

# Stepping Motors (Single Items)

Stepping Motors

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IP65-Rated Stepping Motors

Water and dust protection

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In-Vacuum Stepping Motors

Custom product

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Synchronous Motors

Custom product

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## How to Read Specifications

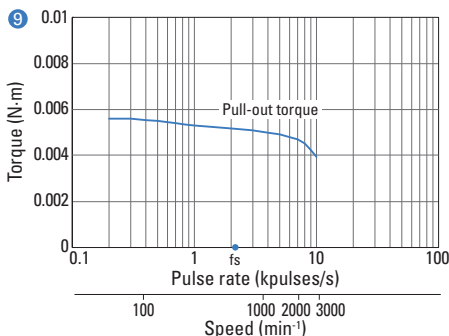
### Bipolar, lead type

1 Model no.	2 Holding torque at 2-phase excitation		3 Rated current	4 Winding resistance	5 Winding inductance	6 Rotor inertia	7 Mass	8 Motor length (L)
	Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$ kg·m <sup>2</sup>	kg
<b>SH2141-5541</b>	<b>SH2141-5511</b>	0.0065	0.3	21	4.2	0.00058	0.03	30
<b>SH2145-5641</b>	<b>SH2145-5611</b>	0.01	0.4	19	4	0.0011	0.042	43.8

### Characteristics

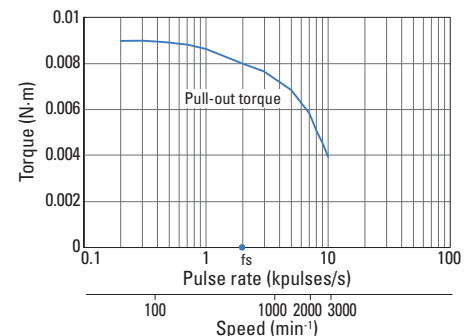
#### SH2141-5541 SH2141-5511

Constant current circuit  
Input voltage: 24 VDC  
Winding current:  
0.3 A/phase  
2-phase excitation (full step)  
Pull-out torque:  
 $J_i = 0.01 \times 10^{-4}$ kg·m<sup>2</sup>  
(Pulley balancer method)  
 $f_s$ : Maximum starting pulse  
rate with no load



#### SH2145-5641 SH2145-5611

Constant current circuit  
Input voltage: 24 VDC  
Winding current:  
0.4 A/phase  
At 2-phase excitation (full step)  
Pull-out torque:  
 $J_i = 0.01 \times 10^{-4}$ kg·m<sup>2</sup>  
(Pulley balancer method)  
 $f_s$ : Maximum starting pulse  
rate with no load



- This is the model number of the stepping motor.
- This is the maximum torque that is generated when the stepping motor is rotated by exerting an external force on the shaft at 2-phase excitation at the rated current.
- This is the rated current that flows to the motor winding. When current of this value flows through a motor, the torque generated will be the same as the holding torque.
- This is the resistance for one phase of stepping motor winding.
- This is the inductance for one phase of stepping motor winding.
- This is the moment of inertia of the rotor. This indicates the degree of ease with which the rotor accelerates or decelerates.
- This is the mass of the stepping motor.
- This is the length of the stepping motor.
- This graph shows the relationship between the pulse rate (frequency), motor speed, and pull-out torque in a full-step mode.