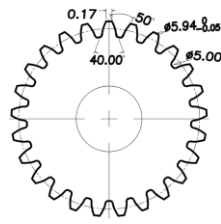
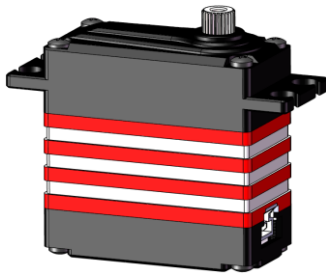
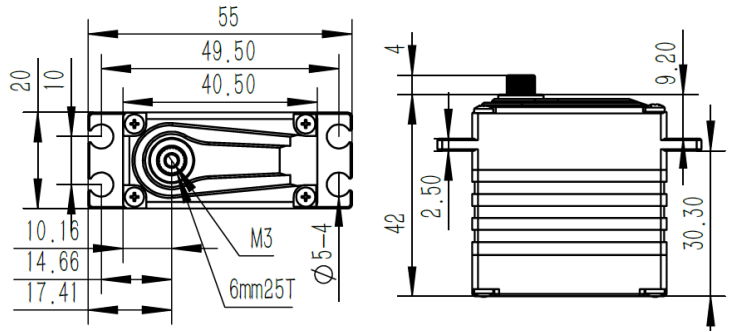


# HA20-4515 Technical Specification



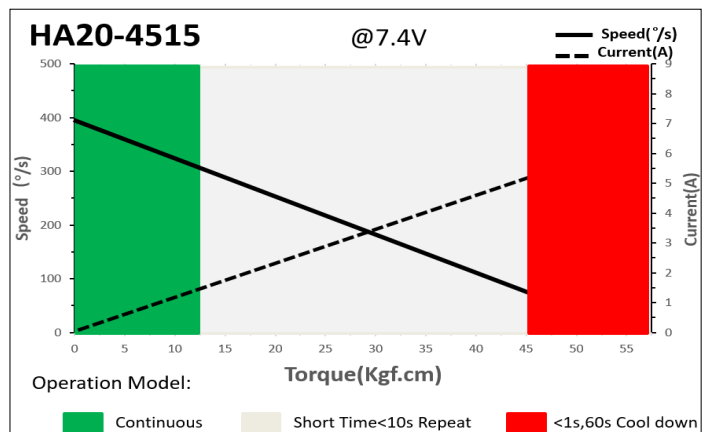
6mm25T Output Shaft Spline



## 1. Operating Data

Rated Voltage	DC7.4V
Voltage Range	DC6.0V-8.4V
Torque	36Kgf.cm@6.0V
	45Kgf.cm@7.4V
	50Kgf.cm@8.4V
No-load Speed	0.19sec/60°@6.0V
	0.15sec/60°@7.4V
	0.13sec/60°@8.4V
Working Frequency	1520us/333Hz
Default Travel Angle	±50°=100°Total
Temperature Range	-10°C.....+65°C
Case Material	Aluminum Alloy
Motor Type	Brushless DC Motor
Gear Set Material	Hardened Steel
Position Sensor	Potentiometer
Ball Bearing	2BB
Case Dimensions	40.5*20*42mm±0.2mm
Weight	72g±10%

## 2. Performance



## 3. PWM Command Interface

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

## 4. Electrical Connection

Manufacturer: CJTconn Type: A2509WRA-F-3P-G15  
Mating: A2509HFA-3P

Pin Assignment			
	1	DC-	Supply Ground
	2	DC+	Supply Voltage
	3	Signal	PWM Command

## 5. Horn: 0625.32

