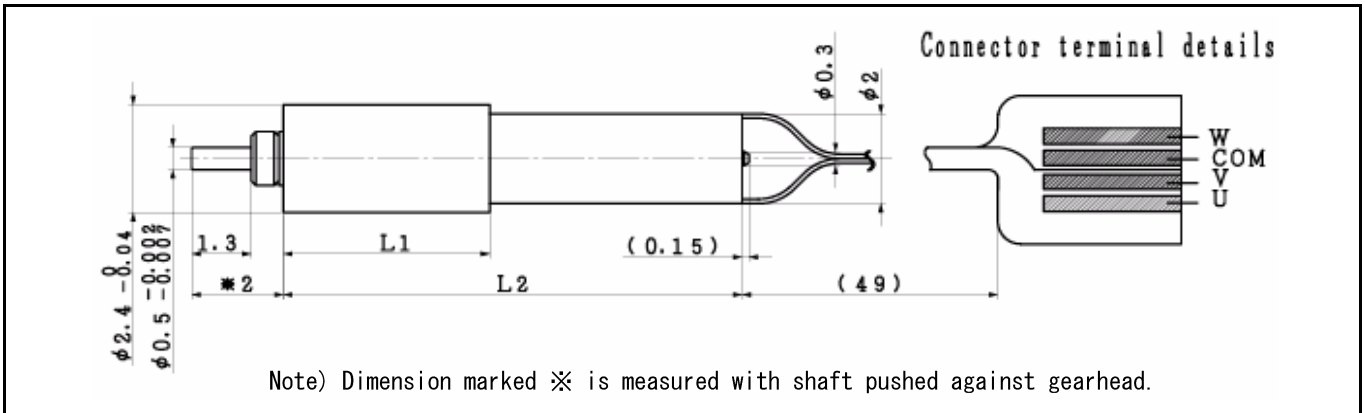


# SBL02-06

Electronically commutated sensorless motor, slotless stator design



Note) Dimension marked ※ is measured with shaft pushed against gearhead.

### Sensorless drive circuit SSD04

Ordering number	SBL02-06H1	SBL02-06H1	SBL02-06H1	SBL02-06H1
	PG02-4.3	PG02-18	PG02-79	PG02-337
1 Nominal voltage	3	3	3	3 V
2 Terminal resistance	105	105	105	105 $\Omega$
3 Gearhead reduction ratio	4.3	18	79	337 :1
4 Gearhead number of stage	1	2	3	4
5 Max. output power, gearhead output	0.0075	0.0050	0.0045	0.0036 W
6 Max. efficiency, motor only	17.7	16.6	16.0	15.5 %
7 No-load speed, gearhead output	16700	3600	900	200 rpm
8 No-load current	9.4	9.8	10.2	10.6 mA
9 Stall torque (2-points measurement), gearhead output	0.017	0.052	0.19	0.66 mNm
10 Friction torque	0.0086	0.030	0.11	0.39 mNm
11 Back-EMF constant	0.12	0.53	2.1	9.3 mV/rpm
12 Torque constant	0.92	3.1	10.4	36.4 mNm/A
13 Coil inductance	110	110	110	110 $\mu$ H
14 Mechanical time constant, motor only	6.2	6.2	6.2	6.2 ms
15 Gearhead length, L1	3.5	4.3	5	5.8 mm
16 Total length, L2	8.5	9.3	10	10.8 mm
17 Rotor inertia, motor only	$4.3 \times 10^{-5}$	$4.3 \times 10^{-5}$	$4.3 \times 10^{-5}$	$4.3 \times 10^{-5}$ gcm <sup>2</sup>
18 Total weight	190	210	230	245 mg

### General data

19 Operating temperature range	-10 ... +50	$^{\circ}$ C
20 Max. temperature raise at stall	20	$^{\circ}$ C
21 Bearing type	Sintered sleeves	
22 Max. permissible press fit force, gearhead output	2.9	N
23 Max. radial play, gearhead output	0.06	mm
24 Max. axial play, gearhead output	0.1	mm

### Ordering example

**SBL02-06H1PG18** corresponds to:

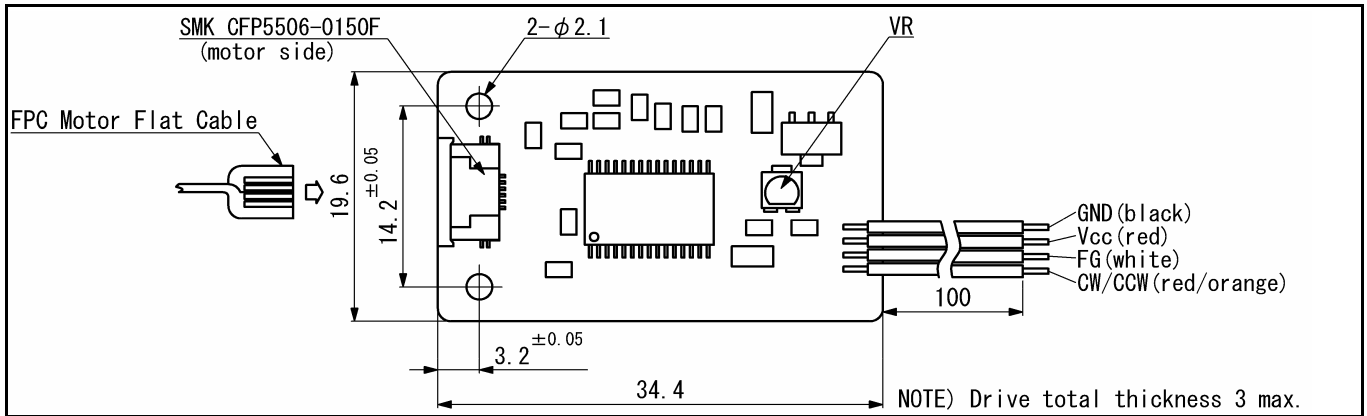
Motor SBL02-06H1 +

Planetary gearhead SPG02-18

### V01

# SSD04

## Sensorless brushless motor drive circuit



For Micro DC brushless motors **SBL02-06** and **SBL04-08**

### Description

SSD04 is a 3-phase sensorless drive circuit designed to operate brushless motor SBL02-06 and SBL04-08 exclusively. The operating voltage can be adjusted by VR trimmer and motor shaft direction can be reversed by connecting CW/CCW input to Vcc, if not connected the SBL02-06 runs CW while SBL04-08 CCW. FG (Frequency Generator) output provides a pulse per motor revolution. Internal thermal protection circuit included.

### Specifications

	SSD04			
	Min.	Typ.	Max.	
Voltage supply	2.7		6.0	V
Output voltage			4.9	V
Output current			0.8	A
Operating temperature range	-20 ... +75			°C
Weight	1.9			g

V01

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Specifications subject to change without notice