



High Torque Hybrid Stepper Motors (PJB Series)

The PJB series motors are high torque motors with superior response characteristics. The motors are 1.8° step angle hybrid motors. The PJB Series is available in 42mm (NEMA size 17) and 56mm (NEMA size 23). Each model has four different stack lengths, a choice of windings, and mechanical options that enable the design engineer to choose the most cost-effective motor to match the application's exact requirements. Applications for the PJB series include medical and scientific instruments, printers, valves and pumps, and a variety of automatic equipment.

MOTORS

PJB42S

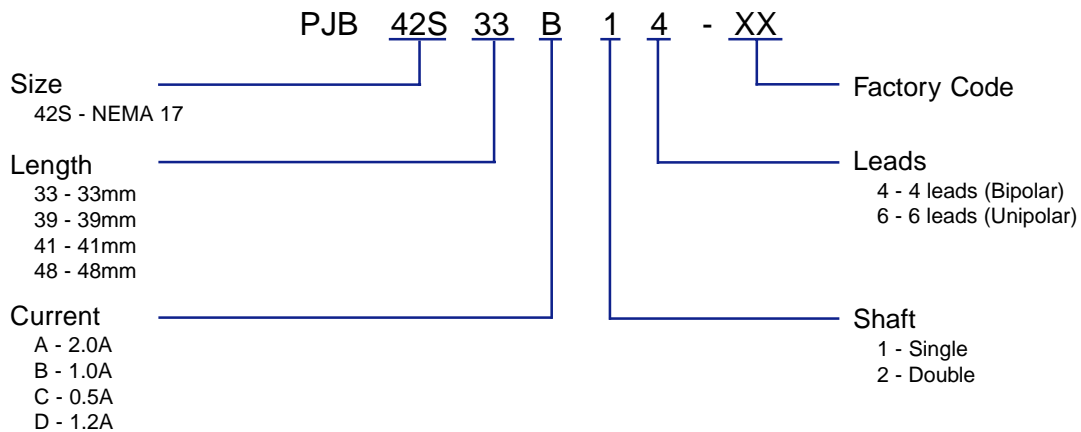
Electrical Specs — Unipolar

Specifications	Unit	PJB42S33D16	PJB42S39D16	PJB42S41D16	PJB42S48D16
Step Angle	°	1.8	1.8	1.8	1.8
Rated Voltage	V	2.88	3.48	3.6	3.96
Rated Current	A/∅	1.2	1.2	1.2	1.2
Resistance	Ω	2.4	2.9	3.0	3.3
Inductance	mH	2.3	3.4	3.9	3.4
Holding Torque	N•m	0.265	0.39	0.425	0.51
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.036	0.056	0.062	0.074
Temperature Rise	K	80	80	80	80
Insulation Class		B	B	B	B
Insulation Resistance	MΩ	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.23	0.29	0.31	0.37

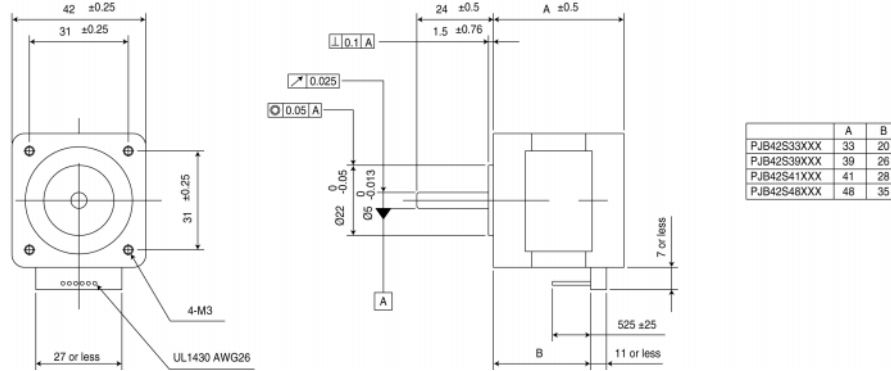
Electrical Specs — Bipolar

Specifications	Unit	PJB42S33B14	PJB42S39B14	PJB42S41B14	PJB42S48B14
Step Angle	°	1.8	1.8	1.8	1.8
Rated Voltage	V	3.4	4.2	4.4	4.8
Rated Current	A/∅	1.0	1.0	1.0	1.0
Resistance	Ω	3.4	4.2	4.4	4.8
Inductance	mH	6.5	9.5	11.0	9.7
Holding Torque	N•m	0.2	0.3	0.32	0.37
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.036	0.056	0.062	0.074
Temperature Rise	K	80	80	80	80
Insulation Class		B	B	B	B
Insulation Resistance	MΩ	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.23	0.29	0.31	0.37

PJB42S Model Number

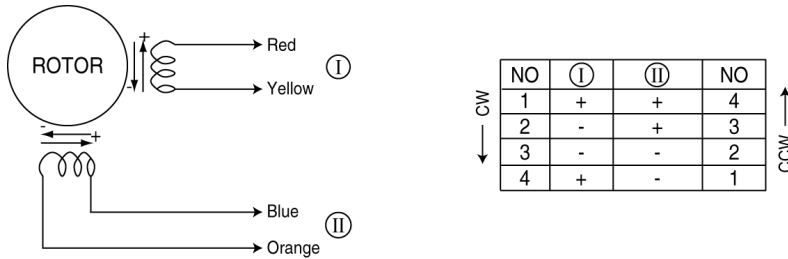


Outline Dimension

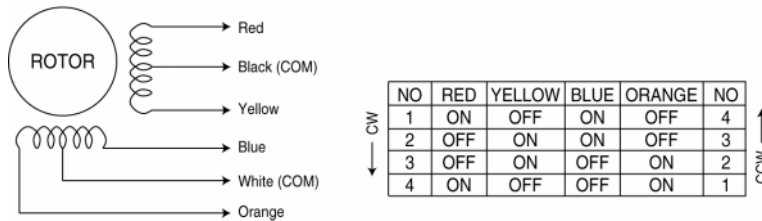


Dimensions in MM. Inches = MM*0.04

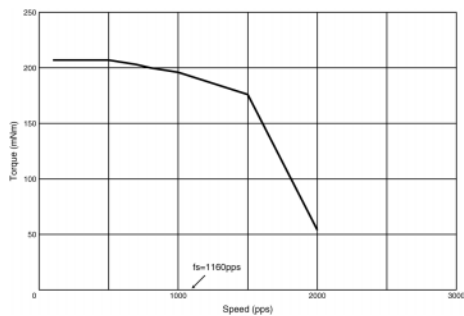
Inner Connections and Rotation Direction (Bipolar)



Inner Connections and Rotation Direction (Unipolar)

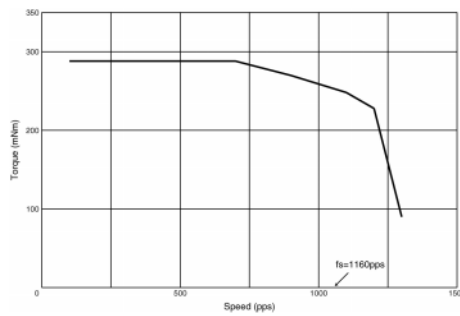


PJB42S33B14 Full-Step Curve



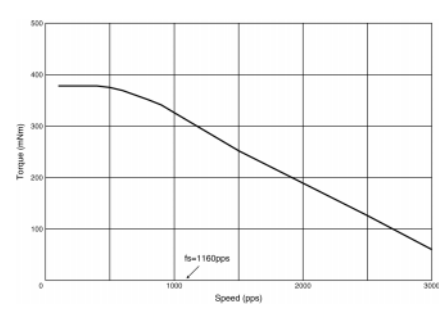
Driver: BCD4010B/ES
Input: DC24V
Current: 1.0A
Excitation: 2-20 (Full-Step)

PJB42S41B14 Full-Step Curve



Driver: BCD4010B/ES
Input: DC24V
Current: 1.0A
Excitation: 2-20 (Full-Step)

PJB42S48B14 Full-Step Curve



Driver: BCD4010B/ES
Input: DC24V
Current: 1.0A
Excitation: 2-20 (Full-Step)

MOTORS

PJB56H

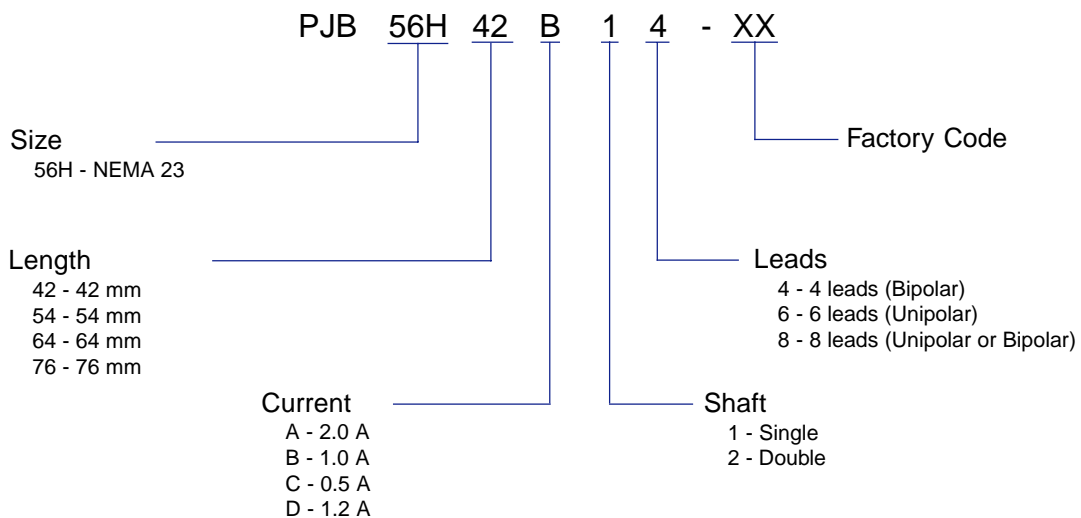
Electrical Specs — PJB56H42

Specifications	Unit	PJB56H42A18			PJB56H42B18		
		Unipolar	Bipolar		Unipolar	Bipolar	
Leads Connection			Series	Parallel		Series	Parallel
Step Angle	°	1.8	1.8	1.8	1.8	1.8	1.8
Rated Voltage	V	2.5	3.5	1.8	4.8	6.8	3.4
Rated Current	A/Ø	2.0	1.4	2.8	1.0	0.7	1.4
Resistance	Ω	1.25	2.5	0.63	4.8	9.6	2.4
Inductance	mH	1.9	7.6	1.9	9.3	37.2	9.3
Holding Torque	N•m	0.41	0.52	0.51	0.42	0.51	0.59
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.1	0.1	0.1	0.1	0.1	0.1
Temperature Rise	K	80	80	80	80	80	80
Insulation Class		B	B	B	B	B	B
Insulation Resistance	MΩ	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.47	0.47	0.47	0.47	0.47	0.47

Electrical Specs — PJB56H54

Specifications	Unit	PJB56H54A18			PJB56H54B18		
		Unipolar	Bipolar		Unipolar	Bipolar	
Leads Connection			Series	Parallel		Series	Parallel
Step Angle	°	1.8	1.8	1.8	1.8	1.8	1.8
Rated Voltage	V	3.2	4.5	2.3	6.7	9.5	4.7
Rated Current	A/Ø	2.0	1.4	2.8	1.0	0.7	1.4
Resistance	Ω	1.6	3.2	0.8	6.7	13.4	3.35
Inductance	mH	3.8	15.2	3.8	15	60	15
Holding Torque	N•m	0.80	1.07	1.04	0.79	0.99	1.09
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.21	0.21	0.21	0.21	0.21	0.21
Temperature Rise	K	80	80	80	80	80	80
Insulation Class		B	B	B	B	B	B
Insulation Resistance	MΩ	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.65	0.65	0.65	0.65	0.65	0.65

Model Number



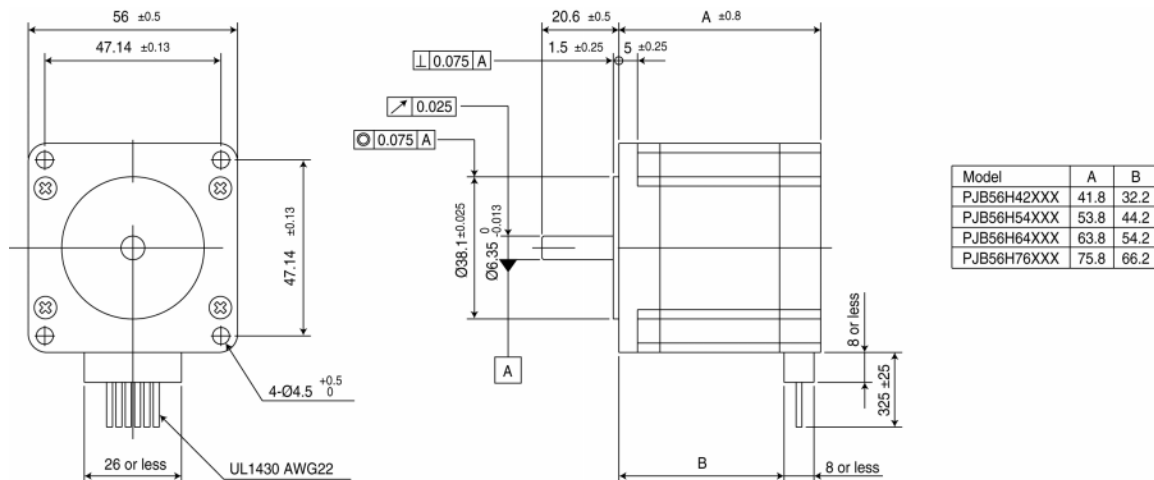
Electrical Specs — PJB56H64

Specifications	Unit	PJB56H64A18			PJB56H64B18		
		Unipolar	Bipolar		Unipolar	Bipolar	
Leads Connection			Series	Parallel		Series	Parallel
Step Angle	°	1.8	1.8	1.8	1.8	1.8	1.8
Rated Voltage	V	3.4	4.8	2.4	7.0	9.9	4.9
Rated Current	A/∅	2.0	1.4	2.8	1.0	0.7	1.4
Resistance	Ω	1.7	3.4	0.85	7.0	14	3.5
Inductance	mH	3.1	12.4	3.1	12.5	50	12.5
Holding Torque	N•m	1.01	1.36	1.32	1.02	1.25	1.34
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.245	0.245	0.245	0.245	0.245	0.245
Temperature Rise	K	80	80	80	80	80	80
Insulation Class		B	B	B	B	B	B
Insulation Resistance	MΩ	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.8	0.8	0.8	0.8	0.8	0.8

Electrical Specs — PJB56H76

Specifications	Unit	PJB56H76A18			PJB56H76B18		
		Unipolar	Bipolar		Unipolar	Bipolar	
Leads Connection			Series	Parallel		Series	Parallel
Step Angle	°	1.8	1.8	1.8	1.8	1.8	1.8
Rated Voltage	V	4.0	5.7	2.8	8.6	12.2	6.1
Rated Current	A/∅	2.0	1.4	2.8	1.0	0.7	1.4
Resistance	Ω	2.0	4.0	1.0	8.6	17.2	4.3
Inductance	mH	4.5	18	4.5	19	76	19
Holding Torque	N•m	1.15	1.72	1.91	1.19	1.57	1.83
Rotor Inertia	x10 ⁻⁴ Kg•m ²	0.36	0.36	0.36	0.36	0.36	0.36
Temperature Rise	K	80	80	80	80	80	80
Insulation Class		B	B	B	B	B	B
Insulation Resistance	MW	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)	100 (500VDC)
Dielectric Strength	V	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)	500AC (60sec)
Mass	Kg	0.98	0.98	0.98	0.98	0.98	0.98

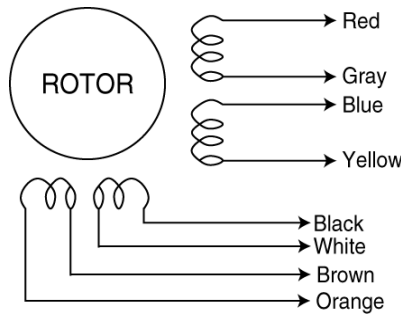
Outline Dimension



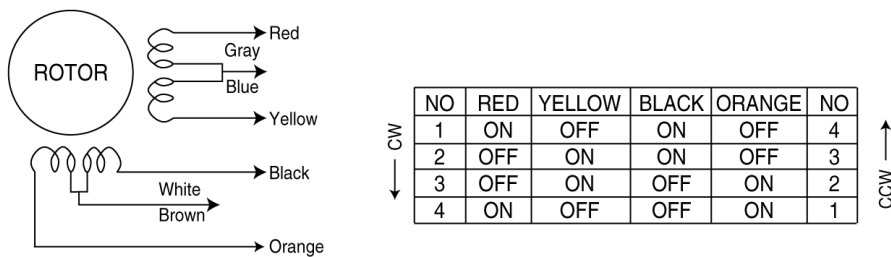
MOTORS

PJB56H

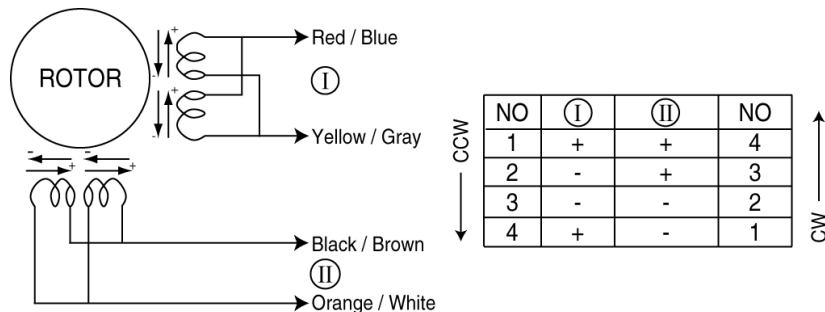
Inner Connections and Rotation Direction



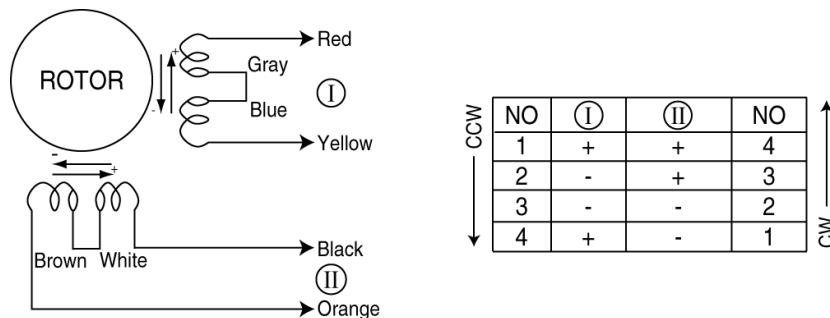
Inner Connections and Rotation Direction (Unipolar Drive)



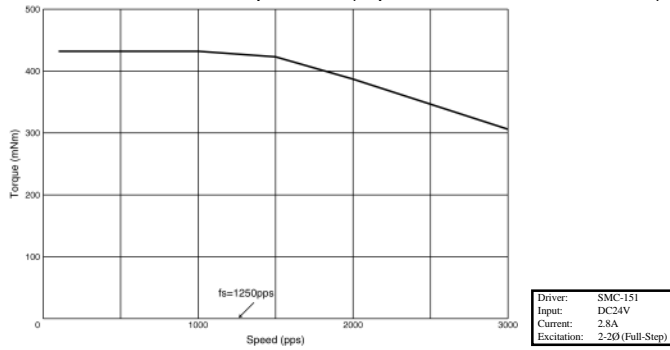
Inner Connections and Rotation Direction Bipolar (Parallel)



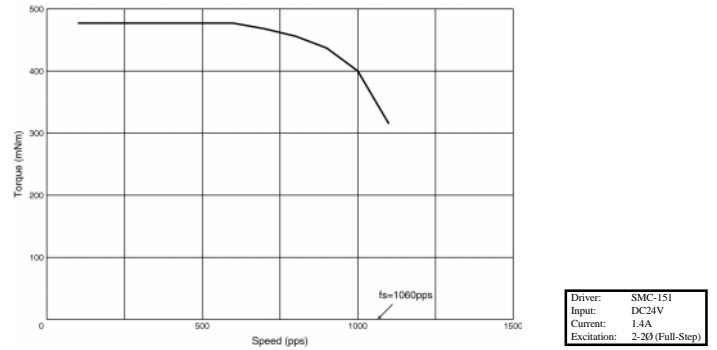
Inner Connections and Rotation Direction Bipolar (Series)



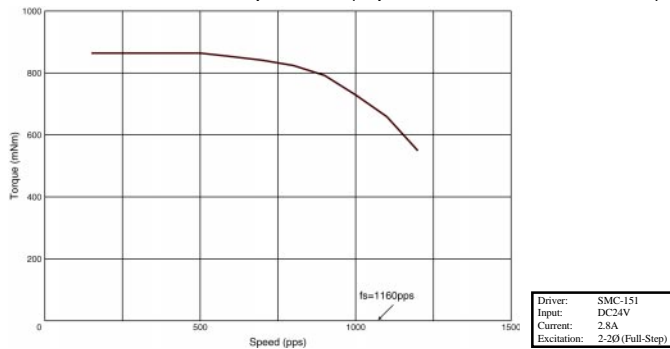
PJB56H42A18 Full-Step Curve (Bipolar - Parallel Connected)



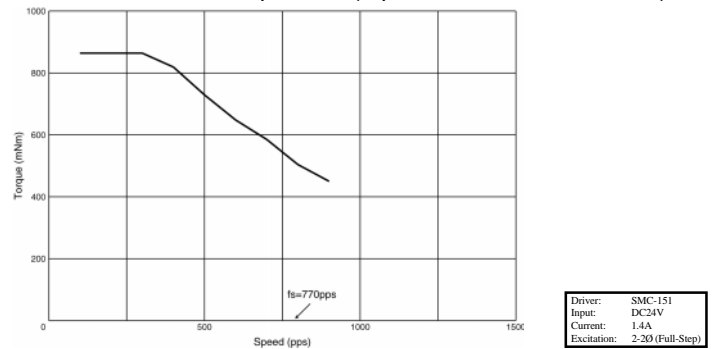
PJB56H42BA18 Full-Step Curve (Bipolar - Parallel Connected)



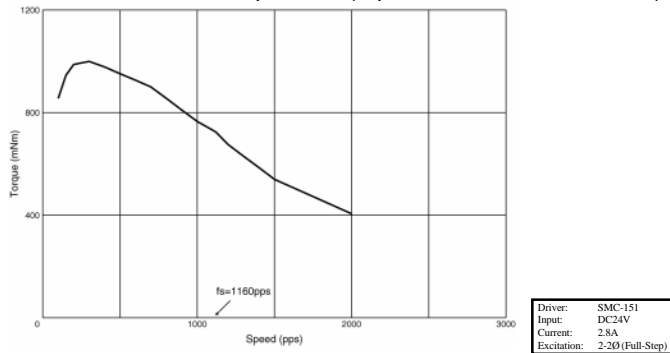
PJB56H54A18 Full-Step Curve (Bipolar - Parallel Connected)



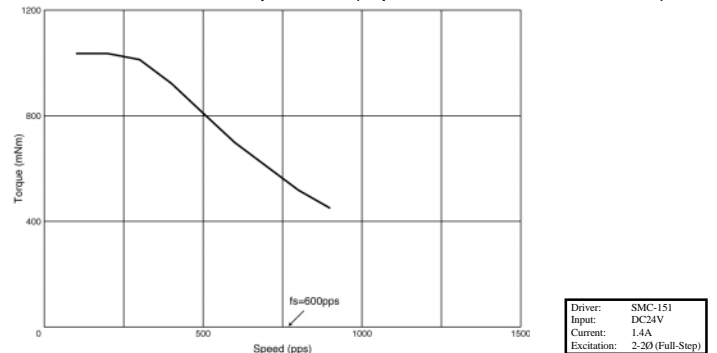
PJB56H54B18 Full-Step Curve (Bipolar - Parallel Connected)



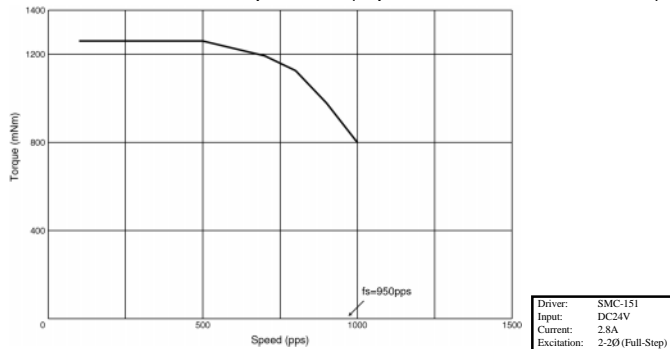
PJB56H64A18 Full-Step Curve (Bipolar - Parallel Connected)



PJB56H64B18 Full-Step Curve (Bipolar - Parallel Connected)



PJB56H76A18 Full-Step Curve (Bipolar - Parallel Connected)



PJB56H76B18 Full-Step Curve (Bipolar - Parallel Connected)

