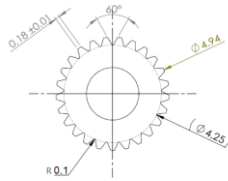
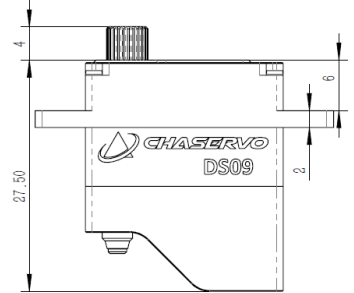
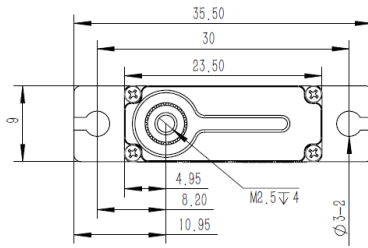


# DS09 Technical Specification



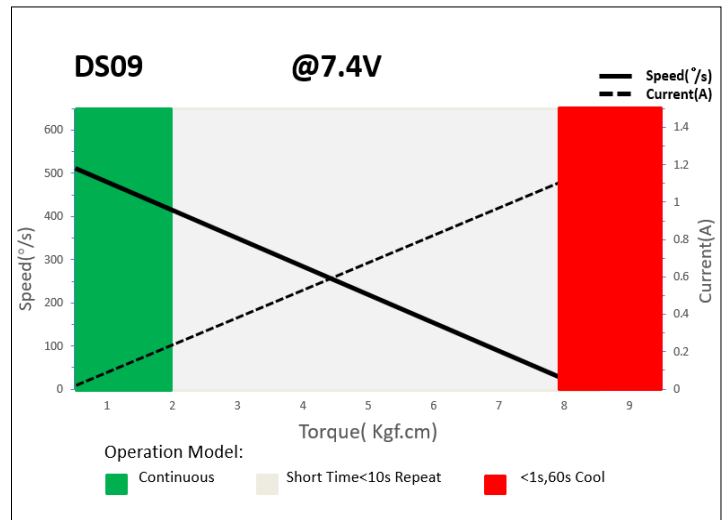
25T- 5mm Output Shaft Spline



## 1. Operating Data

|                      |                         |
|----------------------|-------------------------|
| Rated Voltage        | DC7.4V                  |
| Voltage Range        | DC4.8V-8.4V             |
| Torque               | 6.0Kgf.cm@4.8V          |
|                      | 7.0Kgf.cm@6.0V          |
|                      | 8.0kgf.cm@7.4V          |
|                      | 9.0Kgf.cm@8.4V          |
| Speed                | 0.16sec/60°@4.8V        |
|                      | 0.13sec/60°@6.0V        |
|                      | 0.11sec/60°@7.4V        |
|                      | 0.10sec/60°@8.4V        |
| Stalling Current     | 0.80A@4.8V              |
|                      | 0.90A@6.0V              |
|                      | 1.15A@7.4V              |
|                      | 1.25A@8.4V              |
| Working Frequency    | 1520us/333Hz            |
| Default Travel Angle | ±50° =100° Total        |
| Temperature Range    | -10°C.....+65°C         |
| Soft Start           | programmable            |
| Programmable         | Yes                     |
| Case Material        | Aluminum Alloy+ Plastic |
| Motor Type           | Coreless DC Motor       |
| Gear Set Material    | Metal Gear              |
| Position Sensor      | Potentiometer           |
| Ball Bearing         | 2BB                     |
| Case Dimensions      | 23.5*9*27.5±0.2(mm)     |
| Weight               | 10g±10%                 |

## 2. Performance



## 3. Command signal PWM Command Interface

|   |   |
|---|---|
| Signal Voltage                          | HIGH: min.3.3V, max.5.0V<br>Low: min.0.0V, max.1.5V |
| Pulse Lengths                           | 900us-2100us  |
| Pulse Lengths for Position -50°/0°/+50° | 1000us/1500us/2000us                                |

## 4. Electrical Connection

| Pin Assignment |   |        |                       |
|----------------|---|--------|-----------------------|
| <br>3 2 1      | 1 | Orange | Signal<br>PWM Command |
|                | 2 | Red    | DC+<br>Supply Voltage |
|                | 3 | Brown  | DC-<br>Supply Ground  |