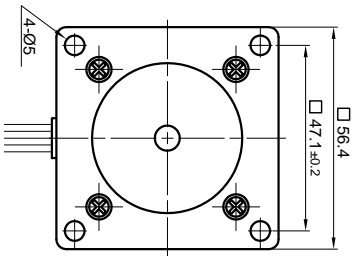
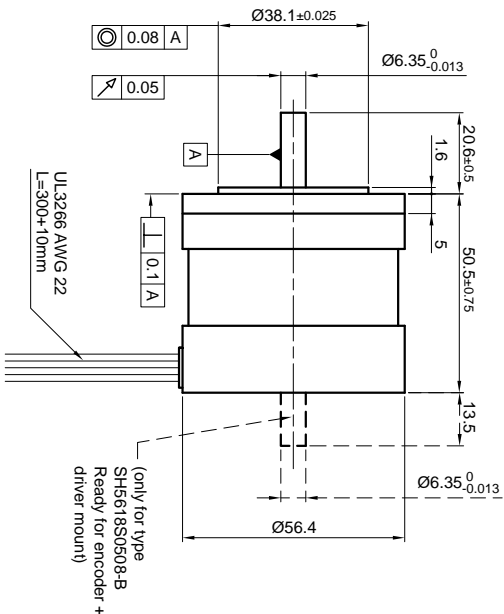


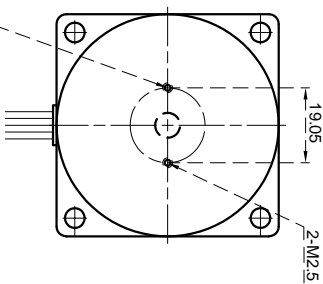
Front view and mounting



Side view

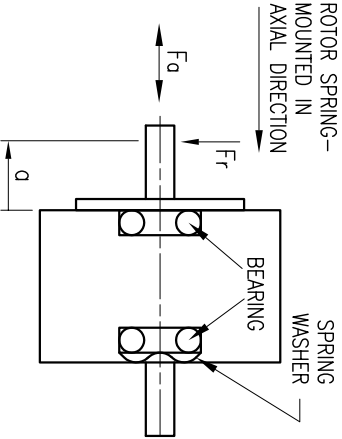


Rear view



| SPECIFICATION  | UNIPOLAR OR BIPOLAR -1 WINDING |                               | BIPOLAR       |               |
|--|--------------------------------|-------------------------------|---------------|---------------|
|  | SERIAL                         | PARALLEL                      | SERIAL        | PARALLEL      |
| VOLTAGE (VDC)  | 12                             | 17                            | 17            | 8.5           |
| AMPS/PHASE   | 0.48                           | 0.34                          | 0.34          | 0.68          |
| RESISTANCE/PHASE (Ohms)@25°C                             | 25±15%                         | 50±15%                        | 50±15%        | 12.5±15%      |
| INDUCTANCE/PHASE (mH) @1KHz                              | 44±20%                         | 176±20%                       | 176±20%       | 44±20%        |
| HOLDING TORQUE (Nm) [lb-in]                              | 0.55 [4.868]                   | 0.778 [6.885]                 | 0.778 [6.885] | 0.778 [6.885] |
| DETENT TORQUE (Nm) [lb-in]                               |                                | 0.0165 [0.146]                |               |               |
| STEP ANGLE (°)   |                                | 1.8                           |               |               |
| STEP ACCURACY (NON-ACCUM)                                |                                | ±5%                           |               |               |
| ROTOR INERTIA (kg-m <sup>2</sup> ) [lb-in <sup>2</sup> ] |                                | 1.15x10 <sup>-5</sup> [0.039] |               |               |
| WEIGHT (kg) [lb]   |                                | 0.52 [1.147]                  |               |               |

PERMISSIBLE RADIAL+AXIAL FORCE



|  |                                 |                    |
|--|---------------------------------|--------------------|
| TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED)               | AXIAL-FORCE F <sub>a</sub> (N)  | F <sub>a</sub> =10 |
| AMBIENT TEMPERATURE -10°~ 50°C [14°F ~ 122°F]                                      | DISTANCE a (mm)                 | 5 10 15 20         |
| INSULATION RESISTANCE 100 Mohm (UNDER NORMAL TEMPERATURE AND HUMIDITY)             | RADIAL-FORCE F <sub>r</sub> (N) | 130 90 70 52       |
| INSULATION CLASS B 130° [266°F]  | AXIAL PLAY (mm)                 | 0.075              |
| DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASE) | SHAFT PLAY (mm)                 | 0.025              |
| AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION)  | AT LOAD MAX: (N)                | 10 5.0             |

| SCALE FREE | APVD |      |      |       | S.K.K. | APVD | CHKD | DRN | SIGNATURE | DATE |
|------------|------|------|------|-------|--------|------|------|-----|-----------|------|
|            | X    | 1PL  | 2PL  | ANGLE |        |      |      |     |           |      |
| ±0.5       | ±0.2 | ±0.1 | ±30° |       |        |      |      |     |           |      |

| TYPE OF CONNECTION (EXTERN) | MOTOR    |          |                |          |
|-----------------------------|----------|----------|----------------|----------|
|                             | UNIPOLAR | 1WINDING | BIPOLAR SERIAL | PARALLEL |
| A                           | A        | A        | A              | A        |
| COM                         | COM      | COM      | COM            | COM      |
| B                           | B        | B        | B              | B        |
| B\                          | B\       | B\       | B\             | B\       |

FULL STEP 2 PHASE-Ex., WHEN FACING MOUNTING END (X)

| STEP | A | B | A\ | B\ | CCW |
|------|---|---|----|----|-----|
| 1    | + | + | -  | -  |     |
| 2    | - | + | +  | -  |     |
| 3    | - | - | +  | +  |     |
| 4    | + | - | -  | +  |     |

WIRING DIAGRAM

| REV | DESCRIPTION | DATE | APVD | NANOTEC: |  |  |  | SH5618S0508 |  |  |  |
|-----|-------------|------|------|----------|--|--|--|-------------|--|--|--|
|     |             |      |      |          |  |  |  |             |  |  |  |

STEPPING MOTOR

DWG.NO

SH5618S0508