

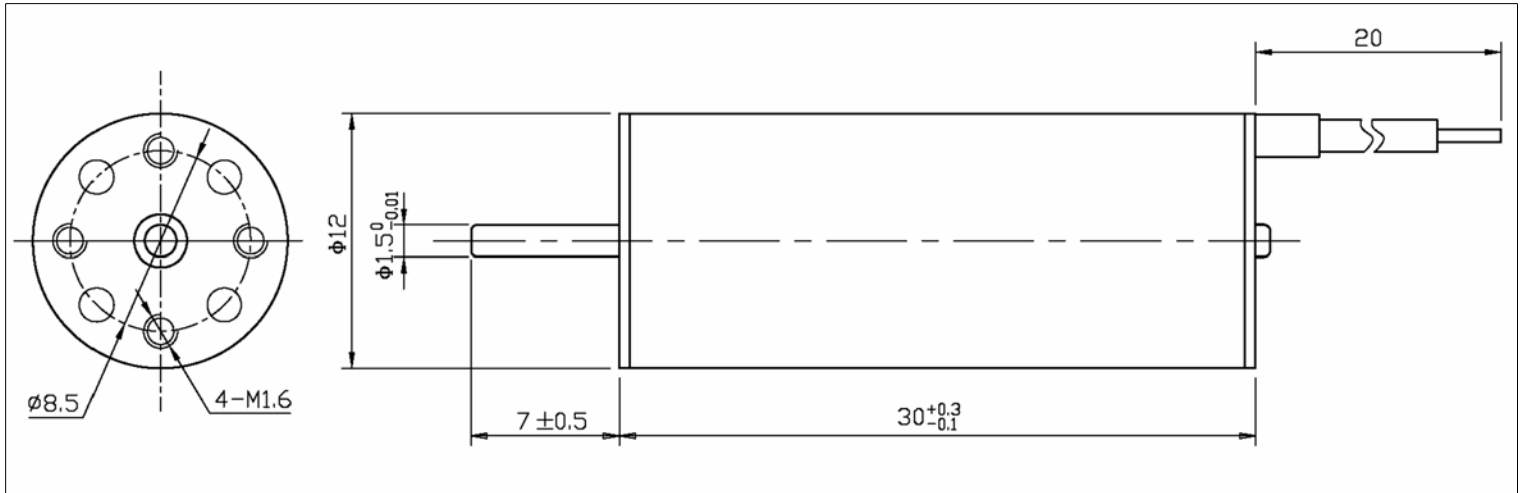
BLDC Slotless Motor - 12 mm Ø

B12E07SG000

12.9 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	7.4 Volts	7.4 Volts	7.4 Volts
No-Load Speed	27,000 rpm	27,000 rpm	27,000 rpm
Stall Torque	18.8 mNm	192.0 gcm	2.66 oz-in
No-Load Current	0.220 Amps	0.220 Amps	0.220 Amps
Peak Output Power	12.9 Watts	12.9 Watts	12.9 Watts
Torque Constant	2.54 mNm/A	25.89 gcm/A	0.36 oz-in/A
Terminal Resistance	1.00 Ohms	1.00 Ohms	1.00 Ohms
Back-EMF Constant	0.27 V/krpm	0.27 V/krpm	0.27 V/krpm
Inductance			
Rotor Inertia	0.220 kg-m ² x10 ⁻⁷	0.220 gm cm ²	0.031 x10 ⁻⁴ oz in sec ²
Mechanical Time Constant	3.4 msec	3.4 msec	3.4 msec
Slope of Speed/Torque Curve	1,436.8 rpm/mNm	140.6 rpm/gcm	10,146.1 rpm/oz-in
Speed Constant	3,760 rpm/Volt	3,760 rpm/Volt	3,760 rpm/Volt
Motor Constant	2.54 mNm/√Watt	25.89 gcm/√Watt	0.36 oz-in/√Watt

Zero Cogging High Speed Capable 3 Phase Brushless DC Motor featuring Neodymium Iron Boron Magnets.

Part Number:	How to Order	Characteristics - Specifications at		22 °C
	B12E07SG000			
Radial Load Rating	Radial Play	Max Temperature	45 °C	
Radial Load Distance	Thrust Play	Min Temperature	-15 °C	
Axial Load	Magnet Type	Max Winding Temp	130 °C	
Press Fit Force - Max	Bearing Type	Mass	18.0 grams	
Gearbox Options	Metal Planetary Gearbox. 12 mm diameter.			
Encoder Options				
Options - Other	Winding Changes. Lead length and connectors. Shaft Length and flat options. POM Pinions.			

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Commutation Type: **Manufactured under a Certified ISO 9001 Quality System and ISO 14001 Environmental Management System.**
 Electronic - Sensorless

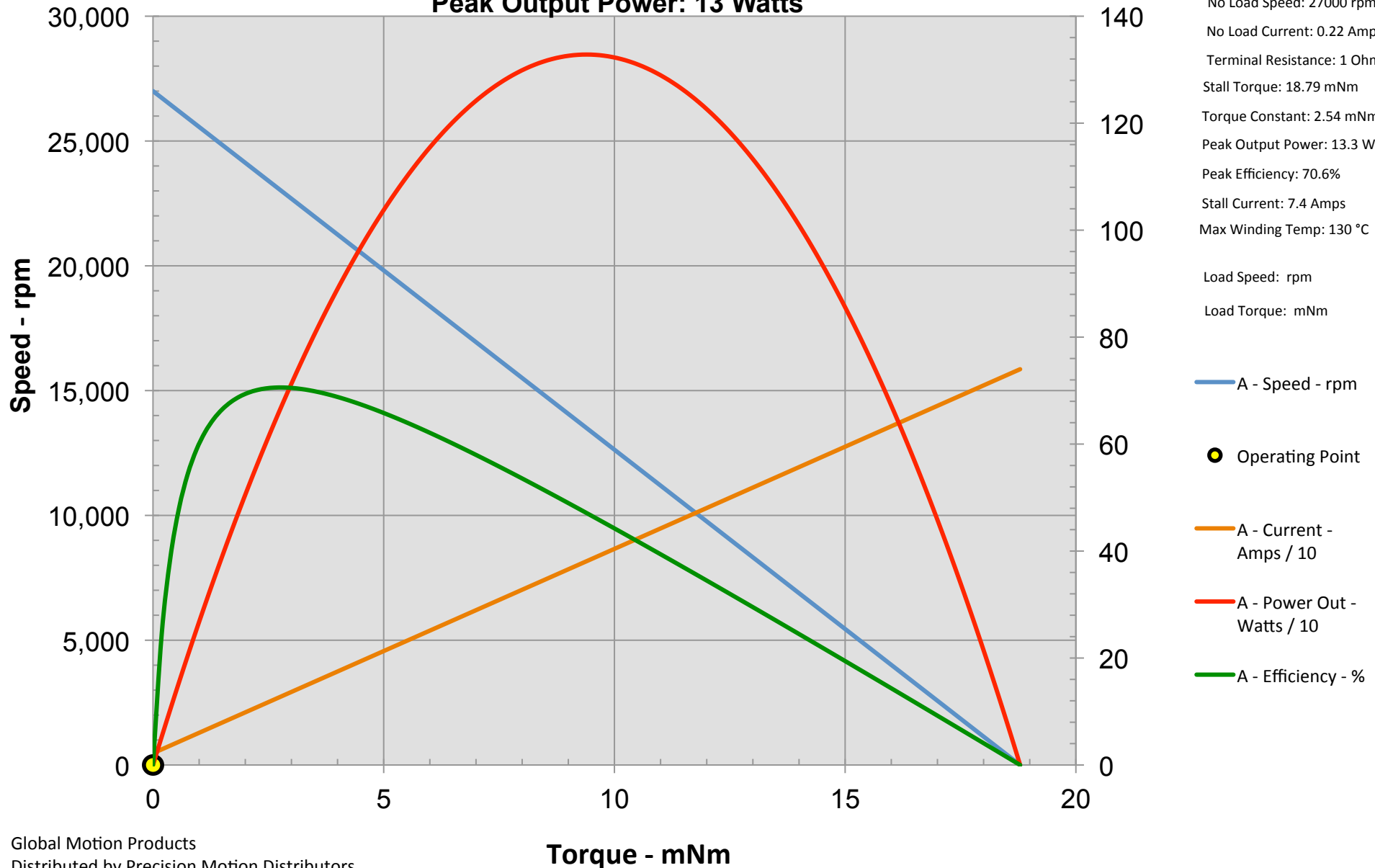
RoHS Compliant

Preliminary - November Specifications Subject to change without notice

BLDC Slotless Motor - 12 mm Ø
B12E07SG000 - - - 7.4 Volts
Peak Output Power: 13 Watts

B12E07SG000

Voltage: 7.4 Volts
 No Load Speed: 27000 rpm
 No Load Current: 0.22 Amps
 Terminal Resistance: 1 Ohms
 Stall Torque: 18.79 mNm
 Torque Constant: 2.54 mNm/A
 Peak Output Power: 13.3 Watts
 Peak Efficiency: 70.6%
 Stall Current: 7.4 Amps
 Max Winding Temp: 130 °C



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IT IS NOT TEST DATA. Stall Torque ignores motor coulomb and viscous torque losses. Voltage divided by Resistance multiplied by Torque Constant equals Stall Torque for motor only simulations. **CAUTION:** Peak Output Power is NOT a RATING. This is merely a calculated value and does not address Thermal Issues.

November 30, 2012

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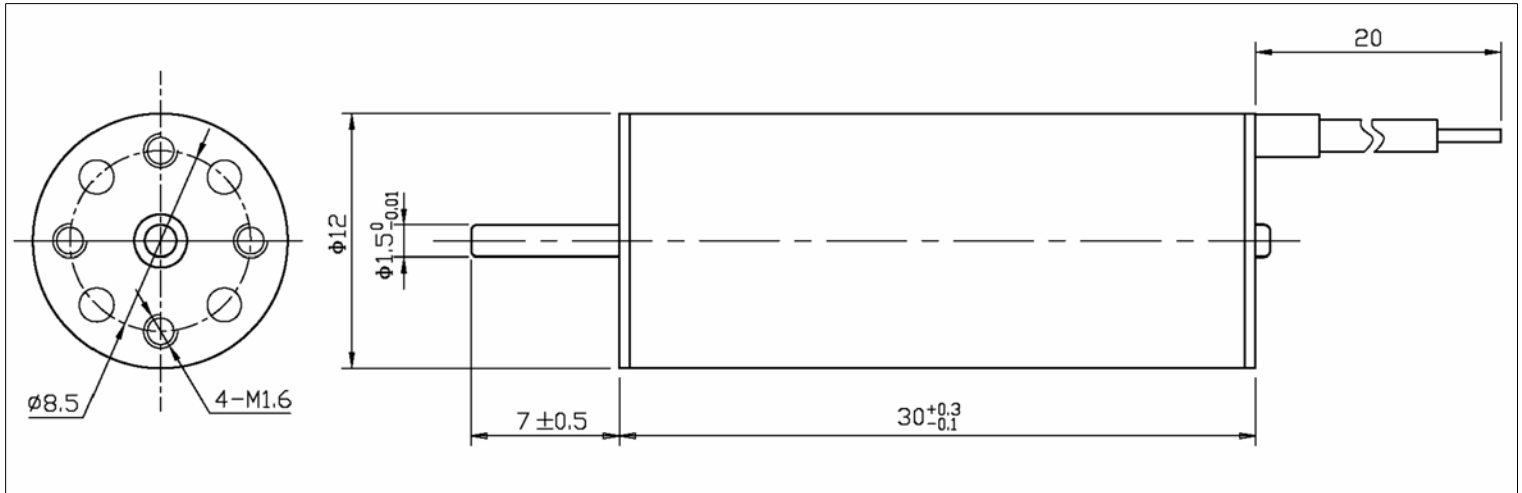
BLDC Slotless Motor - 12 mm Ø

B12E09SG000

7.9 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	9.0 Volts	9.0 Volts	9.0 Volts
No-Load Speed	18,000 rpm	18,000 rpm	18,000 rpm
Stall Torque	17.3 mNm	176.0 gcm	2.45 oz-in
No-Load Current	0.130 Amps	0.130 Amps	0.130 Amps
Peak Output Power	7.9 Watts	7.9 Watts	7.9 Watts
Torque Constant	4.61 mNm/A	47.00 gcm/A	0.65 oz-in/A
Terminal Resistance	2.40 Ohms	2.40 Ohms	2.40 Ohms
Back-EMF Constant	0.48 V/krpm	0.48 V/krpm	0.48 V/krpm
Inductance			
Rotor Inertia	0.220 kg-m ² x10 ⁻⁷	0.220 gm cm ²	0.031 x10 ⁻⁴ oz in sec ²
Mechanical Time Constant	2.5 msec	2.5 msec	2.5 msec
Slope of Speed/Torque Curve	1,041.4 rpm/mNm	102.3 rpm/gcm	7,354.0 rpm/oz-in
Speed Constant	2,072 rpm/Volt	2,072 rpm/Volt	2,072 rpm/Volt
Motor Constant	2.98 mNm/√Watt	30.34 gcm/√Watt	0.42 oz-in/√Watt

Zero Cogging High Speed Capable 3 Phase Brushless DC Motor featuring Neodymium Iron Boron Magnets.

Part Number:	How to Order	B12E09SG000	Characteristics - Specifications at	22 °C
Radial Load Rating	Radial Play		Max Temperature	45 °C
Radial Load Distance	Thrust Play		Min Temperature	-15 °C
Axial Load	Magnet Type	NdFeB	Max Winding Temp	130 °C
Press Fit Force - Max	Bearing Type	Sleeve Bearings	Mass	18.0 grams
Gearbox Options	Metal Planetary Gearbox. 12 mm diameter.			
Encoder Options				
Options - Other	Winding Changes. Lead length and connectors. Shaft Length and flat options. POM Pinions.			

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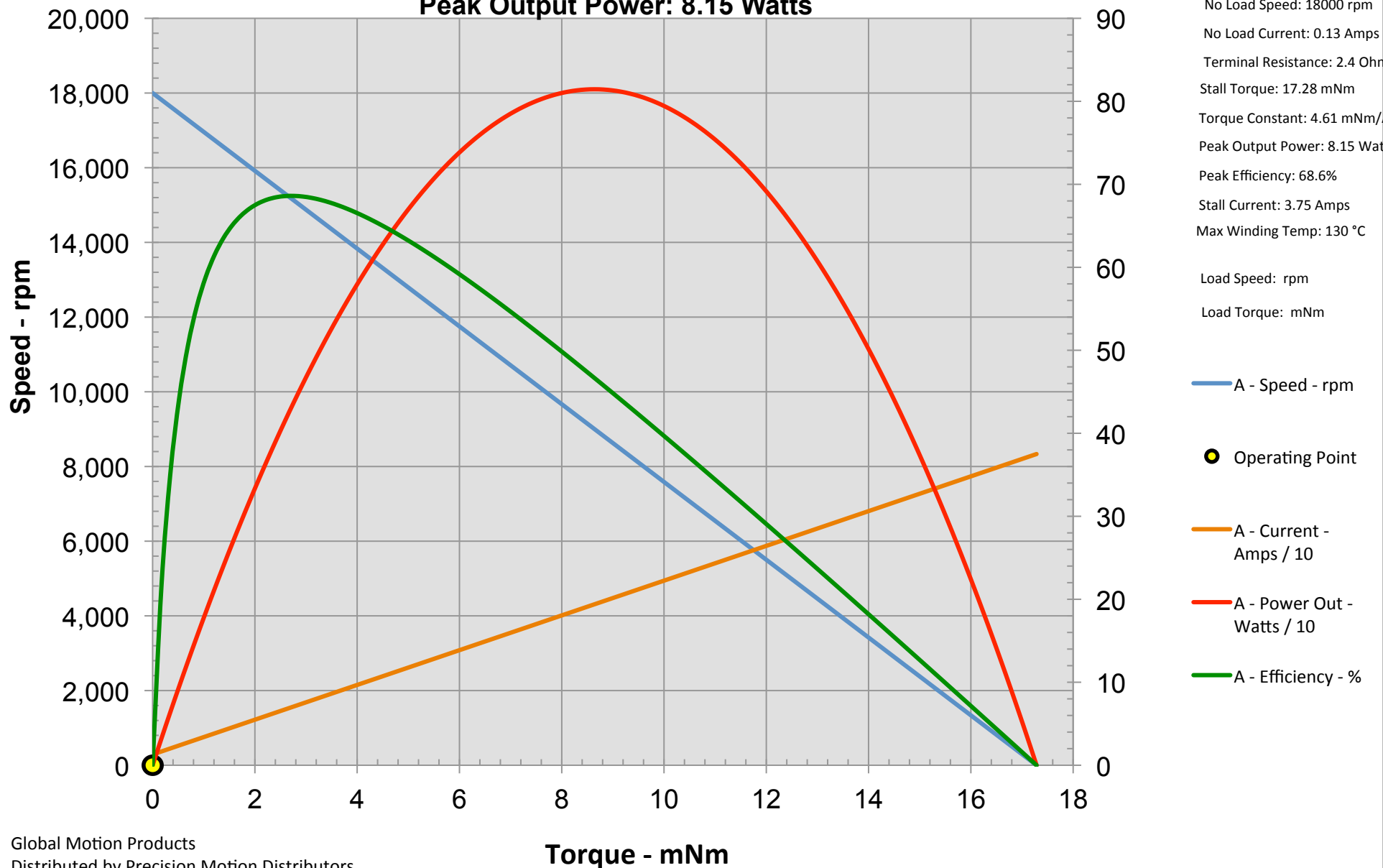
RoHS Compliant

Preliminary - November Specifications Subject to change without notice

BLDC Slotless Motor - 12 mm Ø
B12E09SG000 - - - 9 Volts
Peak Output Power: 8.15 Watts

B12E09SG000

Voltage: 9 Volts
 No Load Speed: 18000 rpm
 No Load Current: 0.13 Amps
 Terminal Resistance: 2.4 Ohm
 Stall Torque: 17.28 mNm
 Torque Constant: 4.61 mNm/A
 Peak Output Power: 8.15 Watts
 Peak Efficiency: 68.6%
 Stall Current: 3.75 Amps
 Max Winding Temp: 130 °C



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