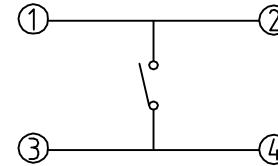


P.C.B MOUNTING SOLDER LAND DIMENSIONS

| RevNo | Revision note | Date | Signature | Checked |
|-------|---|----------|-----------|---------|
| ⚠ | 계통 사항 변경시에 따른 REDRAWING(리폼,STROKE,필록지양) | 02.09.28 | | |
| ⚠ | 과상에 따른 모델 추가 등록 | 02.09.28 | | |
| ⚠ | 과상에 따른 모델 추가 등록 | 03.06.14 | | |
| ⚠ | | | | |

| MODEL NO. | CODE NO. | "L" | O/FORCE | STEM COLOR | LIFE CYCLES |
|--------------|----------|-----|----------|----------------|-------------|
| JTP-1127W | 12C24000 | | 250±50gf | BLACK | |
| ⚠ JTP-1127CK | 12C32000 | 1.5 | 160±50gf | NATURAL(IVORY) | 100,000 |
| ⚠ JTP-1127H | 12C24001 | | 100±50gf | BROWN | |



CIRCUIT DIAGRAM

NOTE

- 1.RATING : DC 12V 50mA
- 2.TRAVEL : 0.25 mm
- 3.CONTACT RESISTANCE : 50mΩ Max.
- 4.GENERAL TOLERANCE : ±0.2
- 5.MANUFACTURING SPECIFICATION WOULD BE ACCORDANCE WITH JT0123 - LF

| Itemref | Quantity | Title/Name, designation, material, dimension etc | | | Article No./Reference | |
|----------------------------|----------------------|--|---------------------------|--------------------|-----------------------|--------------|
| Designed by BONG.SAGONG | Checked by T.H.OH | Approved by - date G.J.KIM | Filename ASS'Y-DIAGRAM | Date 2002.05.28 | Scale N/S | |
| NAMEA Electronics inc. | | | JTP-1127 _SERIES | | | |
| | | | DRAWING_NUMBER | | Edition 0 | Sheet 1/1 |

| | | |
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| | SPECIFICATION | PAGE |
| | TACT SWITCH | 1 / 5 |

1. GENERAL

1.1 Scope : This specification covers the requirements for single key switches which have no keytop (TACT SWITCHES : MECHANICAL CONTACT)

1.2 Operating temperature range : -20 ~ 70°C (normal humidity, normal press)

1.3 Storage temperature range : -30 ~ 80°C (normal humidity, normal press)

1.4 Test conditions

Tests and measurements shall be made in the following standard conditions unless otherwise specified : Normal temperature (temperature 5 ~ 35°C)

Normal humidity (relative humidity 45 ~ 85%)

Normal pressure (pressure 860 ~ 1060 mbars)

In case any question arises from the judgement made, tests shall be conducted in the following conditions : Temperature (20 ± 2°C)

Relative humidity (65 ± 5%)

Pressure (860 ~ 1060mbars)

2. Appearance, style, and dimensions

2.1 Appearance : There shall be no defects that affect the serviceability of the product.

2.2 Style and dimensions : Shall conform to the assembly drawings.

3. Type of actuation : Tactile feedback



4. Contact arrangement : 1 poles 1 throws (Details of contact arrangement are given in the assembly drawings.)

5. Maximum ratings : DC 12V 50mA

6. Performance

6.1 Electrical Performance

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|-----------------------|--|--------------|
| 6.1.1 | Contact resistance | Applying a static load 250gf to the center of the stem, measurements shall be made with a 1kHz small-current contact resistance meter. | * 50mΩ max. |
| 6.1.2 | Insulation resistance | Measurements shall be made following application of DC 100V potential across terminals and across terminals and cover for one minute. | * 100MΩ min. |

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| | | | | | | APPD | CHKD | DSGN | TITLE |
| | | | | | |  |  |  | JTP 1127 SERIES |
| | | | | | | | | | DOCUMENT NO. |
| ZONE | SYMB | DATE | APPD | CHKD | DSGD | | | | JT 0123-LF |

| | | |
|--|---------------|-------|
| | SPECIFICATION | PAGE |
| | TACT SWITCH | 2 / 5 |

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|----------------------------------|--|-------------------------------|
| 6.1.3 | Dielectric with standing voltage | Ac 250V (50 ~ 60Hz) shall be applied across terminals and across terminals and cover for one minute. | * There shall be no breakdown |
| 6.1.4 | Bounce | <p>Lightly striking the center of the stem at rate encountered in normal use (3 to 4 operation per sec.) bounce shall be tested at "On" and "Off".</p> | * 10m sec max. |

6.2 Mechanical Performance

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|-----------------|---|--|
| 6.2.1 | Actuating force | Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the stem, the maximum load required for the stem to come to a stop shall be measured. | * As per individual manufactured drawing. |
| 6.2.2 | Travel | Placing the switch such that the direction of switch operation is vertical and then applying a static load twice the actuating force to the center of the stem the travel distance for the stem to come to a stop shall be measured. | * $0.25^{+0.2}_{-0.1}$ mm |
| 6.2.3 | Return force | The sample switch is installed such that the direction of switch operation is vertical and upon depression of the stem in its center the whole travel distance, the force of the stem to return to its free position shall be measured. | * 1127H : 20gf min. * 1127CK : 40gf min. * 1127W : 80gf min. |




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| | | | | | | | | | DOCUMENT NO. |
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| ZONE | SYMB | DATE | APPD | CHKD | DSGD | | | | |

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| | SPECIFICATION | PAGE |
| | TACT SWITCH | 3 / 5 |

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|---------------|---|---|
| 6.2.4 | Stop strength | Placing the switch such that the direction of switch operation is vertical, a static load of 3kgf shall be applied in the direction of stem operation for a period of 3seconds. | * There shall be no sign of damage mechanically and electrically. |

6.3 Environmental Performance

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|--------------------------------|---|--|
| 6.3.1 | Resistance to low temperatures | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : (1) Temperature : $-30 \pm 2^{\circ}\text{C}$ (2) Time : 96hours (3) Waterdrops shall be removed. | * Item 6.1 Item 6.2.1 Item 6.2.2 |
| 6.3.2 | Heat resistance | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : (1) Temperature : $85 \pm 2^{\circ}\text{C}$ (2) Time : 96hours | |
| 6.3.3 | Moisture resistance | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made : (1) Temperature : $60 \pm 2^{\circ}\text{C}$ (2) Time : 96hours (3) Relative humidity : 90 ~ 95% (4) Waterdrops shall | * Contact resistance : 500mΩ max. * Insulation resistance : 10MΩ min. * Item 6.1.3 Item 6.1.4 Item 6.2.1 Item 6.2.2 |

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| | | | | | |  |  |  | JTP 1127 SERIES |
| | | | | | | | | | DOCUMENT NO. |
| ZONE | SYMB | DATE | APPD | CHKD | DSGD | | | | JT 0123-LF |

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| | SPECIFICATION | PAGE |
| | TACT SWITCH | 4 / 5 |

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|---------------------|---|--|
| 6.3.4 | Temperature cycling | <p>Following five cycles of the temperature cycling test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made. During this test, waterdrops shall be removed.</p> | <ul style="list-style-type: none"> * Item 6.1 Item 6.2.1 Item 6.2.2 |

6.4 Endurance Performance

| | PROPERTY | TEST CONDITIONS | PERFORMANCE |
|-------|----------------|---|---|
| 6.4.1 | Operating life | <p>Measurements shall be made following the test set forth below :</p> <ol style="list-style-type: none"> (1) DC 5V 5mA resistive load (2) Rate of operation : 1 ~ 2 operations per second (3) Depression : With a load of 150% of Actuation force (4) Cycles of operatio | <ul style="list-style-type: none"> * Contact resistance : 200mΩ max. * Insulation resistance : 10MΩ min. * Bounce : 20m sec max. * Actuating force : +30% or -30% of initial force. * Item 6.1.3 Item 6.2.2 |

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| | | | | | | | | | JTP 1127 SERIES |
| | | | | | | | | | DOCUMENT NO. |
| ZONE | SYMB | DATE | APPD | CHKD | DSGD | | | | JT 0123-LF |

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| | SPECIFICATION | PAGE |
| | TACT SWITCH | 5 / 5 |

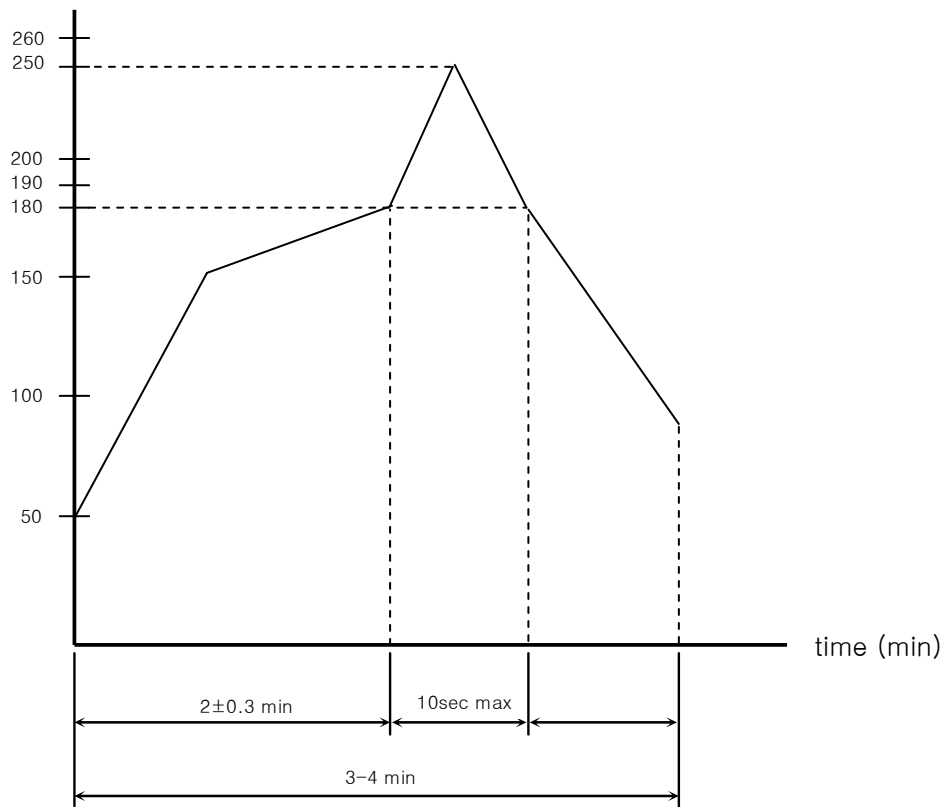
7. Reflow soldering

7.1 Reflow soldering conditions

Preheat ----- Temperature on the copper foil surface should reach 180°C, 2 ± 0.3 minutes after the PWB entered into the soldering equipment.

Soldering heat ----- Temperature on the copper foil surface should reach the peak temperature of 250°C within 10 seconds after the PWB entered into soldering heat zone.

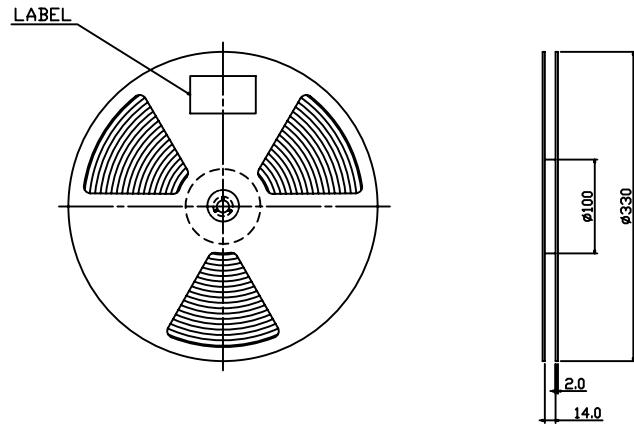
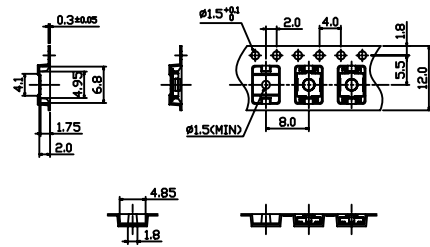
copper foil surface temperature. (°C)



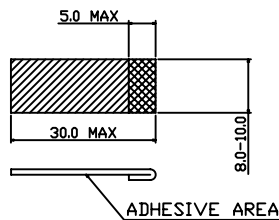
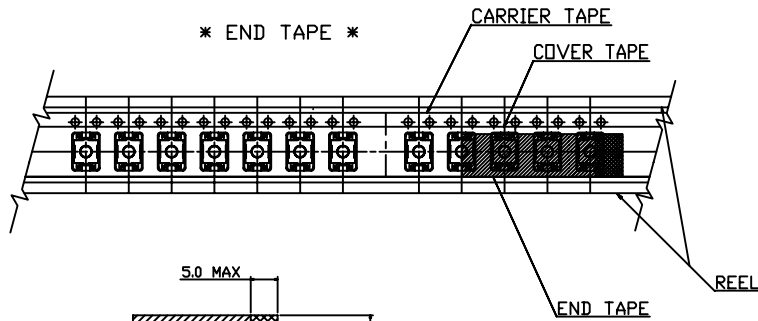
Time inside Soldering Equipment
< Temperature profile >

| | | | | | | | | | | |
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| ZONE | SYMB | DATE | APPD | CHKD | DSGD | | | | | |

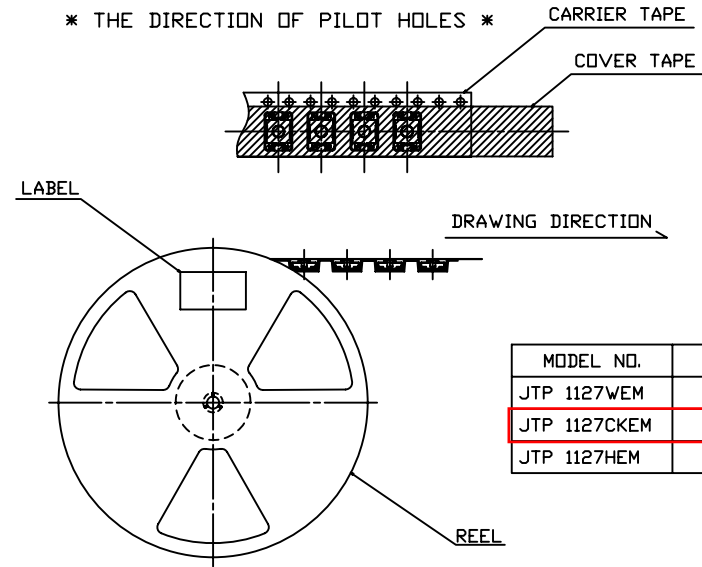
* THE DIMENSION OF CARRIER TAPE, COVER TAPE AND REEL *



* END TAPE *

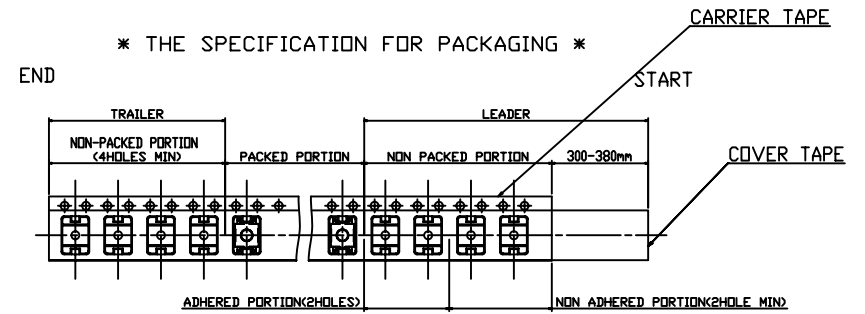


* THE DIRECTION OF PILOT HOLES *



| MODEL NO. | CODE NO. | REMARK |
|--------------|----------|--------|
| JTP 1127WEM | 12C25000 | |
| JTP 1127CKEM | 12C33000 | |
| JTP 1127HEM | 12C24002 | |

* THE SPECIFICATION FOR PACKAGING *



NOTE

1. 4,000 PCS SWITCHES PER 1 REEL
2. GENERAL TOLERANCE : ± 0.1
3. MATERIAL : CARRIER TAPE-POLYPROPYLENE,PC (CLEAR COLOR) OR POLYSTYRENE
COVER TAPE-POLYESTER
REEL-ABS
END TAPE COLOR-GREEN OR IVORY

| No. | PART NAME | Q'TY | MATERIAL | SIZE | TREAT. | REMARKS |
|-----|-----------|------|----------------------|-------------|-----------------|----------------------------------|
| △ | | | 3RD ANGLE PROJECTION | UNIT m/m | SCALE N S | MODEL JTP-1127 Series |
| △ | | | APPROVED | CHECKED | DESIGNED | DWG.NAME EMBOSSSED TAPE ASS'Y |
| △ | | | | | | DWG.NO. |
| NO. | DATE | NOTE | SIGN | | | |