

## 2233N5C | 碳刷 Graphite Brush

应用领域：医疗、保健、汽车、机器人、工业自动化等精密驱动领域。

Applications: precision drives in medical equipment and devices, healthcare products, automotive, robotics, and industrial automation.

### 主要技术指标 | Characteristics

			22-69-12.0	23-105-24.0	
1	电压	Voltage	V	12.0	24.0
2	转子电阻	Rotor Resistance	$\Omega$	14.80	10.60
3	空载转速	No-load speed	rpm	6900	10500
4	空载电流	No-load current	mA	30	35
5	堵转转矩	Stall torque	mNm	12.5	47.8
6	堵转电流	Stall current	mA	810	2260
7	额定转矩	Nominal torque	mNm	3.0	4.5
8	额定转速	Nominal speed	rpm	5240	9510
9	额定电流	Nominal current	mA	220	240
10	最大输出功率	Max. output power	W	2.3	13.2
11	最大效率	Max. efficiency	%	65	77
12	反电势常数	Back-EMF constant	mV/rpm	1.7	2.3
13	转矩常数	Torque constant	mNm/A	16.0	21.5
14	转速 / 转矩斜率	Speed/torque gradient	rpm/mNm	550	220
15	转子惯量	Rotor inertia	$\text{gcm}^2$	2.5	2.5
16	重量	Weight	g	52	52
17	热阻 (机壳 - 环境)	Thermal resistance housing-ambient	K/W		21
18	热阻 (线圈 - 机壳)	Thermal resistance winding-housing	K/W		11.2
19	热时常数 (电机)	Thermal time constant motor	s		240
20	热时常数 (线圈)	Thermal time constant winding	s		10
21	工作温度范围	Operating temperature range	$^{\circ}\text{C}$		-20~+85
22	绕组耐温等级	Thermal class of winding	$^{\circ}\text{C}$		130
23	轴向间隙	Axial play	mm		0.02~0.15
24	径向间隙	Radial play	mm		0.012
25	动态轴向载荷	Axial load dynamic	N		1
26	静态轴向载荷	Axial load static	N		80
27	径向载荷 (距安装面 3mm)	Radial load at 3 mm from mounting face	N		3
28	极对数	No. of pole pairs			1
29	轴承	Bearings			2 枚含油轴承/2 sleeve bearings
30	换向结构	Commutator			贵金属 5 相/metal 5 segments
31	防护等级	Protection class			IP 30

★可选参数 Options: 导线长度 Lead wires length 轴长 Shaft length 性能 Special coils 轴承 Bearing type

齿轮箱 Gearheads 编码器 Encoder

### 外观图 | Outline Drawing

