

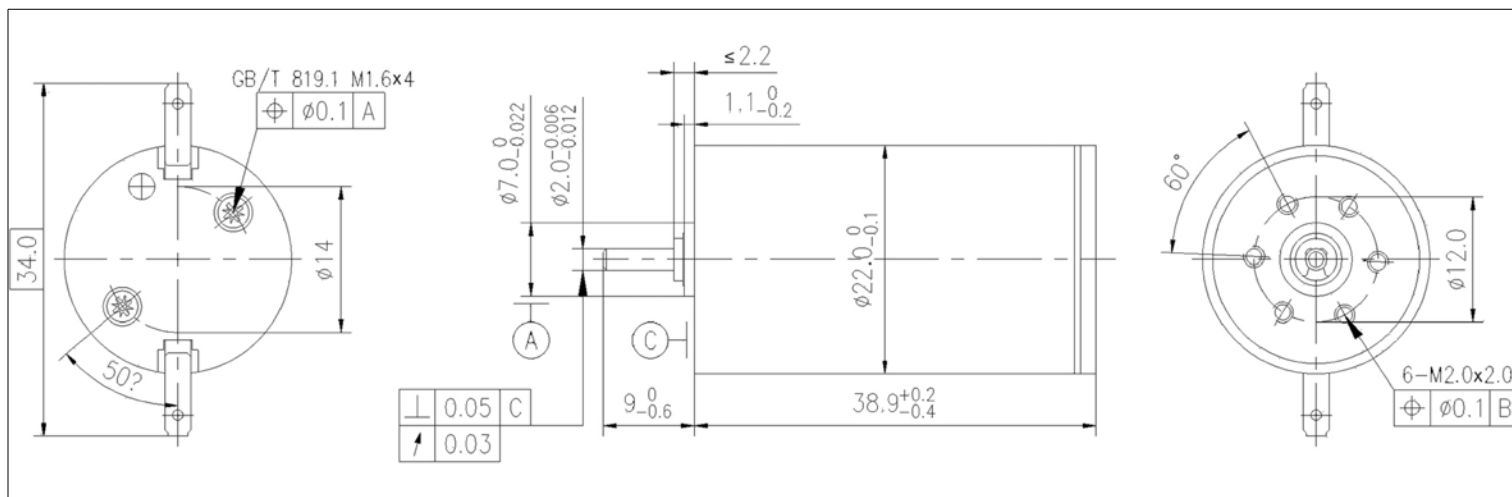
# Coreless DC Motor - 22 mm Ø

C22G12SD020

9.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	12.0 Volts	12.0 Volts	12.0 Volts
No-Load Speed	8,240 rpm	8,240 rpm	8,240 rpm
Stall Torque	43.6 mNm	445.1 gcm	6.2 oz-in
No-Load Current	0.036 Amps	0.036 Amps	0.036 Amps
Peak Output Power	9.3 Watts	9.3 Watts	9.3 Watts
Torque Constant	13.75 mNm/A	140.20 gcm/A	1.95 oz-in/A
Terminal Resistance	3.78 Ohms	3.78 Ohms	3.78 Ohms
Back-EMF Constant	1.44 V/krpm	1.44 V/krpm	1.44 V/krpm
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Rotor Inertia	5.20 kgm <sup>2</sup> x10 <sup>-7</sup>	5.20 gm cm <sup>2</sup>	0.74 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Slope of Speed/Torque Curve	188.8 rpm/mNm	18.5 rpm/gcm	1,333.1 rpm/oz-in
Speed Constant	695 rpm/Volt	80 %	80 %
Motor Constant	7.07 mNm/√Watt	72.11 gcm/√Watt	1.00 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,202 rpm	7.0 Watts	7.0 Watts	7.0 Watts
Rated Torque @ 6,202 rpm	10.8 mNm	110.1 gcm	1.5 oz-in
Rated Current @ 6,202 rpm	0.785 Amps	0.785 Amps	0.785 Amps

Part Number: How to Order C22G12SD020

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

Graphite

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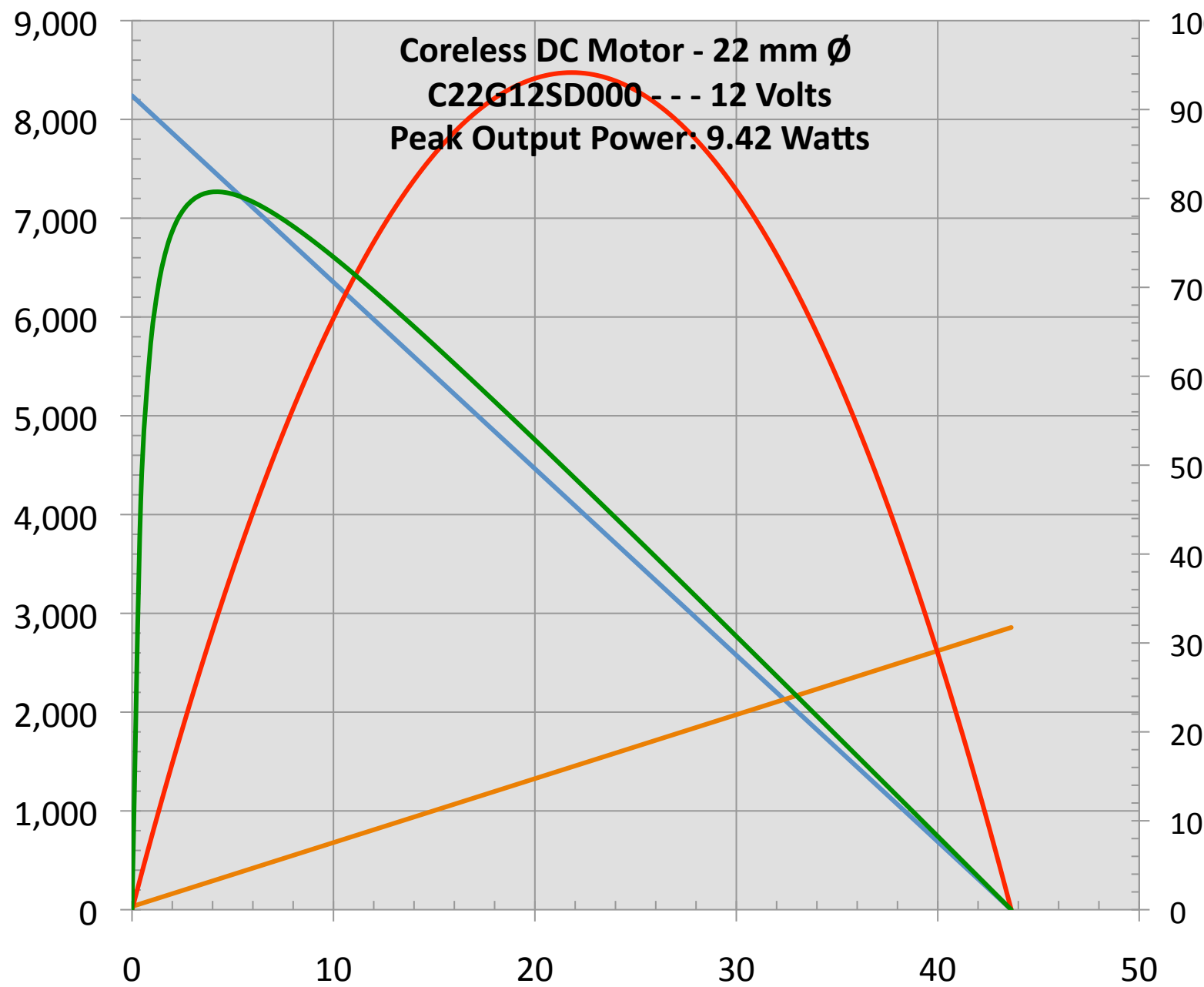
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G12SD000 - - - 12 Volts**  
**Peak Output Power: 9.42 Watts**

**100 C22G12SD000**  
**Voltage: 12 Volts**  
 No Load Speed: 8240 rpm  
 No Load Current: 0.036 Amps  
 Terminal Resistance: 3.78 Ohms  
 Stall Torque: 43.65 mNm  
 Torque Constant: 13.75 mNm/A  
 Peak Output Power: 9.42 Watts  
 Peak Efficiency: 80.7%  
 Stall Current: 3.17 Amps

Speed - rpm



— A - Speed - rpm  
 — A - Current - Amps / 10  
 — A - Power Out - Watts / 10  
 — A - Efficiency - %

**Torque - mNm**

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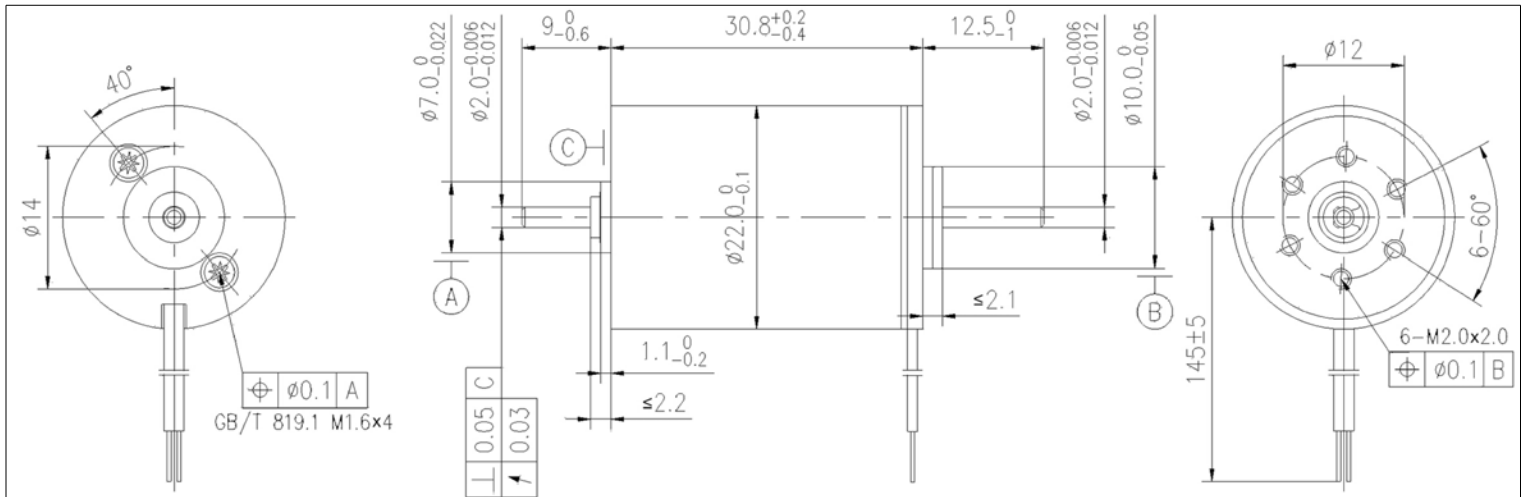
# Coreless DC Motor - 22 mm Ø



C22G12SD000

9.3 Watts Peak Power

Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	12.0 Volts	12.0 Volts	12.0 Volts
No-Load Speed	8,240 rpm	8,240 rpm	8,240 rpm
Stall Torque	43.6 mNm	445.1 gcm	6.2 oz-in
No-Load Current	0.036 Amps	0.036 Amps	0.036 Amps
Peak Output Power	9.3 Watts	9.3 Watts	9.3 Watts
Torque Constant	13.75 mNm/A	140.20 gcm/A	1.95 oz-in/A
Terminal Resistance	3.78 Ohms	3.78 Ohms	3.78 Ohms
Back-EMF Constant	1.44 V/krpm	1.44 V/krpm	1.44 V/krpm
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Rotor Inertia	5.20 kgm <sup>2</sup> x10 <sup>-7</sup>	5.20 gm cm <sup>2</sup>	0.74 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Slope of Speed/Torque Curve	188.8 rpm/mNm	18.5 rpm/gcm	1,333.1 rpm/oz-in
Speed Constant	695 rpm/Volt	80 %	80 %
Motor Constant	7.07 mNm/√Watt	72.11 gcm/√Watt	1.00 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,202 rpm	7.0 Watts	7.0 Watts	7.0 Watts
Rated Torque @ 6,202 rpm	10.8 mNm	110.1 gcm	1.5 oz-in
Rated Current @ 6,202 rpm	0.785 Amps	0.785 Amps	0.785 Amps

Part Number: How to Order C22G12SD000

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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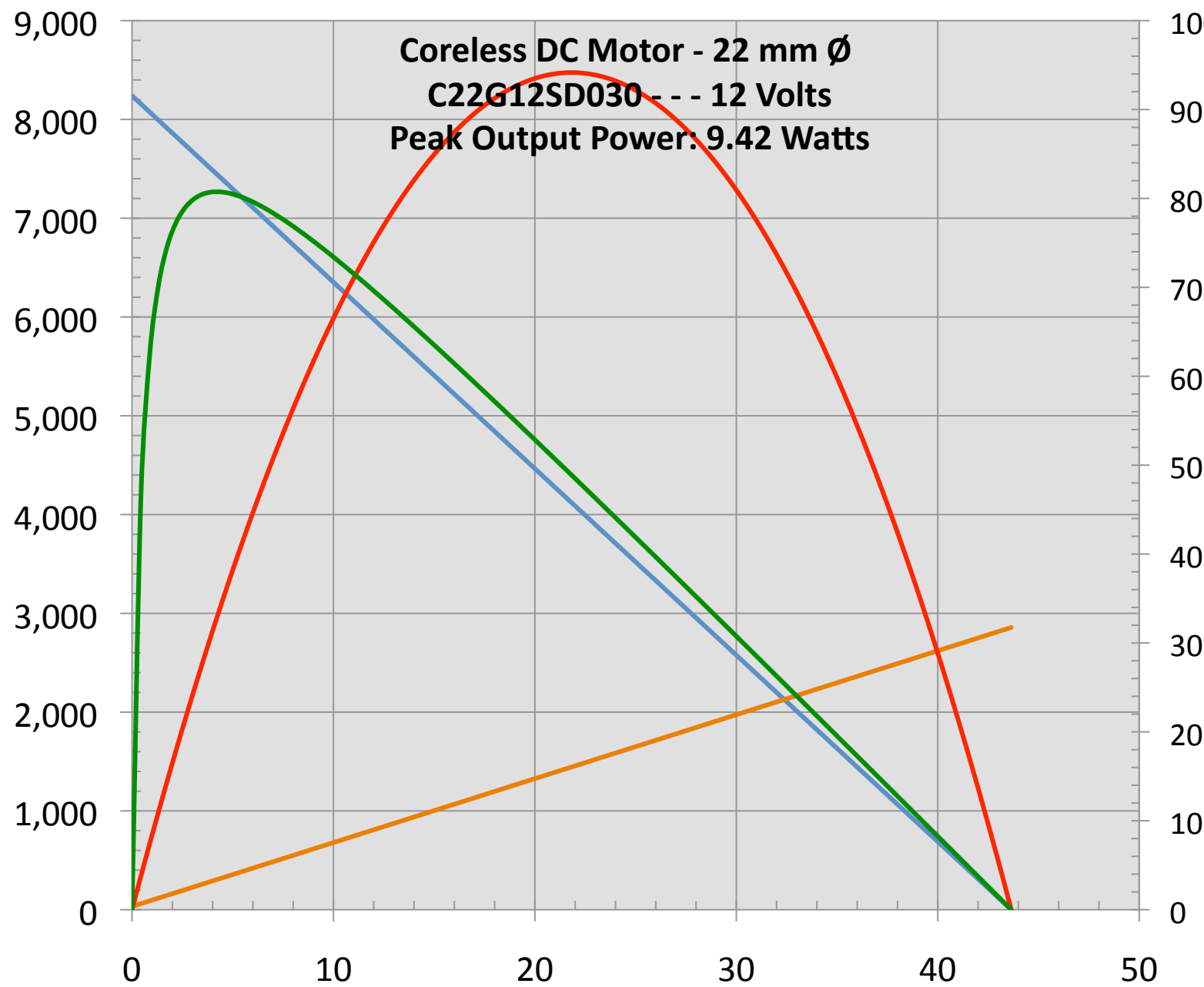
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø  
C22G12SD030 - - - 12 Volts  
Peak Output Power: 9.42 Watts**

**100 C22G12SD030**  
**Voltage: 12 Volts**  
 No Load Speed: 8240 rpm  
 No Load Current: 0.036 Amps  
 Terminal Resistance: 3.78 Ohms  
 Stall Torque: 43.65 mNm  
 Torque Constant: 13.75 mNm/A  
 Peak Output Power: 9.42 Watts  
 Peak Efficiency: 80.7%  
 Stall Current: 3.17 Amps

Speed - rpm



— A - Speed - rpm  
 — A - Current - Amps / 10  
 — A - Power Out - Watts / 10  
 — A - Efficiency - %

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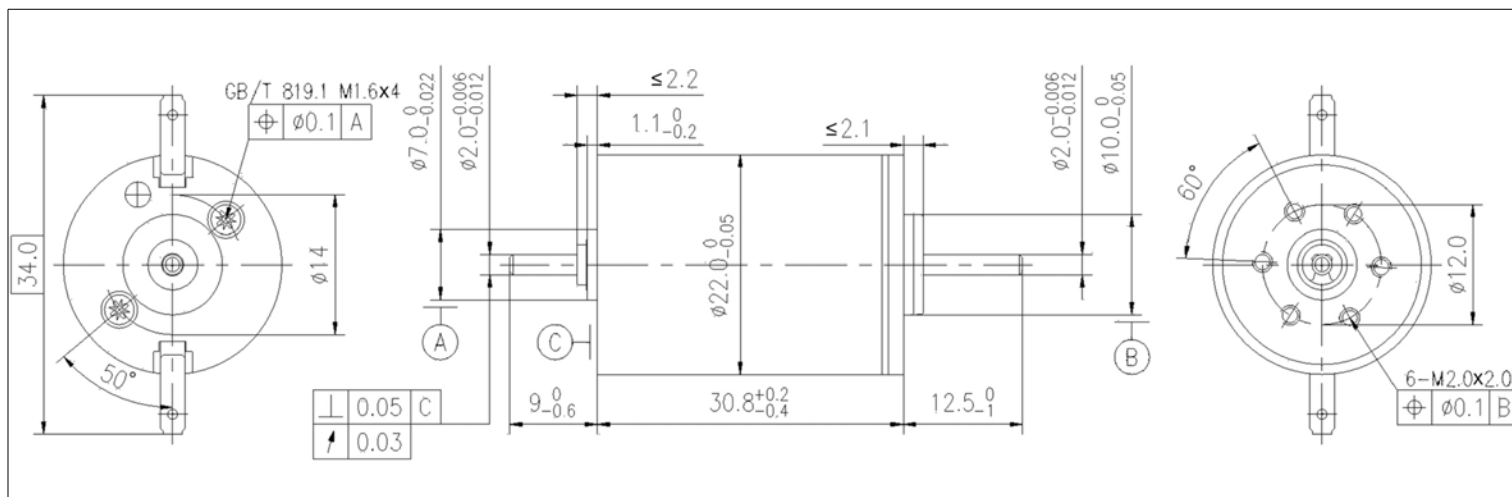
# Coreless DC Motor - 22 mm Ø

C22G12SD010

9.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	12.0 Volts	12.0 Volts	12.0 Volts
No-Load Speed	8,240 rpm	8,240 rpm	8,240 rpm
Stall Torque	43.6 mNm	445.1 gcm	6.2 oz-in
No-Load Current	0.036 Amps	0.036 Amps	0.036 Amps
Peak Output Power	9.3 Watts	9.3 Watts	9.3 Watts
Torque Constant	13.75 mNm/A	140.20 gcm/A	1.95 oz-in/A
Terminal Resistance	3.78 Ohms	3.78 Ohms	3.78 Ohms
Back-EMF Constant	1.44 V/krpm	1.44 V/krpm	1.44 V/krpm
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Rotor Inertia	5.20 kgm <sup>2</sup> x10 <sup>-7</sup>	5.20 gm cm <sup>2</sup>	0.74 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Slope of Speed/Torque Curve	188.8 rpm/mNm	18.5 rpm/gcm	1,333.1 rpm/oz-in
Speed Constant	695 rpm/Volt	80 %	80 %
Motor Constant	7.07 mNm/√Watt	72.11 gcm/√Watt	1.00 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,202 rpm	7.0 Watts	7.0 Watts	7.0 Watts
Rated Torque @ 6,202 rpm	10.8 mNm	110.1 gcm	1.5 oz-in
Rated Current @ 6,202 rpm	0.785 Amps	0.785 Amps	0.785 Amps

Part Number: How to Order C22G12SD010

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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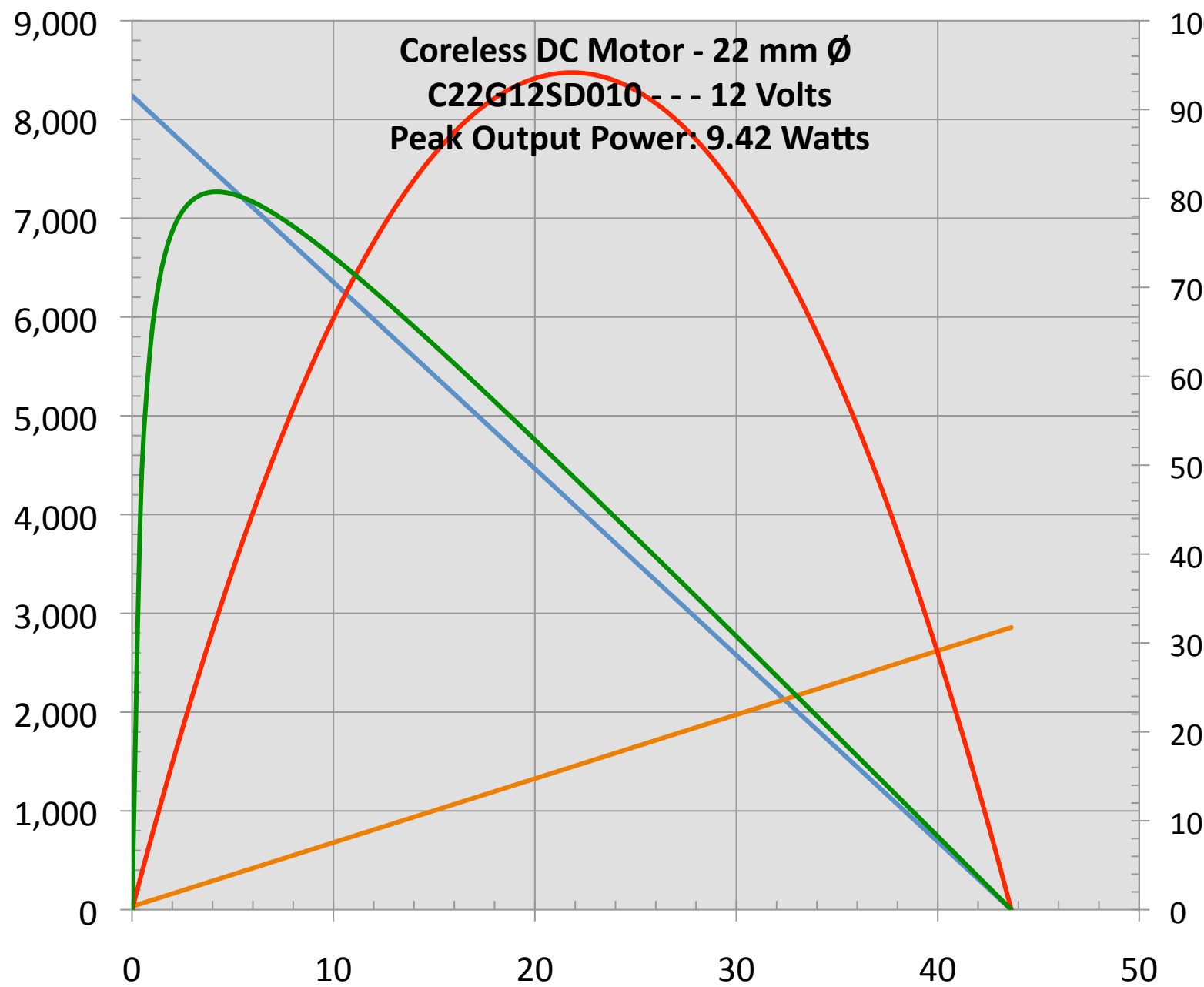
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G12SD010 - - - 12 Volts**  
**Peak Output Power: 9.42 Watts**

**100 C22G12SD010**  
**Voltage: 12 Volts**  
 No Load Speed: 8240 rpm  
 No Load Current: 0.036 Amps  
 Terminal Resistance: 3.78 Ohms  
 Stall Torque: 43.65 mNm  
 Torque Constant: 13.75 mNm/A  
 Peak Output Power: 9.42 Watts  
 Peak Efficiency: 80.7%  
 Stall Current: 3.17 Amps

Speed - rpm



- A - Speed - rpm
- A - Current - Amps / 10
- A - Power Out - Watts / 10
- A - Efficiency - %

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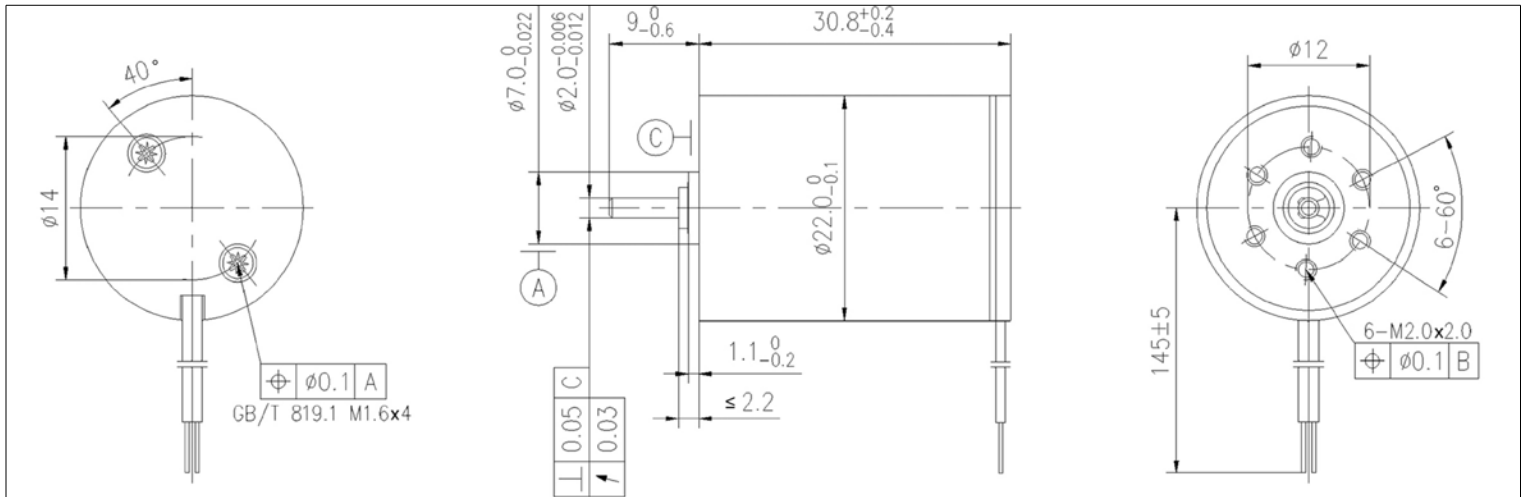
# Coreless DC Motor - 22 mm Ø

C22G12SD030

9.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	12.0 Volts	12.0 Volts	12.0 Volts
No-Load Speed	8,240 rpm	8,240 rpm	8,240 rpm
Stall Torque	43.6 mNm	445.1 gcm	6.2 oz-in
No-Load Current	0.036 Amps	0.036 Amps	0.036 Amps
Peak Output Power	9.3 Watts	9.3 Watts	9.3 Watts
Torque Constant	13.75 mNm/A	140.20 gcm/A	1.95 oz-in/A
Terminal Resistance	3.78 Ohms	3.78 Ohms	3.78 Ohms
Back-EMF Constant	1.44 V/krpm	1.44 V/krpm	1.44 V/krpm
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Rotor Inertia	5.20 kgm <sup>2</sup> x10 <sup>-7</sup>	5.20 gm cm <sup>2</sup>	0.74 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	10.4 msec	10.4 msec	10.4 msec
Slope of Speed/Torque Curve	188.8 rpm/mNm	18.5 rpm/gcm	1,333.1 rpm/oz-in
Speed Constant	695 rpm/Volt	80 %	80 %
Motor Constant	7.07 mNm/√Watt	72.11 gcm/√Watt	1.00 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,202 rpm	7.0 Watts	7.0 Watts	7.0 Watts
Rated Torque @ 6,202 rpm	10.8 mNm	110.1 gcm	1.5 oz-in
Rated Current @ 6,202 rpm	0.785 Amps	0.785 Amps	0.785 Amps

Part Number: How to Order C22G12SD030

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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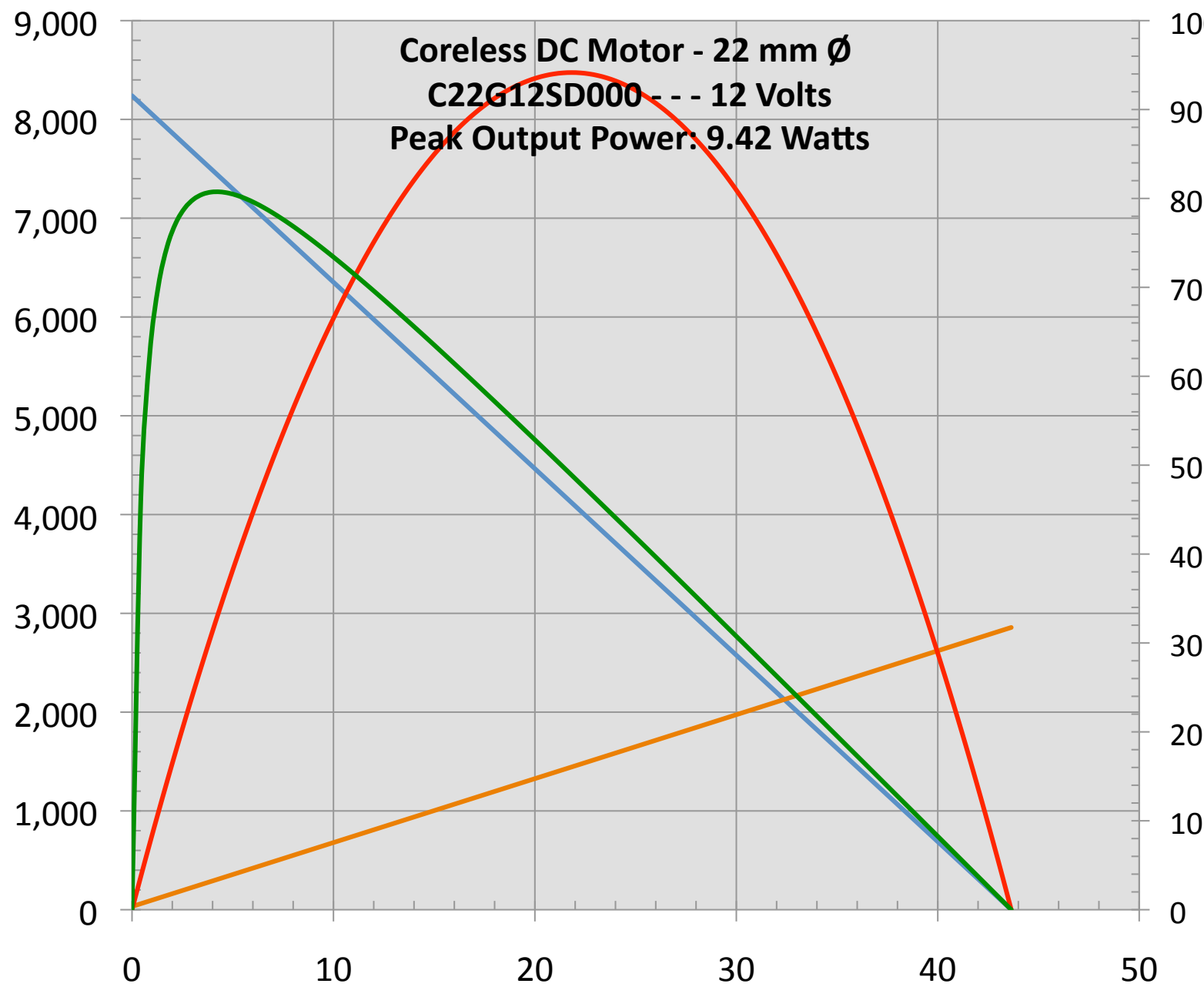
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G12SD000 - - - 12 Volts**  
**Peak Output Power: 9.42 Watts**

**100 C22G12SD000**  
**Voltage: 12 Volts**  
 No Load Speed: 8240 rpm  
 No Load Current: 0.036 Amps  
 Terminal Resistance: 3.78 Ohms  
 Stall Torque: 43.65 mNm  
 Torque Constant: 13.75 mNm/A  
 Peak Output Power: 9.42 Watts  
 Peak Efficiency: 80.7%  
 Stall Current: 3.17 Amps

Speed - rpm



— A - Speed - rpm  
 — A - Current - Amps / 10  
 — A - Power Out - Watts / 10  
 — A - Efficiency - %

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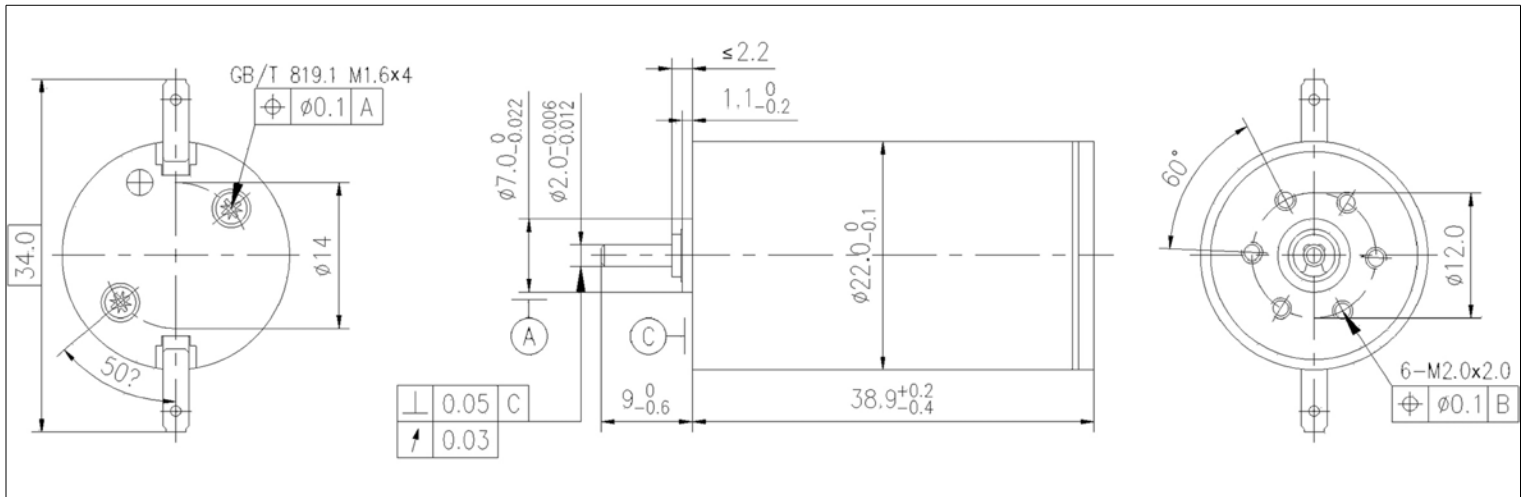


# Coreless DC Motor - 22 mm Ø

C22G15BD000 10.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	15.0 Volts	15.0 Volts	15.0 Volts
No-Load Speed	8,300 rpm	8,300 rpm	8,300 rpm
Stall Torque	48.2 mNm	491.8 gcm	6.8 oz-in
No-Load Current	0.030 Amps	0.030 Amps	0.030 Amps
Peak Output Power	10.4 Watts	10.4 Watts	10.4 Watts
Torque Constant	17.07 mNm/A	174.11 gcm/A	2.42 oz-in/A
Terminal Resistance	5.31 Ohms	5.31 Ohms	5.31 Ohms
Back-EMF Constant	1.79 V/krpm	1.79 V/krpm	1.79 V/krpm
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Rotor Inertia	4.93 kgm <sup>2</sup> x10 <sup>-7</sup>	4.93 gm cm <sup>2</sup>	0.70 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Slope of Speed/Torque Curve	172.1 rpm/mNm	16.9 rpm/gcm	1,215.2 rpm/oz-in
Speed Constant	559 rpm/Volt	80 %	80 %
Motor Constant	7.41 mNm/√Watt	75.56 gcm/√Watt	1.05 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,434 rpm	7.3 Watts	7.3 Watts	7.3 Watts
Rated Torque @ 6,434 rpm	10.8 mNm	110.6 gcm	1.5 oz-in
Rated Current @ 6,434 rpm	0.635 Amps	0.635 Amps	0.635 Amps

Part Number: How to Order C22G15BD000

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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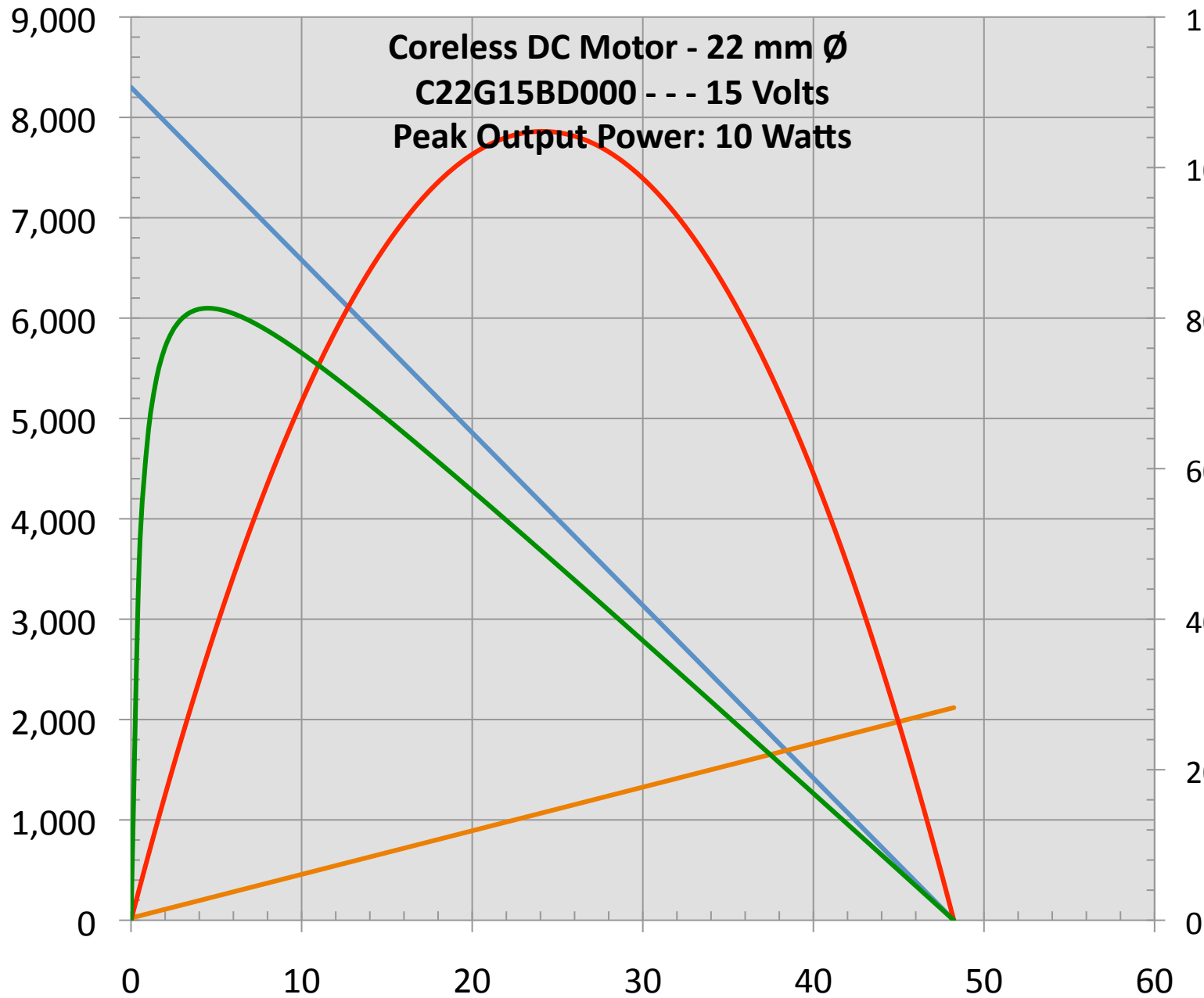
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø  
C22G15BD000 - - 15 Volts  
Peak Output Power: 10 Watts**

**120 C22G15BD000**  
**Voltage: 15 Volts**  
 No Load Speed: 8300 rpm  
 No Load Current: 0.03 Amps  
 Terminal Resistance: 5.31 Ohms  
**100** Stall Torque: 48.23 mNm  
 Torque Constant: 17.07 mNm/A  
 Peak Output Power: 10.5 Watts  
 Peak Efficiency: 81.3%  
 Stall Current: 2.82 Amps

Speed - rpm



- A - Speed - rpm
- A - Current - Amps / 10
- A - Power Out - Watts / 10
- A - Efficiency - %

**Torque - mNm**

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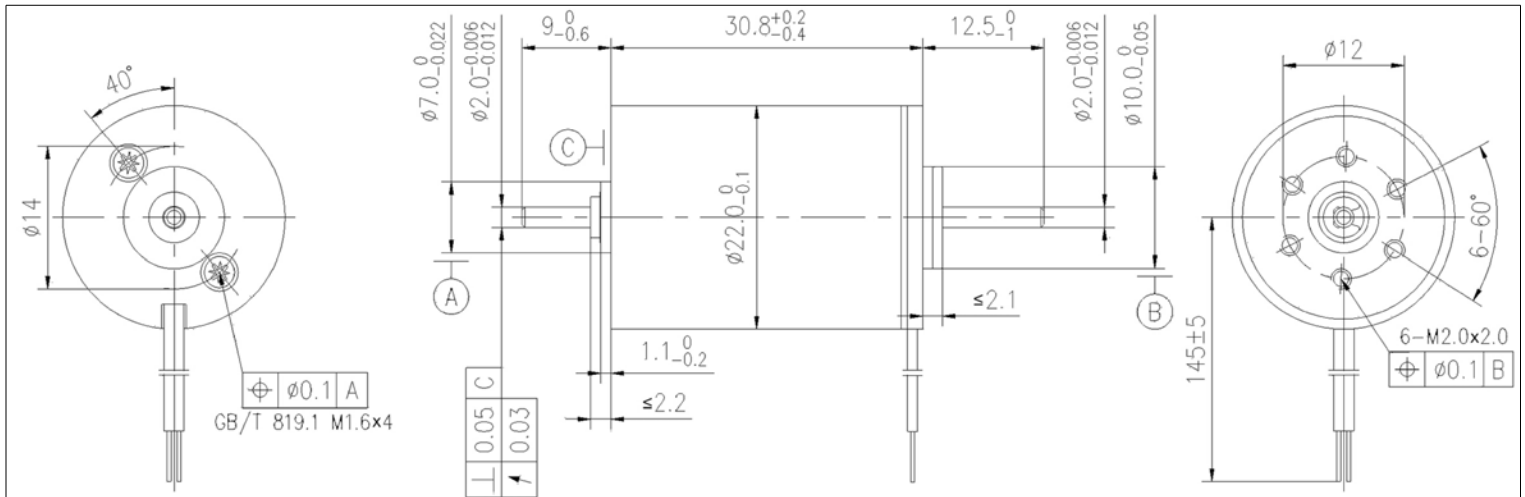
**CAUTION:** Peak Output Power is NOT a RATING. This is merely a calculated value and does not address Thermal Issues.

# Coreless DC Motor - 22 mm Ø



C22G15SD000 10.4 Watts Peak Power

Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	15.0 Volts	15.0 Volts	15.0 Volts
No-Load Speed	8,300 rpm	8,300 rpm	8,300 rpm
Stall Torque	48.2 mNm	491.8 gcm	6.8 oz-in
No-Load Current	0.030 Amps	0.030 Amps	0.030 Amps
Peak Output Power	10.4 Watts	10.4 Watts	10.4 Watts

Torque Constant	17.07 mNm/A	174.11 gcm/A	2.42 oz-in/A
Terminal Resistance	5.31 Ohms	5.31 Ohms	5.31 Ohms
Back-EMF Constant	1.79 V/krpm	1.79 V/krpm	1.79 V/krpm
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Rotor Inertia	4.93 kgm <sup>2</sup> x10 <sup>-7</sup>	4.93 gm cm <sup>2</sup>	0.70 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>

Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Slope of Speed/Torque Curve	172.1 rpm/mNm	16.9 rpm/gcm	1,215.2 rpm/oz-in
Speed Constant	559 rpm/Volt	80 %	80 %
Motor Constant	7.41 mNm/√Watt	75.56 gcm/√Watt	1.05 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite

Rated Power @ 6,434 rpm	7.3 Watts	7.3 Watts	7.3 Watts
Rated Torque @ 6,434 rpm	10.8 mNm	110.6 gcm	1.5 oz-in
Rated Current @ 6,434 rpm	0.635 Amps	0.635 Amps	0.635 Amps

Part Number: How to Order C22G15SD000 Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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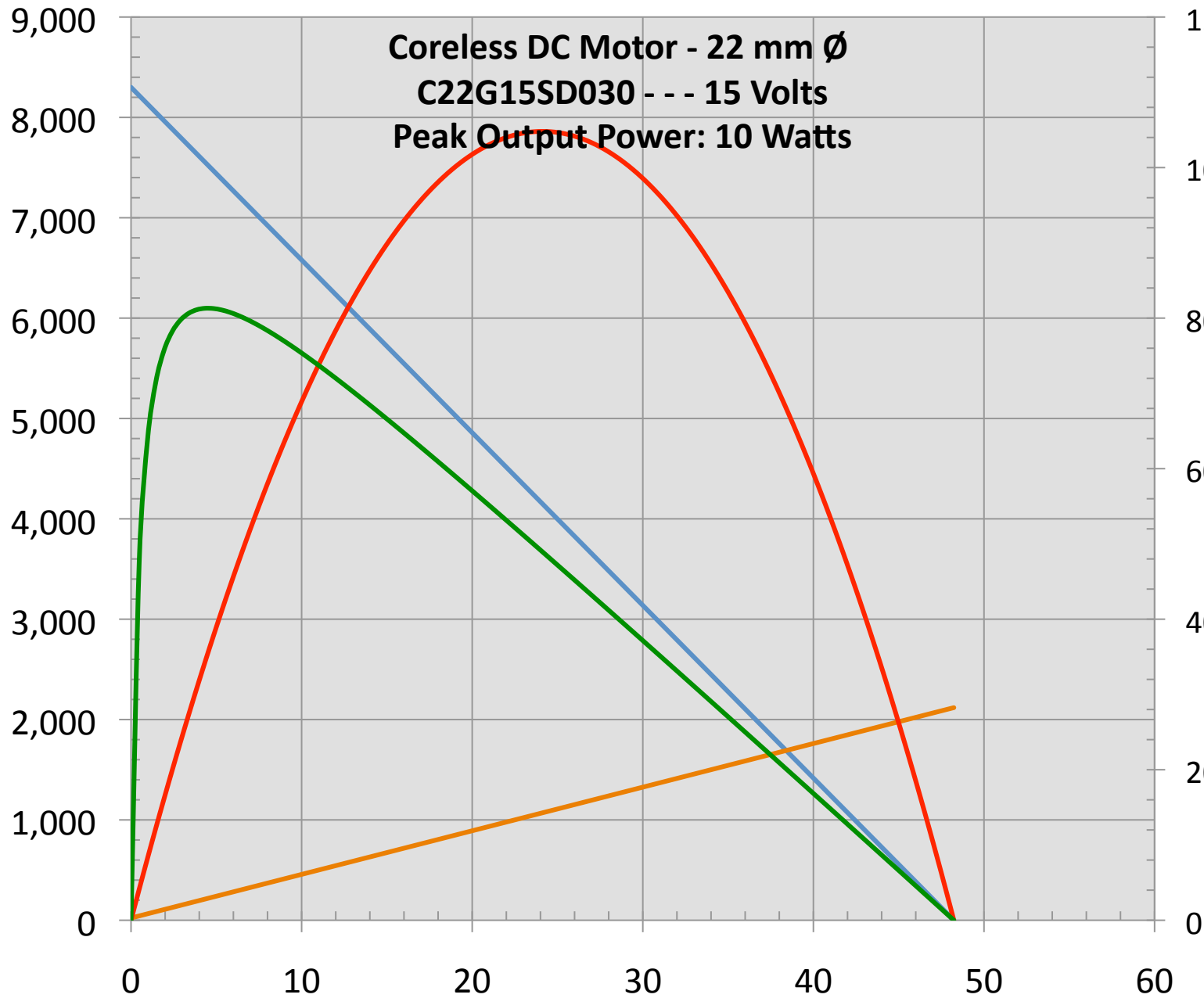
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø  
C22G15SD030 - - - 15 Volts  
Peak Output Power: 10 Watts**

**120 C22G15SD030**  
**Voltage: 15 Volts**  
 No Load Speed: 8300 rpm  
 No Load Current: 0.03 Amps  
 Terminal Resistance: 5.31 Ohms  
**100** Stall Torque: 48.23 mNm  
 Torque Constant: 17.07 mNm/A  
 Peak Output Power: 10.5 Watts  
 Peak Efficiency: 81.3%  
 Stall Current: 2.82 Amps

Speed - rpm



— A - Speed - rpm  
 — A - Current - Amps / 10  
 — A - Power Out - Watts / 10  
 — A - Efficiency - %

**Torque - mNm**

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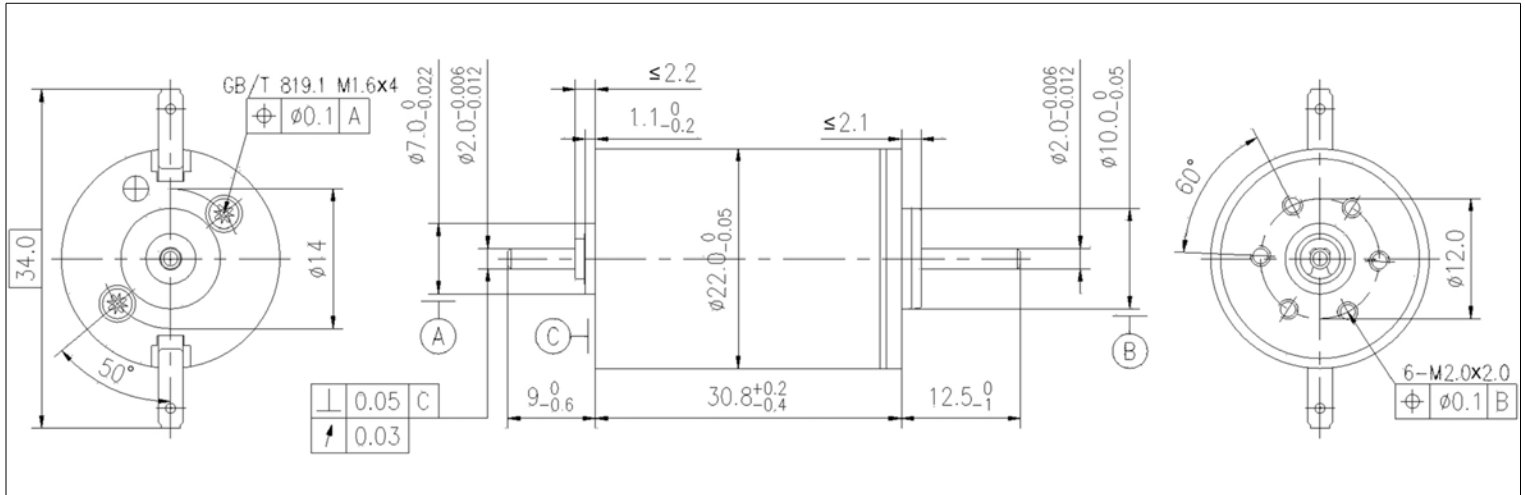
**CAUTION:** Peak Output Power is NOT a RATING. This is merely a calculated value and does not address Thermal Issues.

# Coreless DC Motor - 22 mm Ø

C22G15SD010 10.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	15.0 Volts	15.0 Volts	15.0 Volts
No-Load Speed	8,300 rpm	8,300 rpm	8,300 rpm
Stall Torque	48.2 mNm	491.8 gcm	6.8 oz-in
No-Load Current	0.030 Amps	0.030 Amps	0.030 Amps
Peak Output Power	10.4 Watts	10.4 Watts	10.4 Watts
Torque Constant	17.07 mNm/A	174.11 gcm/A	2.42 oz-in/A
Terminal Resistance	5.31 Ohms	5.31 Ohms	5.31 Ohms
Back-EMF Constant	1.79 V/krpm	1.79 V/krpm	1.79 V/krpm
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Rotor Inertia	4.93 kgm <sup>2</sup> x10 <sup>-7</sup>	4.93 gm cm <sup>2</sup>	0.70 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Slope of Speed/Torque Curve	172.1 rpm/mNm	16.9 rpm/gcm	1,215.2 rpm/oz-in
Speed Constant	559 rpm/Volt	80 %	80 %
Motor Constant	7.41 mNm/√Watt	75.56 gcm/√Watt	1.05 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,434 rpm	7.3 Watts	7.3 Watts	7.3 Watts
Rated Torque @ 6,434 rpm	10.8 mNm	110.6 gcm	1.5 oz-in
Rated Current @ 6,434 rpm	0.635 Amps	0.635 Amps	0.635 Amps

Part Number: How to Order C22G15SD010

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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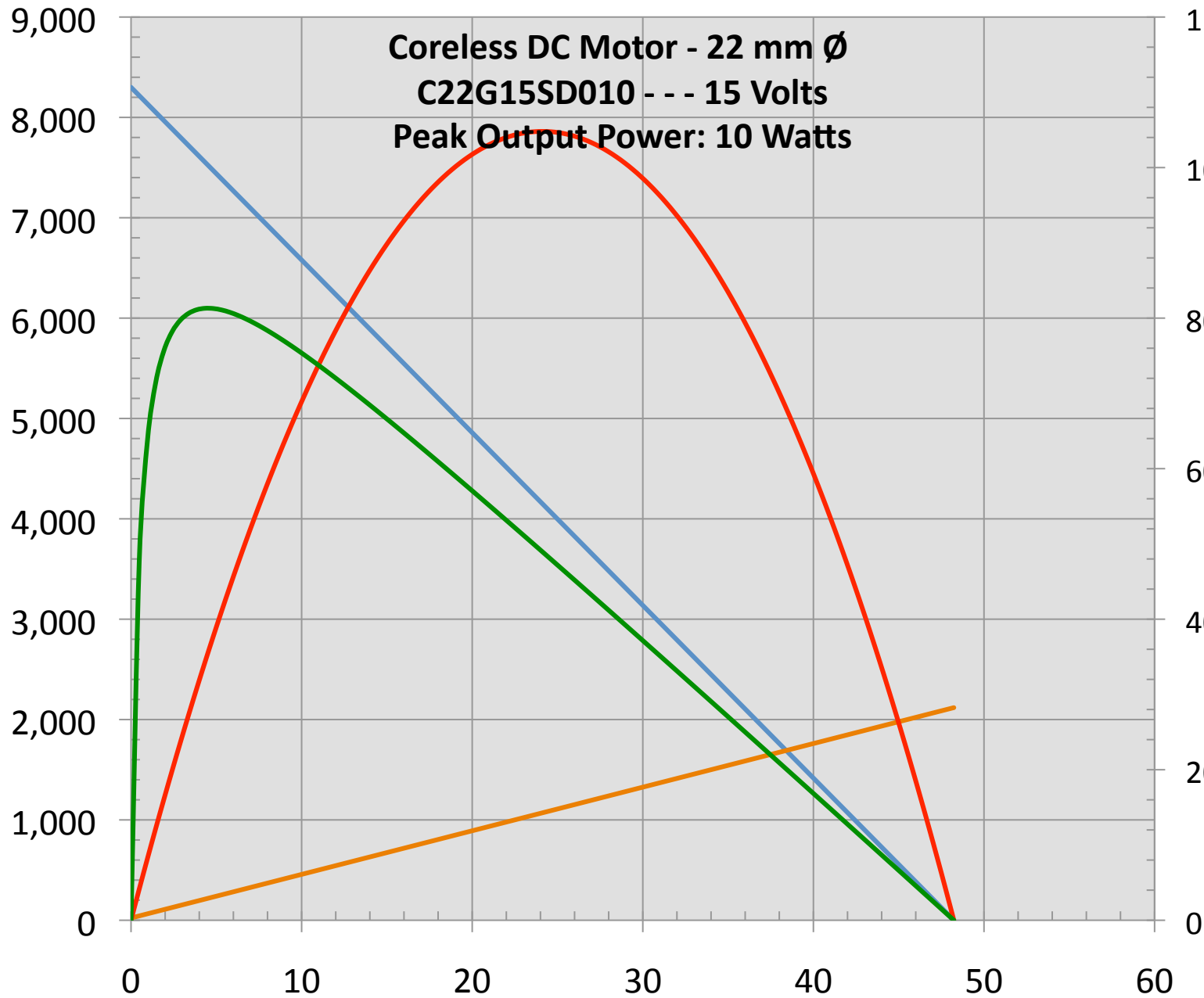
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø  
C22G15SD010 - - - 15 Volts  
Peak Output Power: 10 Watts**

**120 C22G15SD010**  
**Voltage: 15 Volts**  
 No Load Speed: 8300 rpm  
 No Load Current: 0.03 Amps  
 Terminal Resistance: 5.31 Ohms  
 Stall Torque: 48.23 mNm  
 Torque Constant: 17.07 mNm/A  
 Peak Output Power: 10.5 Watts  
 Peak Efficiency: 81.3%  
 Stall Current: 2.82 Amps

Speed - rpm



- A - Speed - rpm
- A - Current - Amps / 10
- A - Power Out - Watts / 10
- A - Efficiency - %

**Torque - mNm**

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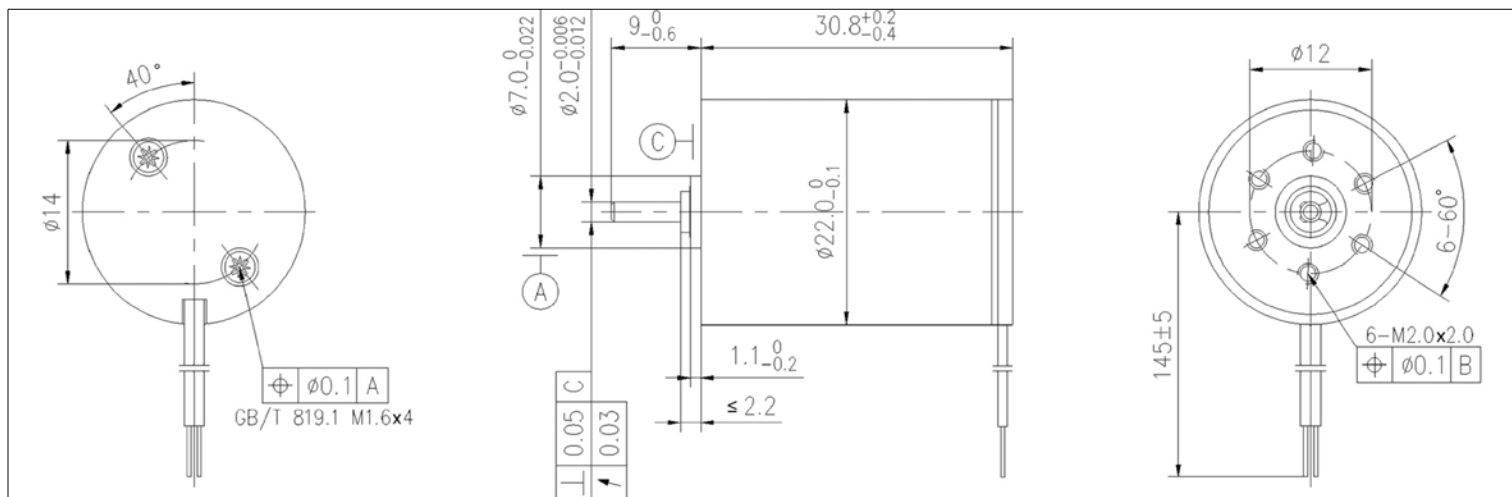
**CAUTION:** Peak Output Power is NOT a RATING. This is merely a calculated value and does not address Thermal Issues.

# Coreless DC Motor - 22 mm Ø

C22G15SD030 10.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	15.0 Volts	15.0 Volts	15.0 Volts
No-Load Speed	8,300 rpm	8,300 rpm	8,300 rpm
Stall Torque	48.2 mNm	491.8 gcm	6.8 oz-in
No-Load Current	0.030 Amps	0.030 Amps	0.030 Amps
Peak Output Power	10.4 Watts	10.4 Watts	10.4 Watts
Torque Constant	17.07 mNm/A	174.11 gcm/A	2.42 oz-in/A
Terminal Resistance	5.31 Ohms	5.31 Ohms	5.31 Ohms
Back-EMF Constant	1.79 V/krpm	1.79 V/krpm	1.79 V/krpm
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Rotor Inertia	4.93 kgm <sup>2</sup> x10 <sup>-7</sup>	4.93 gm cm <sup>2</sup>	0.70 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.0 msec	9.0 msec	9.0 msec
Slope of Speed/Torque Curve	172.1 rpm/mNm	16.9 rpm/gcm	1,215.2 rpm/oz-in
Speed Constant	559 rpm/Volt	80 %	80 %
Motor Constant	7.41 mNm/√Watt	75.56 gcm/√Watt	1.05 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,434 rpm	7.3 Watts	7.3 Watts	7.3 Watts
Rated Torque @ 6,434 rpm	10.8 mNm	110.6 gcm	1.5 oz-in
Rated Current @ 6,434 rpm	0.635 Amps	0.635 Amps	0.635 Amps

Part Number: How to Order C22G15SD030

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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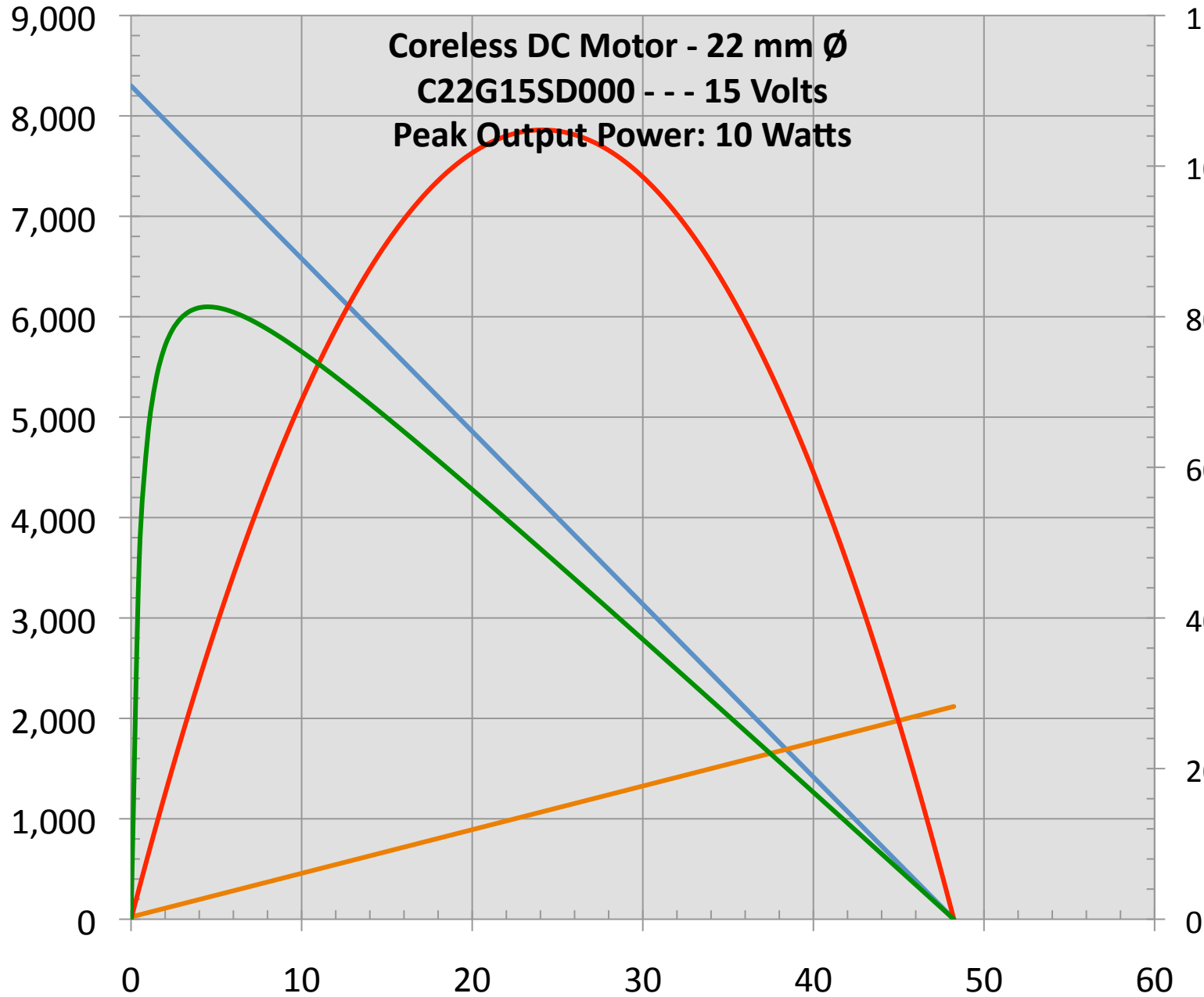
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø  
C22G15SD000 - - - 15 Volts  
Peak Output Power: 10 Watts**

**120 C22G15SD000**  
**Voltage: 15 Volts**  
 No Load Speed: 8300 rpm  
 No Load Current: 0.03 Amps  
 Terminal Resistance: 5.31 Ohms  
 Stall Torque: 48.23 mNm  
 Torque Constant: 17.07 mNm/A  
 Peak Output Power: 10.5 Watts  
 Peak Efficiency: 81.3%  
 Stall Current: 2.82 Amps

Speed - rpm



— A - Speed - rpm  
 — A - Current - Amps / 10  
 — A - Power Out - Watts / 10  
 — A - Efficiency - %

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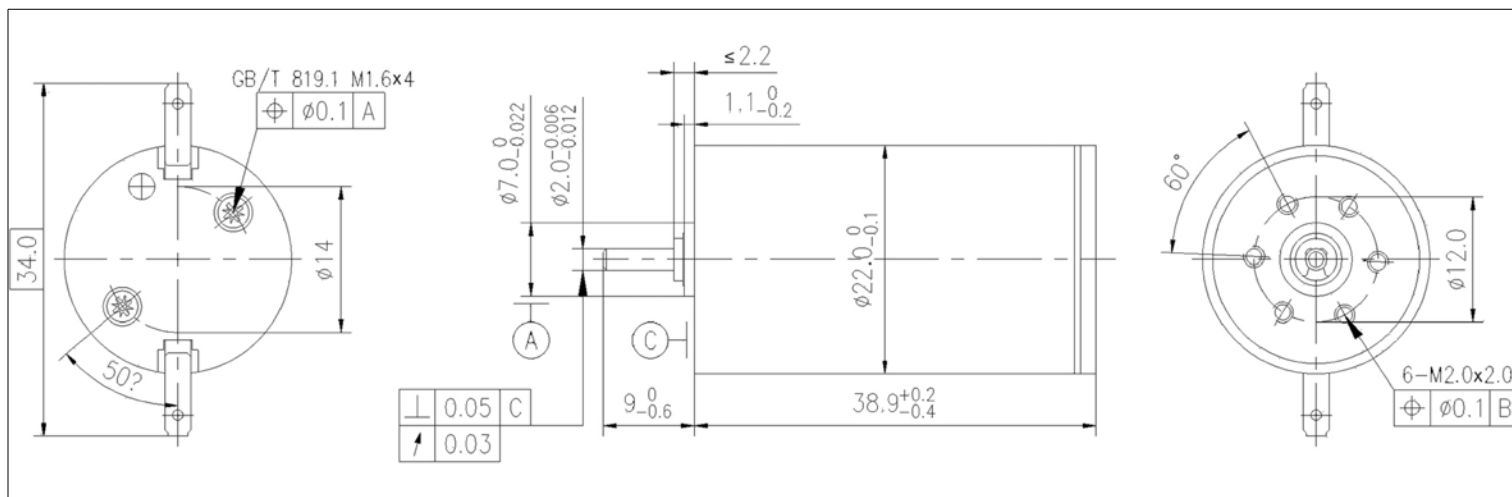
# Coreless DC Motor - 22 mm Ø

C22G24BD000

8.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	24.0 Volts	24.0 Volts	24.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	38.3 mNm	390.7 gcm	5.4 oz-in
No-Load Current	0.016 Amps	0.016 Amps	0.016 Amps
Peak Output Power	8.4 Watts	8.4 Watts	8.4 Watts
Torque Constant	26.82 mNm/A	273.47 gcm/A	3.80 oz-in/A
Terminal Resistance	16.80 Ohms	16.80 Ohms	16.80 Ohms
Back-EMF Constant	2.81 V/krpm	2.81 V/krpm	2.81 V/krpm
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Rotor Inertia	4.24 kgm <sup>2</sup> x10 <sup>-7</sup>	4.24 gm cm <sup>2</sup>	0.60 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Slope of Speed/Torque Curve	220.6 rpm/mNm	21.6 rpm/gcm	1,557.5 rpm/oz-in
Speed Constant	356 rpm/Volt	80 %	80 %
Motor Constant	6.54 mNm/√Watt	66.72 gcm/√Watt	0.93 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,782 rpm	5.4 Watts	5.4 Watts	5.4 Watts
Rated Torque @ 6,782 rpm	7.6 mNm	77.2 gcm	1.1 oz-in
Rated Current @ 6,782 rpm	0.282 Amps	0.282 Amps	0.282 Amps

Part Number: How to Order C22G24BD000

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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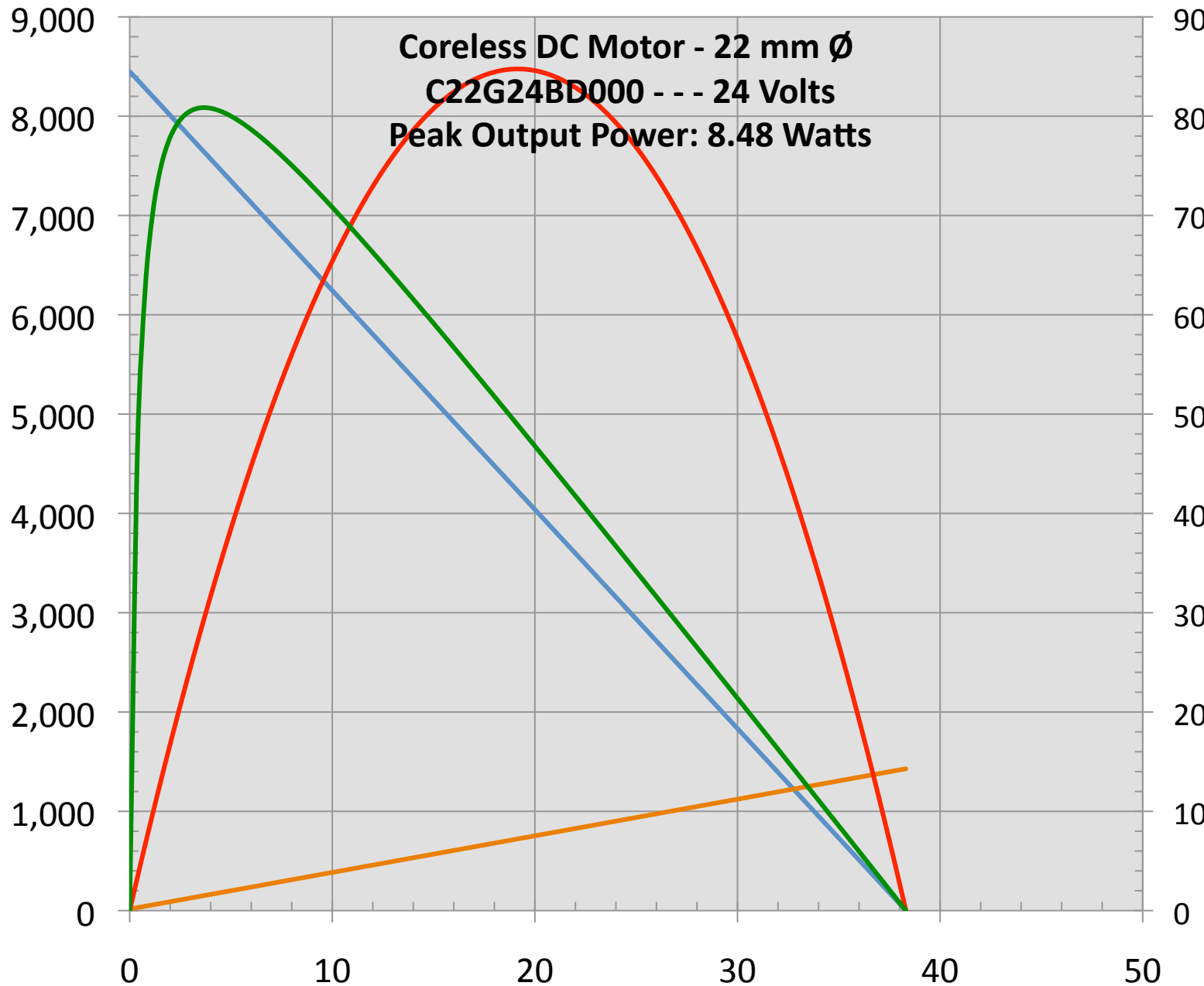
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G24BD000 - - - 24 Volts**  
**Peak Output Power: 8.48 Watts**

**C22G24BD000**  
**Voltage: 24 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.016 Amps  
 Terminal Resistance: 16.8 Ohms  
 Stall Torque: 38.31 mNm  
 Torque Constant: 26.82 mNm/A  
 Peak Output Power: 8.48 Watts  
 Peak Efficiency: 80.8%  
 Stall Current: 1.43 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 10  
 A - Power Out - Watts / 10  
 A - Efficiency - %

**Torque - mNm**

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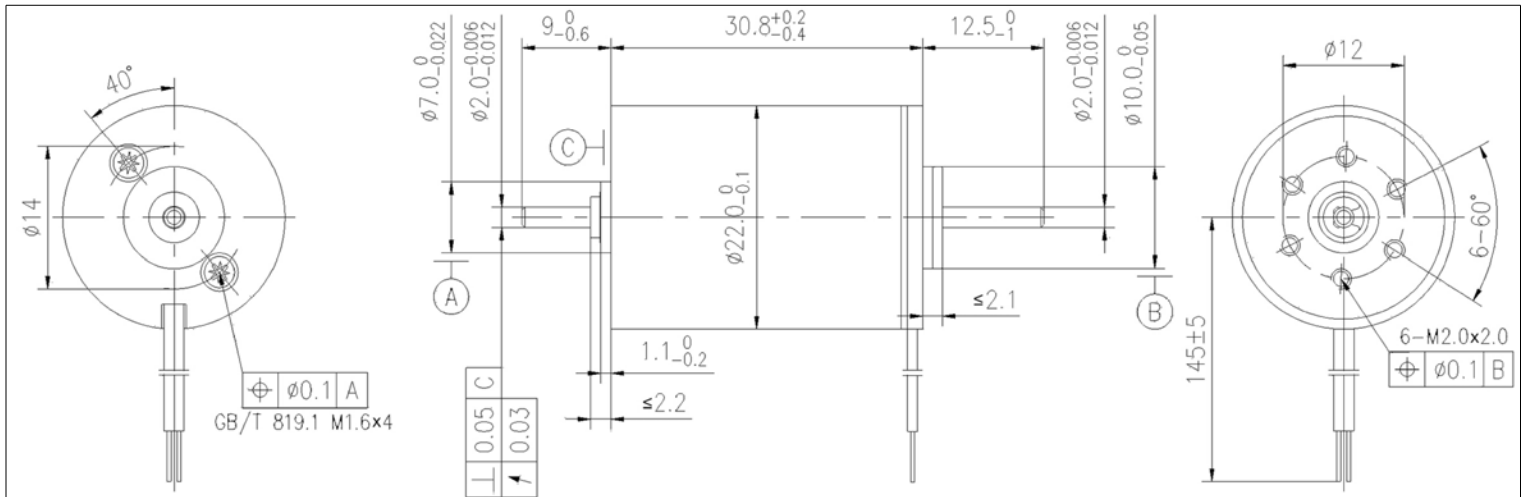
# Coreless DC Motor - 22 mm Ø



C22G24SD000

8.4 Watts Peak Power

Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	24.0 Volts	24.0 Volts	24.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	38.3 mNm	390.7 gcm	5.4 oz-in
No-Load Current	0.016 Amps	0.016 Amps	0.016 Amps
Peak Output Power	8.4 Watts	8.4 Watts	8.4 Watts
Torque Constant	26.82 mNm/A	273.47 gcm/A	3.80 oz-in/A
Terminal Resistance	16.80 Ohms	16.80 Ohms	16.80 Ohms
Back-EMF Constant	2.81 V/krpm	2.81 V/krpm	2.81 V/krpm
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Rotor Inertia	4.24 kgm <sup>2</sup> x10 <sup>-7</sup>	4.24 gm cm <sup>2</sup>	0.60 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Slope of Speed/Torque Curve	220.6 rpm/mNm	21.6 rpm/gcm	1,557.5 rpm/oz-in
Speed Constant	356 rpm/Volt	80 %	80 %
Motor Constant	6.54 mNm/√Watt	66.72 gcm/√Watt	0.93 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,782 rpm	5.4 Watts	5.4 Watts	5.4 Watts
Rated Torque @ 6,782 rpm	7.6 mNm	77.2 gcm	1.1 oz-in
Rated Current @ 6,782 rpm	0.282 Amps	0.282 Amps	0.282 Amps

Part Number: How to Order C22G24SD000

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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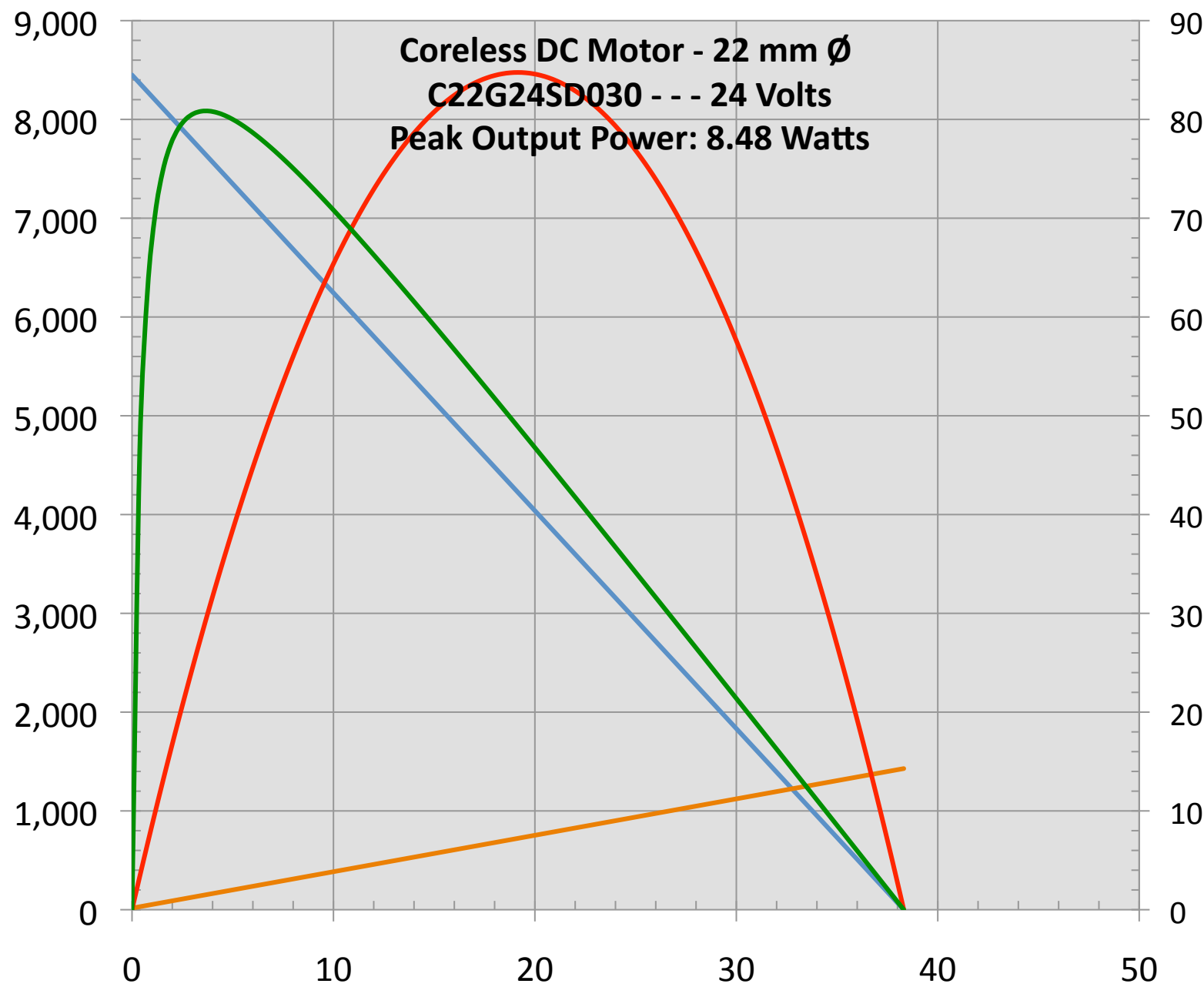
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G24SD030 - - - 24 Volts**  
**Peak Output Power: 8.48 Watts**

**C22G24SD030**  
**Voltage: 24 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.016 Amps  
 Terminal Resistance: 16.8 Ohms  
 Stall Torque: 38.31 mNm  
 Torque Constant: 26.82 mNm/A  
 Peak Output Power: 8.48 Watts  
 Peak Efficiency: 80.8%  
 Stall Current: 1.43 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 10  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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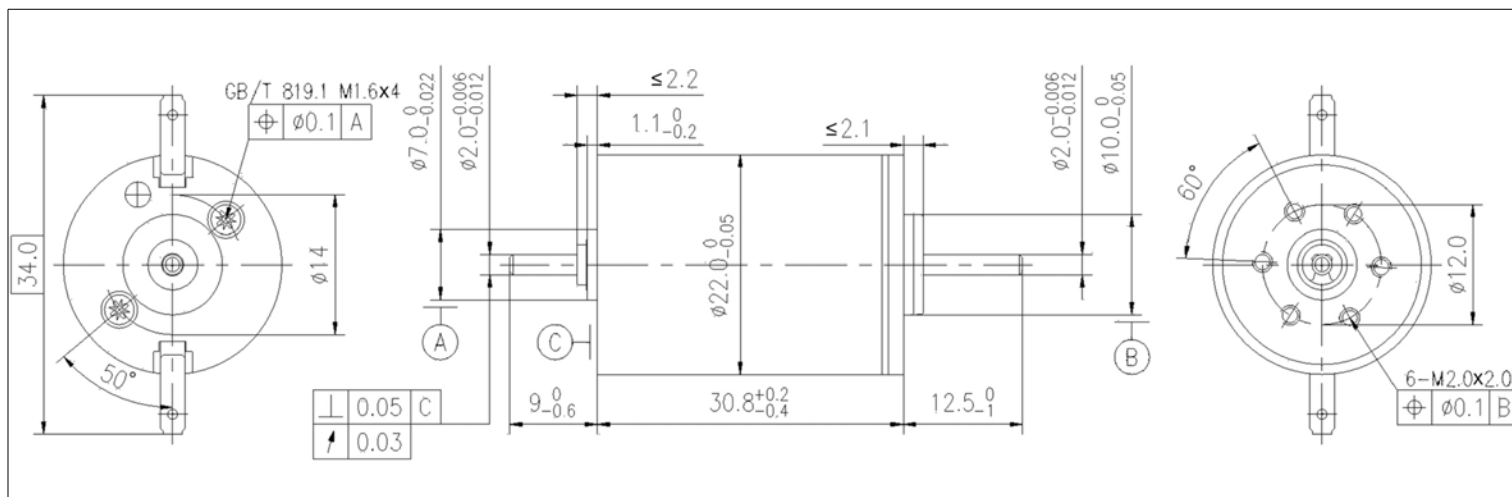
# Coreless DC Motor - 22 mm Ø

C22G24SD010

8.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	24.0 Volts	24.0 Volts	24.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	38.3 mNm	390.7 gcm	5.4 oz-in
No-Load Current	0.016 Amps	0.016 Amps	0.016 Amps
Peak Output Power	8.4 Watts	8.4 Watts	8.4 Watts
Torque Constant	26.82 mNm/A	273.47 gcm/A	3.80 oz-in/A
Terminal Resistance	16.80 Ohms	16.80 Ohms	16.80 Ohms
Back-EMF Constant	2.81 V/krpm	2.81 V/krpm	2.81 V/krpm
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Rotor Inertia	4.24 kgm <sup>2</sup> x10 <sup>-7</sup>	4.24 gm cm <sup>2</sup>	0.60 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Slope of Speed/Torque Curve	220.6 rpm/mNm	21.6 rpm/gcm	1,557.5 rpm/oz-in
Speed Constant	356 rpm/Volt	80 %	80 %
Motor Constant	6.54 mNm/√Watt	66.72 gcm/√Watt	0.93 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,782 rpm	5.4 Watts	5.4 Watts	5.4 Watts
Rated Torque @ 6,782 rpm	7.6 mNm	77.2 gcm	1.1 oz-in
Rated Current @ 6,782 rpm	0.282 Amps	0.282 Amps	0.282 Amps

Part Number: How to Order C22G24SD010

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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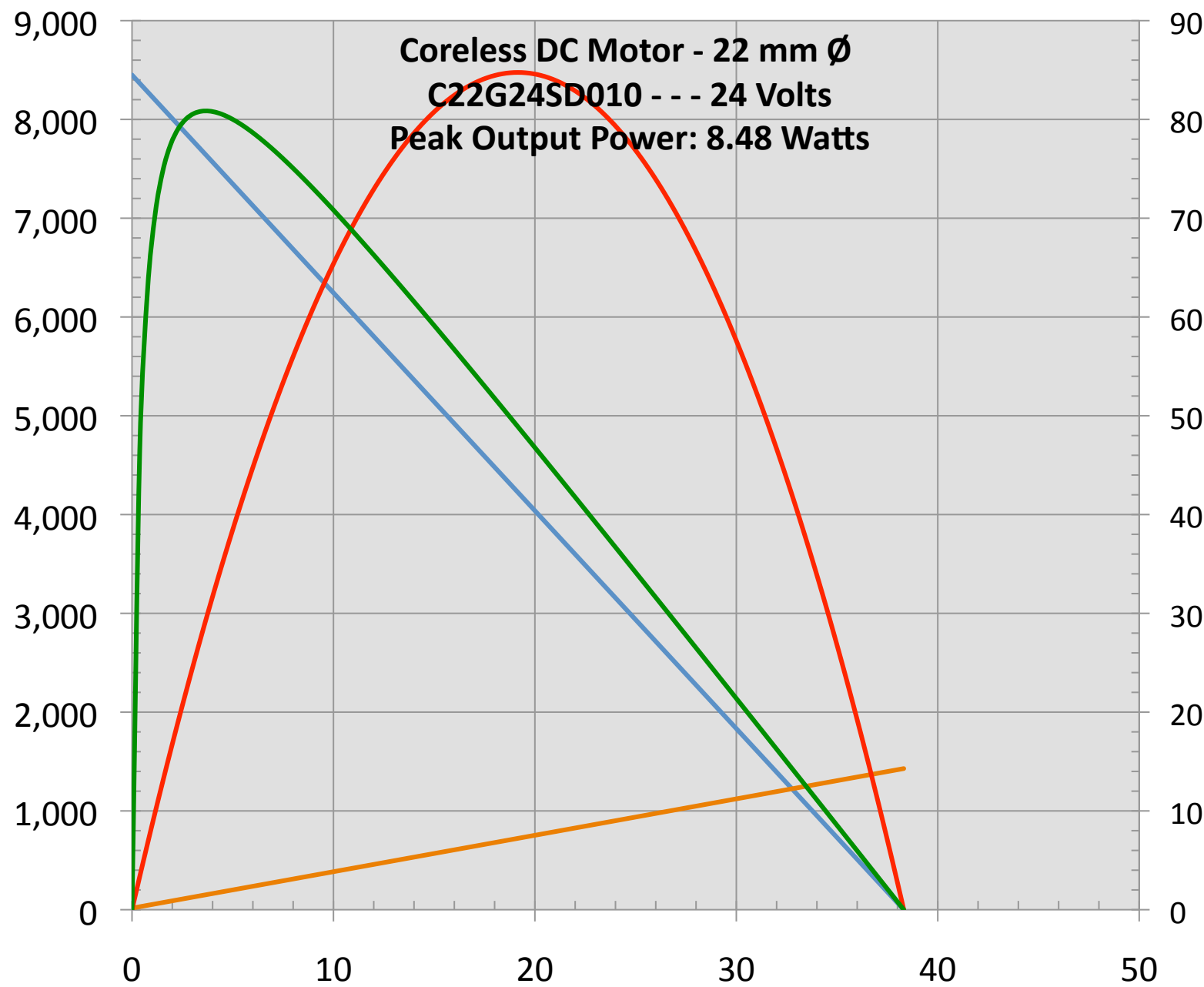
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G24SD010 - - - 24 Volts**  
**Peak Output Power: 8.48 Watts**

**C22G24SD010**  
**Voltage: 24 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.016 Amps  
 Terminal Resistance: 16.8 Ohms  
 Stall Torque: 38.31 mNm  
 Torque Constant: 26.82 mNm/A  
 Peak Output Power: 8.48 Watts  
 Peak Efficiency: 80.8%  
 Stall Current: 1.43 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 10  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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January 18, 2011

**CAUTION:** Peak Output Power is NOT a RATING. This is merely a calculated value and does not address Thermal Issues.

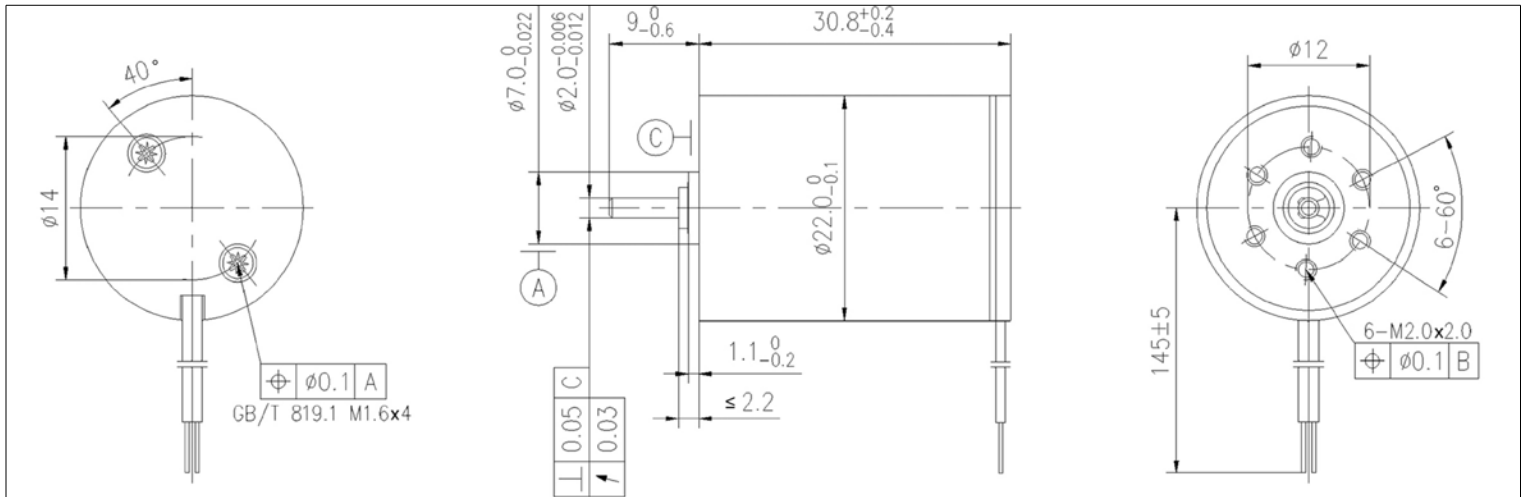
# Coreless DC Motor - 22 mm Ø

C22G24SD030

8.4 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	24.0 Volts	24.0 Volts	24.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	38.3 mNm	390.7 gcm	5.4 oz-in
No-Load Current	0.016 Amps	0.016 Amps	0.016 Amps
Peak Output Power	8.4 Watts	8.4 Watts	8.4 Watts
Torque Constant	26.82 mNm/A	273.47 gcm/A	3.80 oz-in/A
Terminal Resistance	16.80 Ohms	16.80 Ohms	16.80 Ohms
Back-EMF Constant	2.81 V/krpm	2.81 V/krpm	2.81 V/krpm
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Rotor Inertia	4.24 kgm <sup>2</sup> x10 <sup>-7</sup>	4.24 gm cm <sup>2</sup>	0.60 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	9.9 msec	9.9 msec	9.9 msec
Slope of Speed/Torque Curve	220.6 rpm/mNm	21.6 rpm/gcm	1,557.5 rpm/oz-in
Speed Constant	356 rpm/Volt	80 %	80 %
Motor Constant	6.54 mNm/ $\sqrt{\text{Watt}}$	66.72 gcm/ $\sqrt{\text{Watt}}$	0.93 oz-in/ $\sqrt{\text{Watt}}$
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,782 rpm	5.4 Watts	5.4 Watts	5.4 Watts
Rated Torque @ 6,782 rpm	7.6 mNm	77.2 gcm	1.1 oz-in
Rated Current @ 6,782 rpm	0.282 Amps	0.282 Amps	0.282 Amps

Part Number: How to Order C22G24SD030

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

Graphite

Manufactured under a  
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Quality System

RoHS Compliant

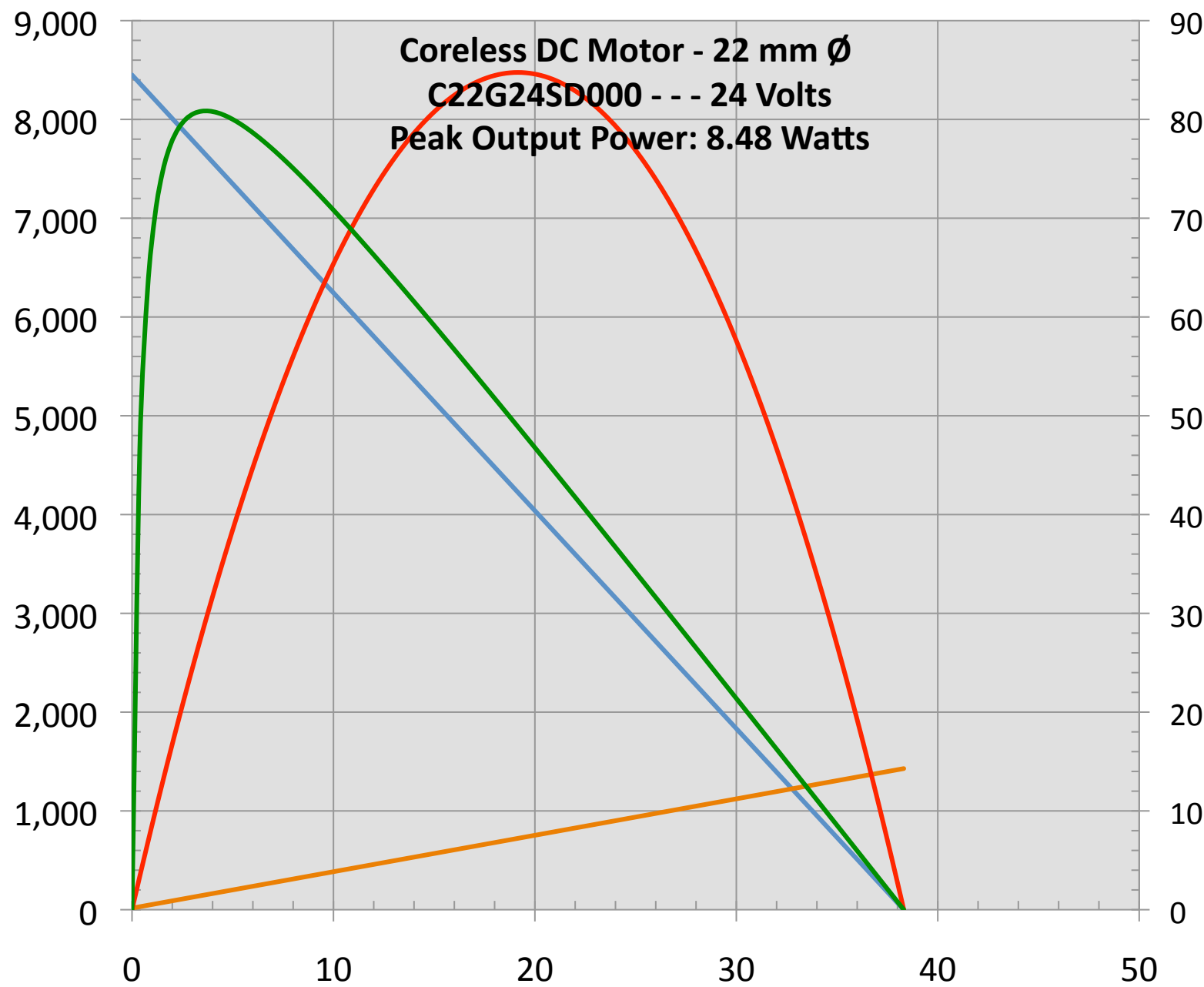
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G24SD000 - - - 24 Volts**  
**Peak Output Power: 8.48 Watts**

**C22G24SD000**  
**Voltage: 24 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.016 Amps  
 Terminal Resistance: 16.8 Ohms  
 Stall Torque: 38.31 mNm  
 Torque Constant: 26.82 mNm/A  
 Peak Output Power: 8.48 Watts  
 Peak Efficiency: 80.8%  
 Stall Current: 1.43 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 10  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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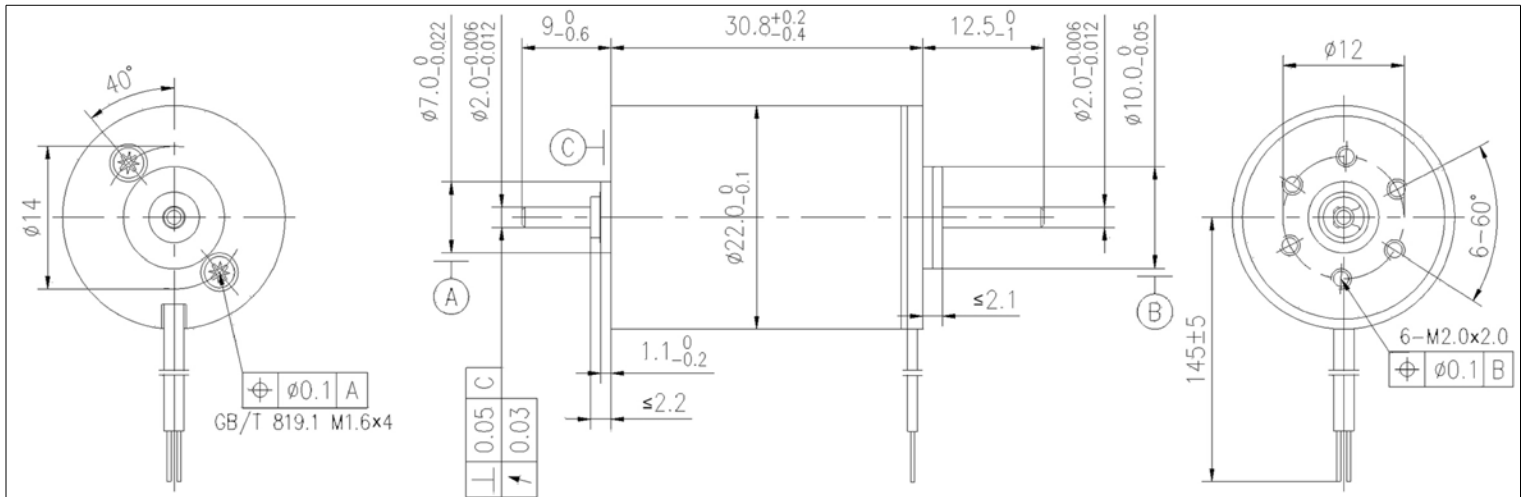
# Coreless DC Motor - 22 mm Ø



C22G36SD000

4.3 Watts Peak Power

Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	36.0 Volts	36.0 Volts	36.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	19.4 mNm	198.1 gcm	2.8 oz-in
No-Load Current	0.005 Amps	0.005 Amps	0.005 Amps
Peak Output Power	4.3 Watts	4.3 Watts	4.3 Watts
Torque Constant	40.26 mNm/A	410.56 gcm/A	5.70 oz-in/A
Terminal Resistance	74.60 Ohms	74.60 Ohms	74.60 Ohms
Back-EMF Constant	4.22 V/krpm	4.22 V/krpm	4.22 V/krpm
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Rotor Inertia	4.28 kgm <sup>2</sup> x10 <sup>-7</sup>	4.28 gm cm <sup>2</sup>	0.61 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Slope of Speed/Torque Curve	434.9 rpm/mNm	42.7 rpm/gcm	3,071.1 rpm/oz-in
Speed Constant	237 rpm/Volt	81 %	81 %
Motor Constant	4.66 mNm/√Watt	47.53 gcm/√Watt	0.66 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,769 rpm	2.7 Watts	2.7 Watts	2.7 Watts
Rated Torque @ 6,769 rpm	3.9 mNm	39.5 gcm	0.5 oz-in
Rated Current @ 6,769 rpm	0.096 Amps	0.096 Amps	0.096 Amps

Part Number: How to Order C22G36SD000

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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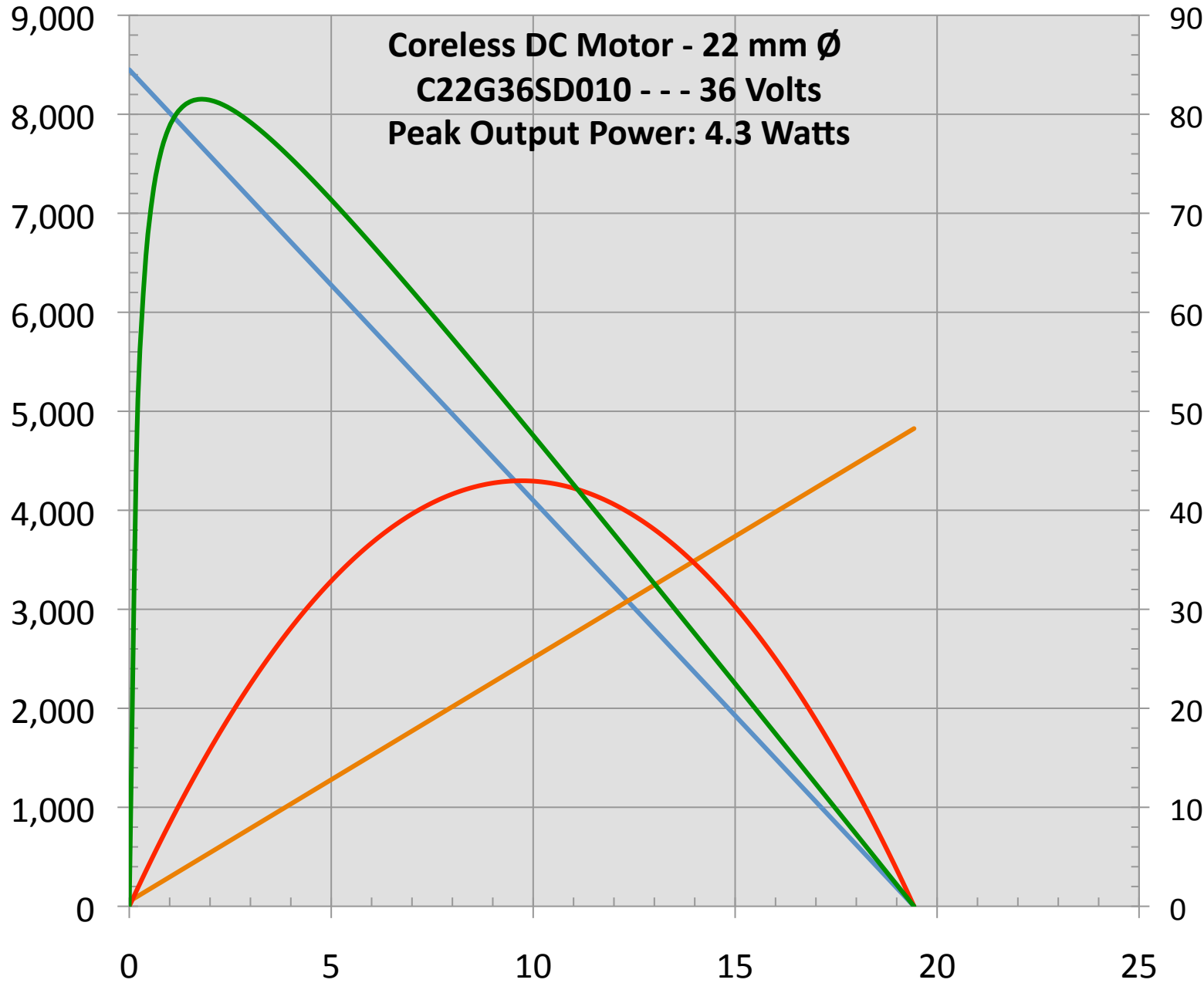
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G36SD010 - - - 36 Volts**  
**Peak Output Power: 4.3 Watts**

**C22G36SD010**  
**Voltage: 36 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.005 Amps  
 Terminal Resistance: 74.6 Ohms  
 Stall Torque: 19.43 mNm  
 Torque Constant: 40.26 mNm/A  
 Peak Output Power: 4.3 Watts  
 Peak Efficiency: 81.5%  
 Stall Current: 0.48 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 100  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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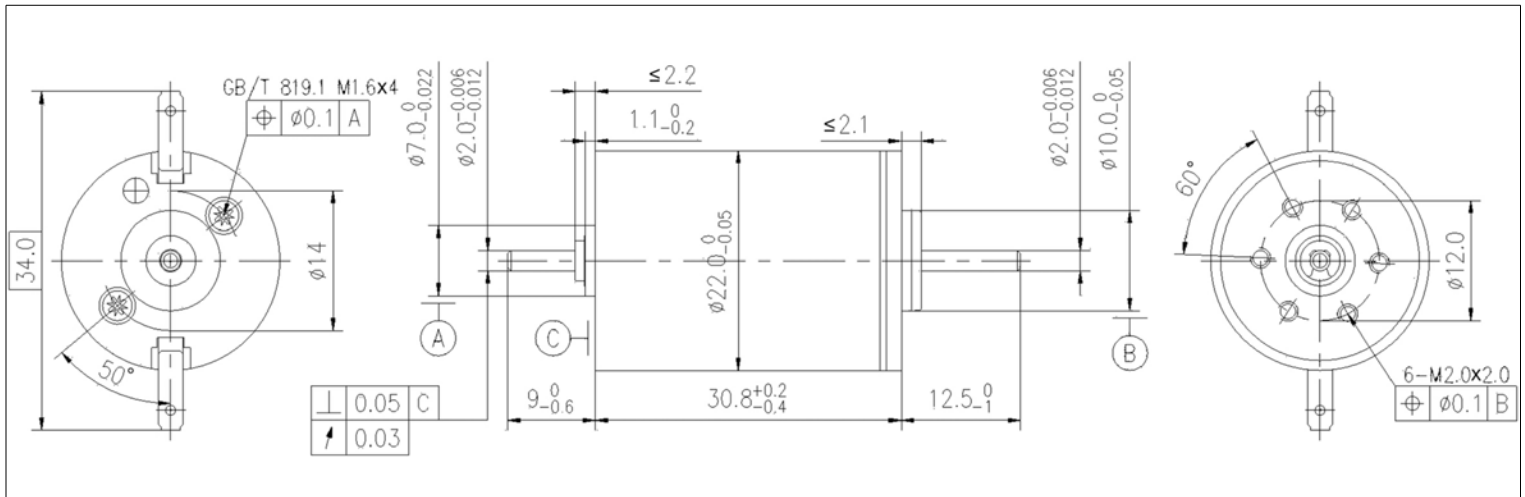
# Coreless DC Motor - 22 mm Ø

C22G36SD010

4.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	36.0 Volts	36.0 Volts	36.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	19.4 mNm	198.1 gcm	2.8 oz-in
No-Load Current	0.005 Amps	0.005 Amps	0.005 Amps
Peak Output Power	4.3 Watts	4.3 Watts	4.3 Watts
Torque Constant	40.26 mNm/A	410.56 gcm/A	5.70 oz-in/A
Terminal Resistance	74.60 Ohms	74.60 Ohms	74.60 Ohms
Back-EMF Constant	4.22 V/krpm	4.22 V/krpm	4.22 V/krpm
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Rotor Inertia	4.28 kgm <sup>2</sup> x10 <sup>-7</sup>	4.28 gm cm <sup>2</sup>	0.61 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Slope of Speed/Torque Curve	434.9 rpm/mNm	42.7 rpm/gcm	3,071.1 rpm/oz-in
Speed Constant	237 rpm/Volt	81 %	81 %
Motor Constant	4.66 mNm/√Watt	47.53 gcm/√Watt	0.66 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,769 rpm	2.7 Watts	2.7 Watts	2.7 Watts
Rated Torque @ 6,769 rpm	3.9 mNm	39.5 gcm	0.5 oz-in
Rated Current @ 6,769 rpm	0.096 Amps	0.096 Amps	0.096 Amps

Part Number: How to Order C22G36SD010

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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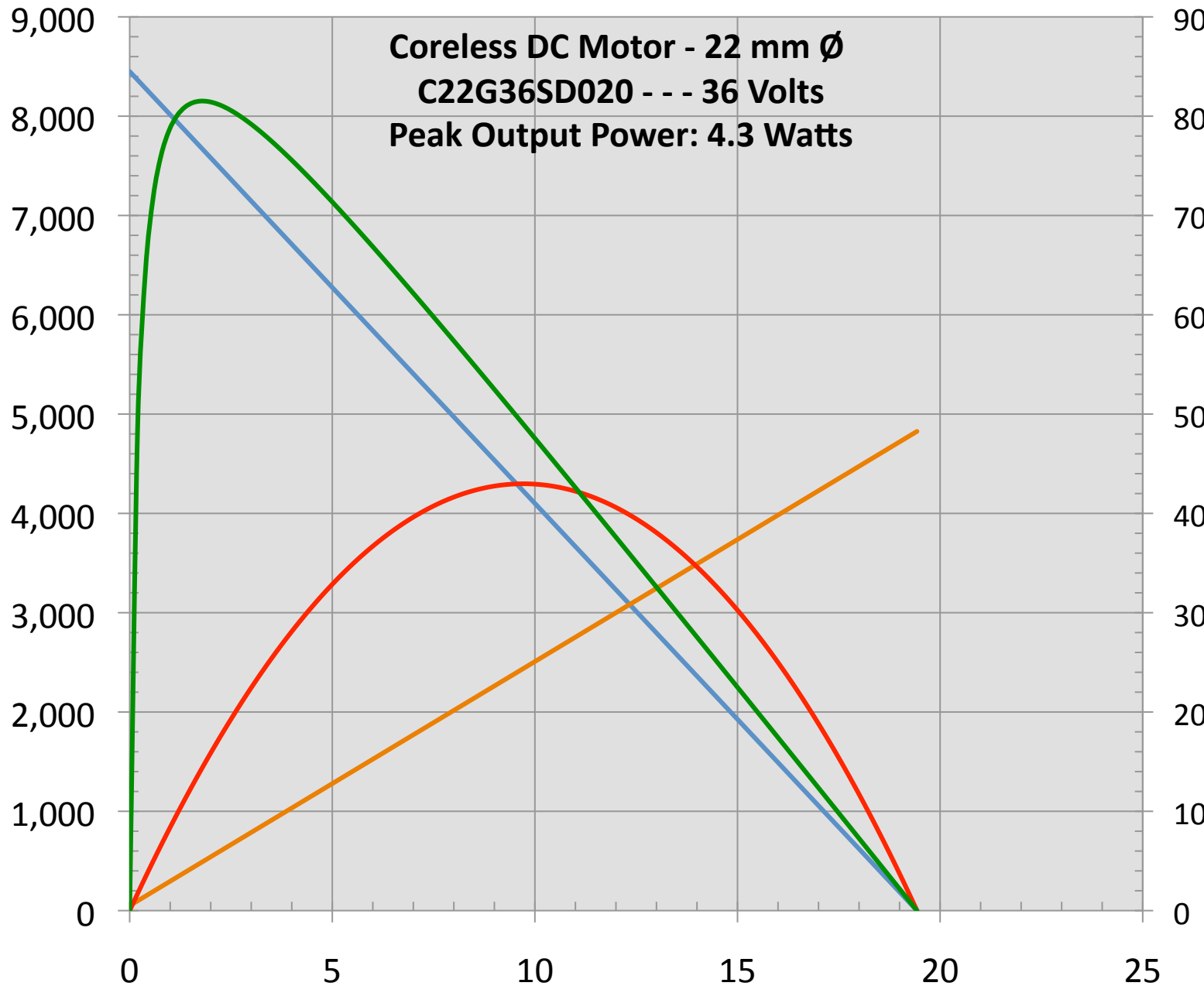
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G36SD020 - - - 36 Volts**  
**Peak Output Power: 4.3 Watts**

**C22G36SD020**  
**Voltage: 36 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.005 Amps  
 Terminal Resistance: 74.6 Ohms  
 Stall Torque: 19.43 mNm  
 Torque Constant: 40.26 mNm/A  
 Peak Output Power: 4.3 Watts  
 Peak Efficiency: 81.5%  
 Stall Current: 0.48 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 100  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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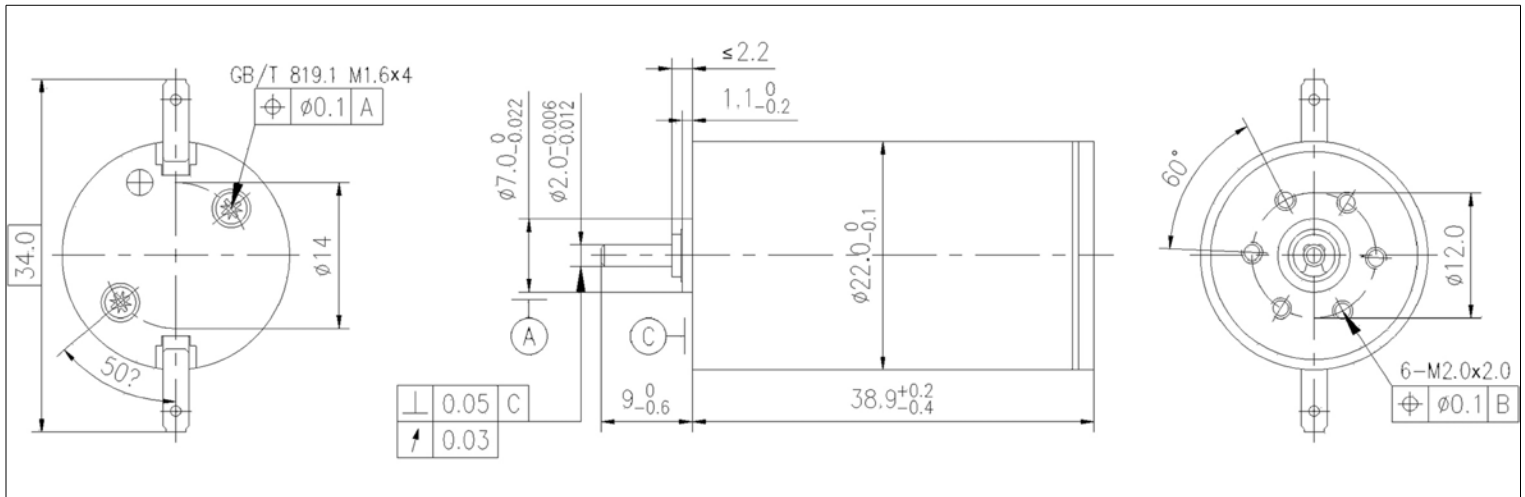
# Coreless DC Motor - 22 mm Ø

C22G36SD020

4.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	36.0 Volts	36.0 Volts	36.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	19.4 mNm	198.1 gcm	2.8 oz-in
No-Load Current	0.005 Amps	0.005 Amps	0.005 Amps
Peak Output Power	4.3 Watts	4.3 Watts	4.3 Watts
Torque Constant	40.26 mNm/A	410.56 gcm/A	5.70 oz-in/A
Terminal Resistance	74.60 Ohms	74.60 Ohms	74.60 Ohms
Back-EMF Constant	4.22 V/krpm	4.22 V/krpm	4.22 V/krpm
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Rotor Inertia	4.28 kgm <sup>2</sup> x10 <sup>-7</sup>	4.28 gm cm <sup>2</sup>	0.61 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Slope of Speed/Torque Curve	434.9 rpm/mNm	42.7 rpm/gcm	3,071.1 rpm/oz-in
Speed Constant	237 rpm/Volt	81 %	81 %
Motor Constant	4.66 mNm/ $\sqrt{\text{Watt}}$	47.53 gcm/ $\sqrt{\text{Watt}}$	0.66 oz-in/ $\sqrt{\text{Watt}}$
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,769 rpm	2.7 Watts	2.7 Watts	2.7 Watts
Rated Torque @ 6,769 rpm	3.9 mNm	39.5 gcm	0.5 oz-in
Rated Current @ 6,769 rpm	0.096 Amps	0.096 Amps	0.096 Amps

Part Number: How to Order C22G36SD020

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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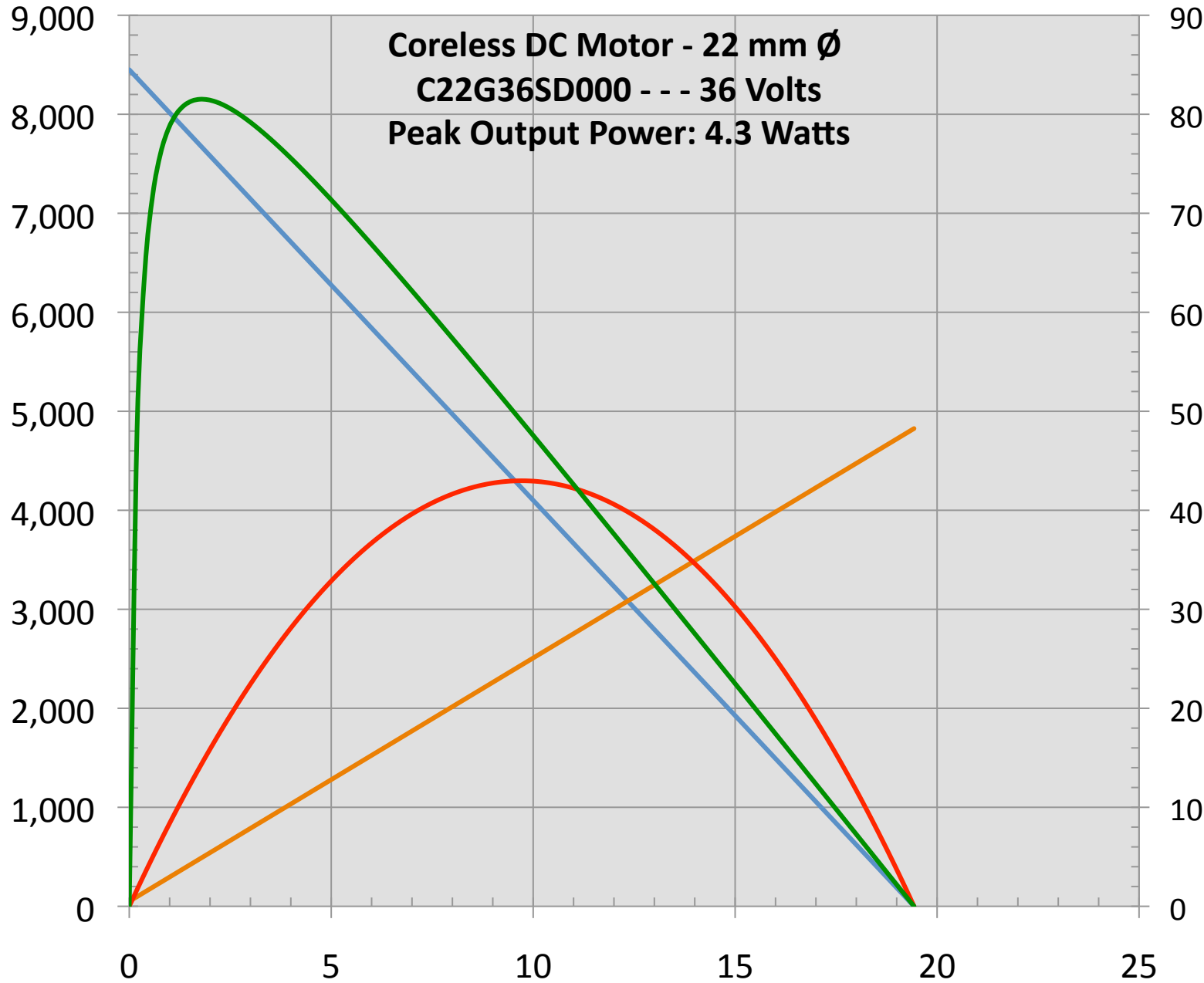
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G36SD000 - - - 36 Volts**  
**Peak Output Power: 4.3 Watts**

**C22G36SD000**  
**Voltage: 36 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.005 Amps  
 Terminal Resistance: 74.6 Ohms  
 Stall Torque: 19.43 mNm  
 Torque Constant: 40.26 mNm/A  
 Peak Output Power: 4.3 Watts  
 Peak Efficiency: 81.5%  
 Stall Current: 0.48 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 100  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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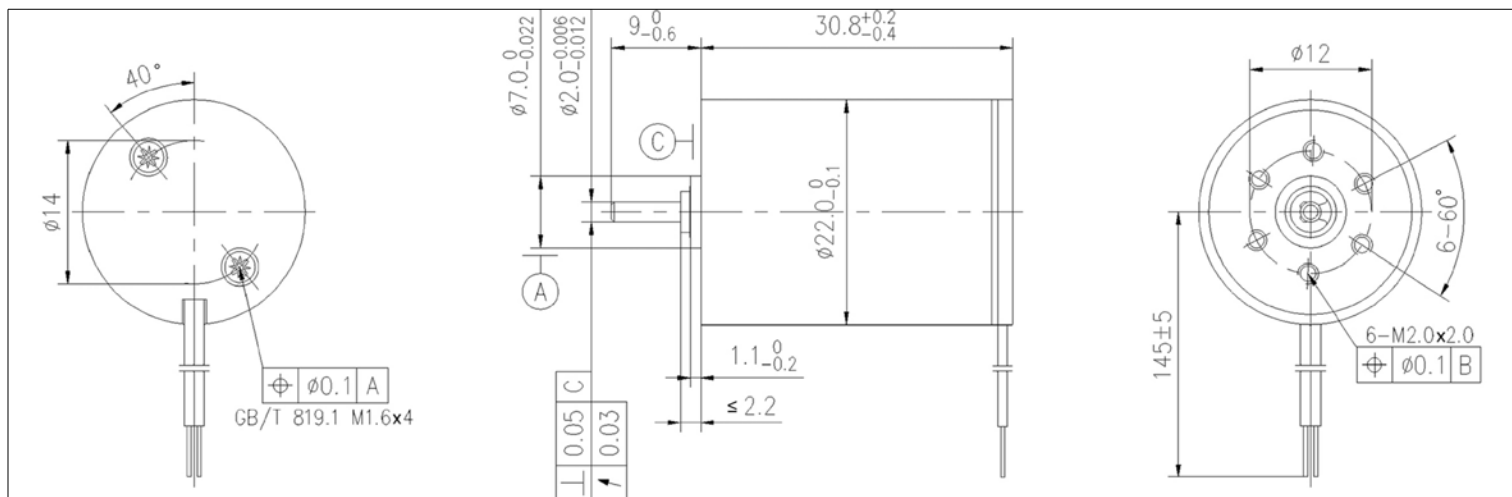
# Coreless DC Motor - 22 mm Ø

C22G36SD030

4.3 Watts Peak Power



Global Motion Products



Not to Scale - Dimensions in millimeters (mm)

Nominal Voltage	36.0 Volts	36.0 Volts	36.0 Volts
No-Load Speed	8,450 rpm	8,450 rpm	8,450 rpm
Stall Torque	19.4 mNm	198.1 gcm	2.8 oz-in
No-Load Current	0.005 Amps	0.005 Amps	0.005 Amps
Peak Output Power	4.3 Watts	4.3 Watts	4.3 Watts
Torque Constant	40.26 mNm/A	410.56 gcm/A	5.70 oz-in/A
Terminal Resistance	74.60 Ohms	74.60 Ohms	74.60 Ohms
Back-EMF Constant	4.22 V/krpm	4.22 V/krpm	4.22 V/krpm
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Rotor Inertia	4.28 kgm <sup>2</sup> x10 <sup>-7</sup>	4.28 gm cm <sup>2</sup>	0.61 x10 <sup>-4</sup> oz-in-sec <sup>2</sup>
Mechanical Time Constant	19.7 msec	19.7 msec	19.7 msec
Slope of Speed/Torque Curve	434.9 rpm/mNm	42.7 rpm/gcm	3,071.1 rpm/oz-in
Speed Constant	237 rpm/Volt	81 %	81 %
Motor Constant	4.66 mNm/√Watt	47.53 gcm/√Watt	0.66 oz-in/√Watt
Commutation Type	Graphite	Graphite	Graphite
Rated Power @ 6,769 rpm	2.7 Watts	2.7 Watts	2.7 Watts
Rated Torque @ 6,769 rpm	3.9 mNm	39.5 gcm	0.5 oz-in
Rated Current @ 6,769 rpm	0.096 Amps	0.096 Amps	0.096 Amps

Part Number: How to Order C22G36SD030

Ratings are at 25°C Ambient Temperature.

Radial Load Rating	2.7 N	Radial Play	0.020 mm	Max Temperature	65 °C
Radial Load Distance	4 mm	Thrust Play	0.150 mm	Min Temperature	-20 °C
Axial Load	1.00 N	Magnet Type	NdFeB	Max Winding Temp	85 °C
Press Fit Force - Max	80.00 N	Bearing Type	Sleeve Bearings	Mass	56 grams
Gearbox Options	P22 Series Planetary Gearboxes				
Encoder Options	22 mm Optical - 3 Channel				
Options - Other	Ball Bearings. Shaft length. Lubricants. Leads. Solder Tabs. Connectors.				

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Commutation Type:

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RoHS Compliant

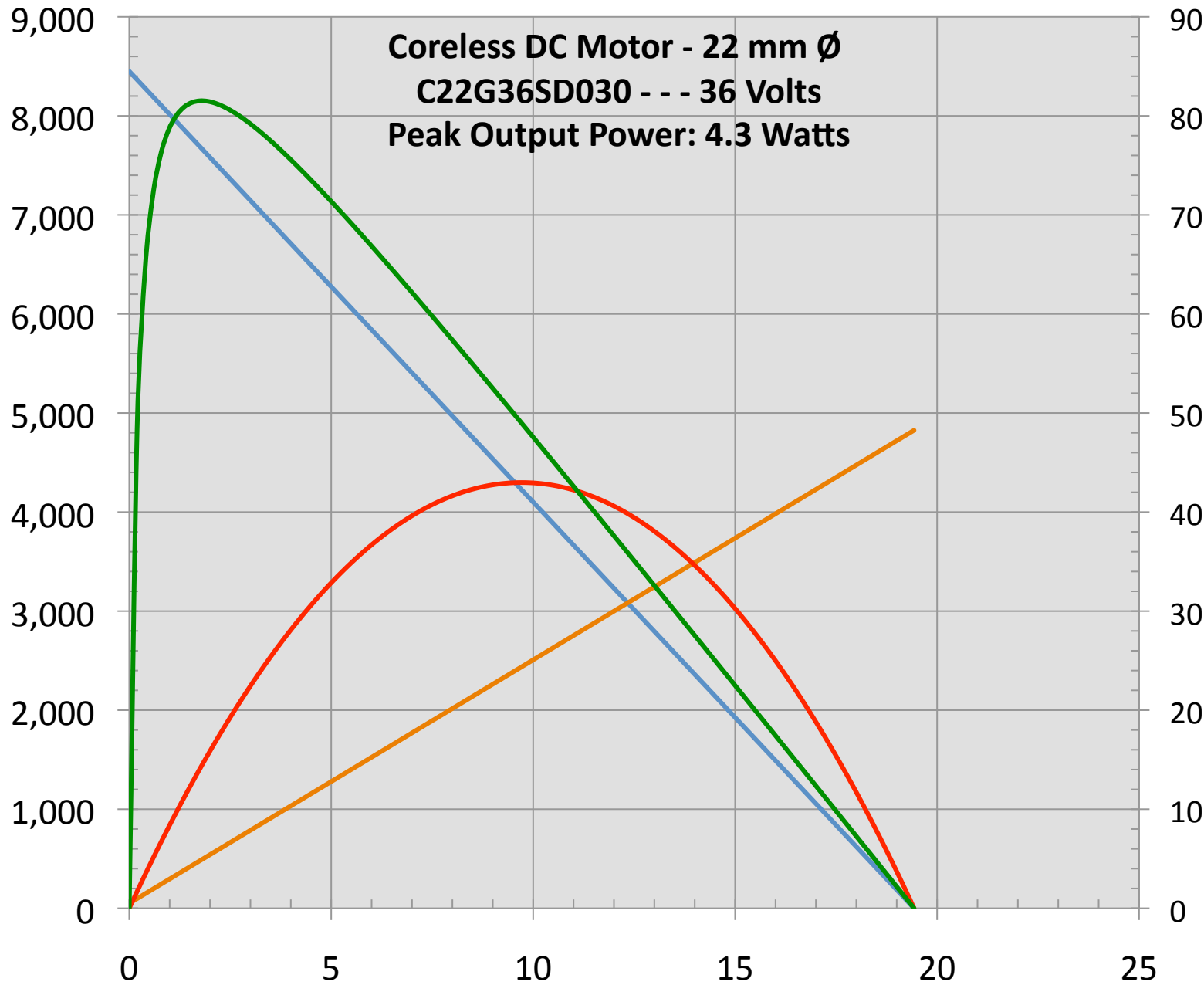
B - March 2011

Specifications Subject to change without notice

**Coreless DC Motor - 22 mm Ø**  
**C22G36SD030 - - - 36 Volts**  
**Peak Output Power: 4.3 Watts**

**C22G36SD030**  
**Voltage: 36 Volts**  
 No Load Speed: 8450 rpm  
 No Load Current: 0.005 Amps  
 Terminal Resistance: 74.6 Ohms  
 Stall Torque: 19.43 mNm  
 Torque Constant: 40.26 mNm/A  
 Peak Output Power: 4.3 Watts  
 Peak Efficiency: 81.5%  
 Stall Current: 0.48 Amps

Speed - rpm



90  
80  
70  
60  
50  
40  
30  
20  
10  
0

A - Speed - rpm  
 A - Current - Amps / 100  
 A - Power Out - Watts / 10  
 A - Efficiency - %

Torque - mNm

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