

## HT23-394

NEMA 23 High Torque Step Motor



### ***Product Features***

- 2-phase hybrid step motor
- High torque design
- Standard NEMA 23 dimensions
- Series or parallel wiring



## Description

### **Product Description:**

**The HT23-394 stepper motor is no longer available. The recommended replacement motor is the [HT23-594](#).**

The HT23-394 stepper motor is a two-phase hybrid step motor with a NEMA 23 frame size. It is terminated with 8 motor leads, meaning it can be connected in a few different ways including bipolar series and bipolar parallel.

## Specifications

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Part Number:</b>                 | HT23-394                        |
| <b>Frame Size:</b>                  | NEMA 23                         |
| <b>Motor Type:</b>                  | High torque                     |
| <b>Part Number w/Double Shaft:</b>  | HT23-394D                       |
| <b>Part Number w/Encoder:</b>       | HT23-394D-ZAA                   |
| <b>Motor Length:</b>                | 1.61 inches                     |
| <b>Number of Lead Wires:</b>        | 8                               |
| <b>Lead Wire Configuration:</b>     | flying leads, no connector      |
| <b>Lead Wire/Cable Length:</b>      | 18 inches inches                |
| <b>Lead Wire Gauge:</b>             | 22 AWG                          |
| <b>Unipolar Holding Torque:</b>     | 54.2 oz-in                      |
| <b>Bipolar Holding Torque:</b>      | 76.7 oz-in                      |
| <b>Step Angle:</b>                  | 1.8 deg                         |
| <b>Bipolar Series Current:</b>      | 1.41 A/phase                    |
| <b>Bipolar Series Resistance:</b>   | 2.8 Ohms/phase                  |
| <b>Bipolar Series Inductance:</b>   | 5.6 mH/phase                    |
| <b>Bipolar Parallel Current:</b>    | 2.83 A/phase                    |
| <b>Bipolar Parallel Resistance:</b> | 0.7 Ohms/phase                  |
| <b>Bipolar Parallel Inductance:</b> | 1.4 mH/phase                    |
| <b>Unipolar Current:</b>            | 2 A/phase                       |
| <b>Unipolar Resistance:</b>         | 1.4 Ohms/phase                  |
| <b>Unipolar Inductance:</b>         | 1.4 mH/phase                    |
| <b>Rotor Inertia:</b>               | 1.70E-03 oz-in-sec <sup>2</sup> |
| <b>Integral Gearhead:</b>           | No                              |
| <b>Weight:</b>                      | 1.0 lbs                         |
| <b>Storage Temperature:</b>         | -40 to 70 °C                    |

|                               |                               |
|-------------------------------|-------------------------------|
| <b>Operating Temperature:</b> | -20 to 50 °C                  |
|                               |                               |
| <b>Insulation Class:</b>      | Class B (130 °C)              |
| <b>Shaft Run Out:</b>         | 0.002 inch T.I.R. max         |
| <b>Radial Play:</b>           | 0.001 inch max w/ 0.1 lb load |
| <b>End Play:</b>              | 0.003 inch max w/ 2.2 lb load |
| <b>Perpendicularity:</b>      | 0.003 inches                  |
| <b>Concentricity:</b>         | 0.003 inches                  |

## Downloads

|                             |                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Datasheet:</b>           | <a href="http://s3.amazonaws.com/applied-motion-pdf/HT23-394.pdf">http://s3.amazonaws.com/applied-motion-pdf/HT23-394.pdf</a> |
| <b>2D Drawing:</b>          |  <a href="#">HT23-394_RevE.pdf</a>           |
|                             |  <a href="#">HT23-394D-ZAA_RevA.pdf</a>      |
| <b>3D Drawing:</b>          |  <a href="#">23HT39D.igs</a>                 |
|                             |  <a href="#">HT23_39mm_w_ZAA_encoder.igs</a> |
| <b>Speed-Torque Curves:</b> |  <a href="#">ST_speed-torque.pdf</a>         |

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