating | DONG BU      | KOREA       |                      |                  |                    |
| 3   | STEM                 | PPA                |            | SOLVAY       | USA         | UL 94HB              | E95746           | NATURAL<br>(IVORY) |
| 4   | TERMINAL             | BRASS              | Ag Plating | POONG SAN    | KOREA       |                      |                  |                    |
| 5   | CONTACT              | STAINLESS<br>STEEL | Ag Clad    | TOYO SEIHAKU | JAPAN       |                      |                  |                    |
| 6   |                      |                    |            |              |             |                      |                  |                    |
| 7   |                      |                    |            |              |             |                      |                  |                    |
| 8   |                      |                    |            |              |             |                      |                  |                    |
| 9   |                      |                    |            |              |             |                      |                  |                    |
| 10  |                      |                    |            |              |             |                      |                  |                    |
| 11  |                      |                    |            |              |             |                      |                  |                    |
| 12  |                      |                    |            |              |             |                      |                  |                    |
| 13  |                      |                    |            |              |             |                      |                  |                    |
| 14  |                      |                    |            |              |             |                      |                  |                    |

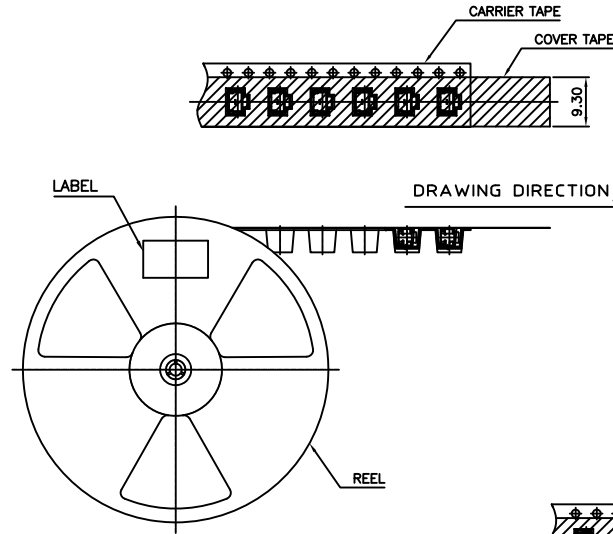
NAMAE ELECTRONICS INC.

× THE DIMENSION OF CARRIER TAPE, COVER TAPE AND REEL ×

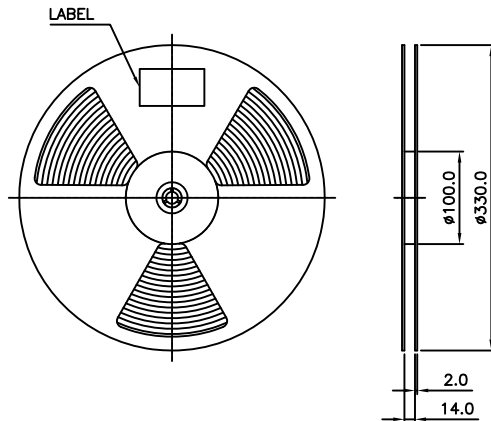


| ±, °D | Δi          | ¼δ |
|-------|-------------|----|
| A0    | 3.9±0.1 mm  |    |
| A1    | 1.05±0.1 mm |    |
| B0    | 4.9±0.1 mm  |    |
| B1    | 3.6±0.1 mm  |    |
| K0    | 4.2±0.1 mm  |    |
| K1    | 3.5±0.1 mm  |    |

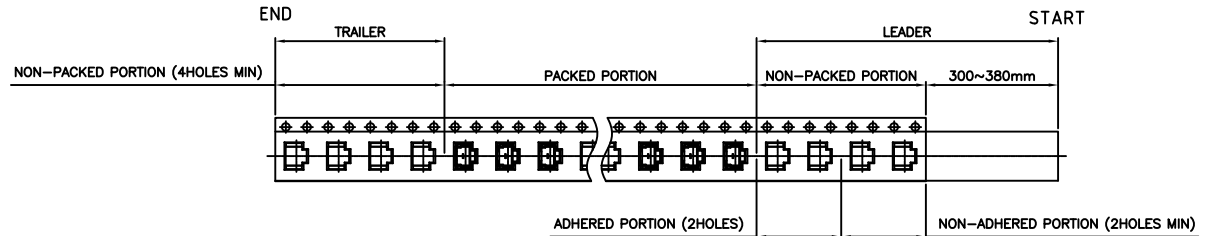
× THE DIRECTION OF PILOT HOLES ×



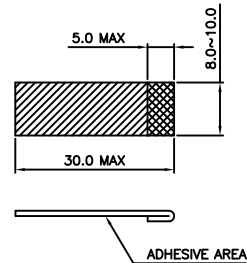
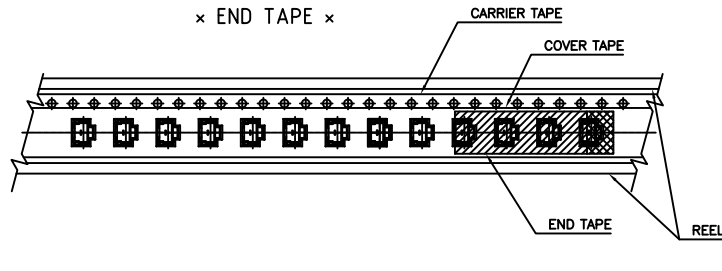
| MODEL         | CODE NO.     | REMARKS |
|---------------|--------------|---------|
| JTP 1133REM   | 110011133035 |         |
| JTP 1133RNEM  | 110011133037 |         |
| JTP 1133HREM  | 110011133058 |         |
| JTP 1133HRNEM | 110011133060 |         |
| JTP 1133REEM  | 110011133071 |         |



× THE SPECIFICATION FOR PACKAGING ×



× END TAPE ×



NOTE ▲ 2,000

- 3,000 PCS SWITCHES PER 1 REEL
- GENERAL TOLERANCE : ±0.1
- MATERIAL : CARRIER TAPE-POLYPROPYLENE,PC OR POLYSTYRENE  
COVER TAPE-POLYESTER  
REEL-ABS  
END TAPE COLOR-GREEN OR IVORY

| RevNo | Revision note                           | Date       | Signature | Checked |
|-------|-----------------------------------------|------------|-----------|---------|
| △     | Pocket 형상변경 및 포장수량 현실화 [ 도면 Redrawing ] | 2007.04.16 |           |         |

| Item        | material etc     | SWITCH K O R E A |                               |             |           |
|-------------|------------------|------------------|-------------------------------|-------------|-----------|
| Designed by | G.S.KIM          | Checked by       | T.H.OH                        | Approved by | Filename  |
| MODEL NAME  | TACT SWITCH      |                  | PART NAME EMBOSSED TAPE ASS'Y |             |           |
| MODEL NO    | JTP-1133R SERIES |                  | CODE NO.                      | Edition 1   | Sheet 1/1 |

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[ADTSMW67RV](#) [ATM533VTR](#) [1571300-3](#) [B3F-3123](#) [B3F-6055A](#) [B3F-B32-01-KIT](#) [1977177-8](#) [1977266-1](#) [2-1977223-4](#) [2-1977223-7](#)  
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[FSMRA4JHA04](#) [GS4.70F300QP](#) [D38999/20JJ37SA](#) [TL1105B](#) [TL1105J](#) [ATH447K2Q](#) [ATM534VTR](#)