TA305 LINEAR DRIVE
FOR BRUSHLESS SERVO MOTORS

A robust linear amplifier, built to provide quiet and smooth power to brushless motors.
The Trust Automation TA305 Linear Drive is a three phase servo motor amplifier designed to drive a brushless motor with up to 85W of power. The TA305 is an excellent solution for small rotary or linear brushless motors in high precision positioning applications and systems requiring ultra quiet driving power where low-noise operation is essential. The TA305 is optimized for both sinusoidal drive and trapezoidal output. However, unlike standard PWM (switcher-type) amplifiers, the trapezoidal output is smoothed to minimize cogging. This flexibility enables the engineer to provide a clean linear solution for the most demanding motion control applications. The TA305 can be operated in voltage (velocity) mode or current (torque) mode, selected via a user accessible DIP switch.

FEATURES

- Sinusoidal or trapezoidal operation
- Very low electrical noise
- 40W continuous/85W peak
- Integral forced-air cooling
- Digital on-the-fly gain control (DTS)
- Over temperature protection

APPLICATIONS

- Optics positioning
- Linear motor stages
- Laboratory test equipment
- Small brushless DC motors

TECHNICAL SPECIFICATIONS

Electrical

Supply Voltage
Unipolar: 15V to 48V, Absolute Max: 52V

Equivalent Motor Voltage
Up to ±43V*

Maximum Output Current
See SOA chart

Fault
TTL Level 0

/Enable
TTL Level 0 or 1

Command Input
±10V (±12V Max)

Torque Gain
0.05 A/V to 0.2 A/V

Bandwidth
5.0 kHz**

**dependent upon motor load*
***into a 2.5 mH load*

Mechanical

Length
5.50 in (13.97cm)

Width
2.20 in (5.59 cm)

Height
2.08 in (5.28 cm)

Weight
20 oz. (.567 kg)

Mounting
(4) 6-32 screws

Connections

J1 (Command Signals)
10-pin Terminal Block, Plug

J2 (Motor Power, Signal)
5-pin Terminal Block, Plug

J3 (Hall Signals)
5-pin Terminal Block, Plug (J1, J2 and J3 mating connectors supplied with drive)

Environmental

Maximum Altitude
6,560ft (2000M)

Temperature (ambient)
Normal operation: 0° C to +40° C
Storage: -40° C to +70° C
Heatsink: +75° C Maximum

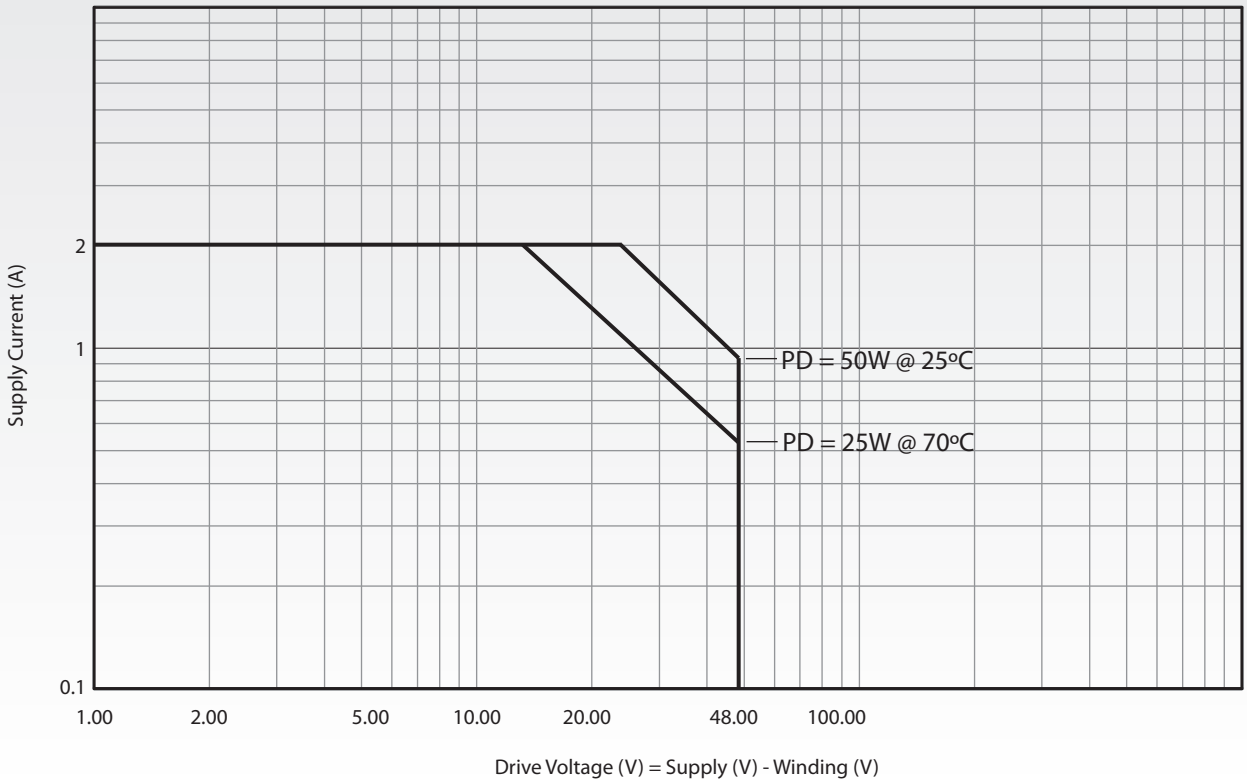
Heat Dissipation (@ 25° C)
Contiuous: 25W
Peak: See SOA Chart

Airflow
Internal fan

Humidity
Operating: 10% to 70%, non-condensing
Storage: 10% to 95%, non-condensing

Pollution Degree 2

SAFE OPERATING AREA



MECHANICAL DRAWING