

NFP-D1213R

12 mm Coreless DC Motor, 13 mm Type

Compact coreless motor family offered in five voltage and speed configurations for small drive systems, robots, tools, and precision motion applications.



Motor Specifications

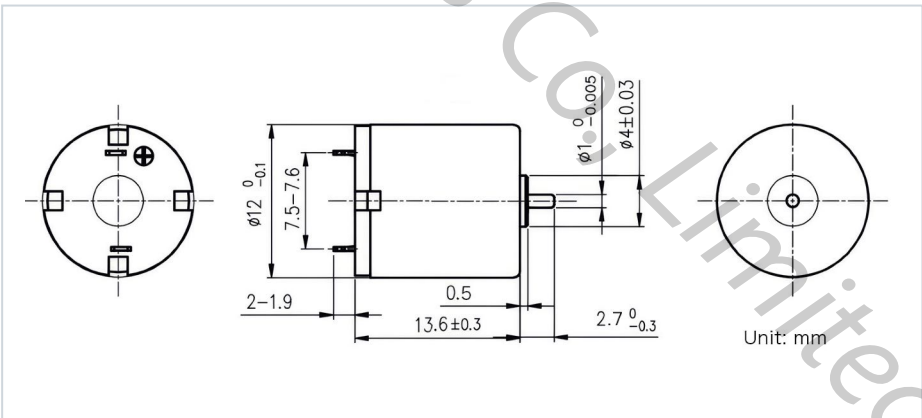
Parameter	NFP-D1213R-A	NFP-D1213R-B	NFP-D1213R-C	NFP-D1213R-D	NFP-D1213R-E
Rated Voltage	5V DC	6V DC	6V DC	7.4V DC	7.4V DC
No-load Speed	27,420rpm	30,000rpm	33,500rpm	17,200rpm	22,250rpm
No-load Current	65mA	50mA	62mA	30mA	30rpm
Rated Speed	23,580rpm	23,550rpm	26,800rpm	13,500rpm	16,780rpm
Rated Torque	0.5mNm	0.4mNm	0.5mNm	0.5mNm	0.5mNm
Rated Current	0.34A	0.25A	0.34A	0.14A	0.18A
Stall Torque	3.52mNm	1.84mNm	2.45mNm	2.23mNm	2.02mNm
Stall Current	2.07A	0.98A	1.46A	0.56A	0.65A
Max Efficiency	72%	66%	68%	66%	67%
Terminal Resistance	2.4Ω	6.1Ω	4.1Ω	13.3Ω	11.36Ω
Torque Constant	1.71mNm/A	1.87mNm/A	1.68mNm/A	4.03mNm/A	3.11mNm/A
Speed Constant	5,484mNm/A	5,000mNm/A	5,583mNm/A	2,324rpm/V	3,000rpm/V

All reduced no-load speeds have a tolerance of ±15%.

Other Motor Data

Work Temperature	-10°C - 40°C
Max Coil Temperature	80°C
Max Speed	37,000rpm
Pole Pairs	1
Phases	5
Weight	5.8g

Outline Drawing



Motor Performance Curve

NFP-D1213R-C

PERFORMANCE CURVE

NFP-D1213R-C

Eff(max)

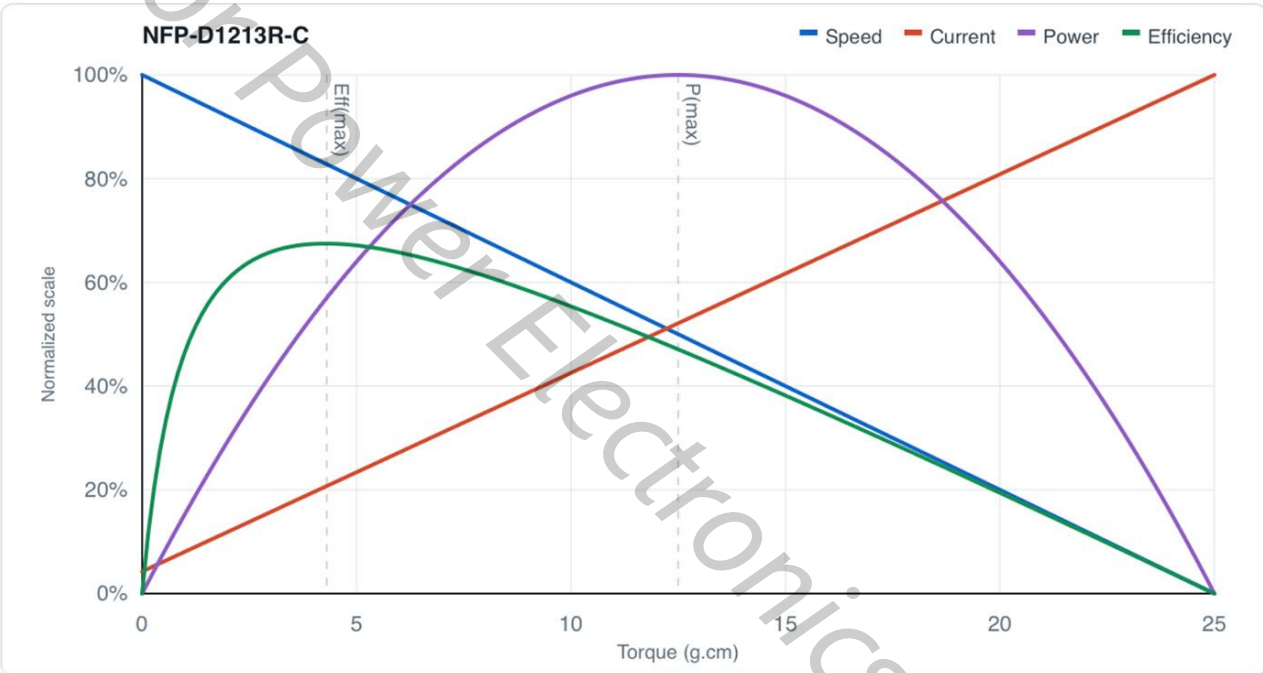
67.5%

P(max)

2.15 W

Stall

25 g.cm



Speed Current Power Efficiency

Parameter	F/L	Load Point	Eff(max)	P(max)	Stall
Torque	0 g.cm	0 g.cm	4 g.cm	13 g.cm	25 g.cm
Speed	33,500 rpm	33,500 rpm	27,731 rpm	16,750 rpm	0 rpm
Current	62 mA	62 mA	303 mA	761 mA	1,460 mA
Output	0.0000 W	0.0000 W	1.2258 W	2.1496 W	0.0000 W
Input	0.372 W	0.372 W	1.817 W	4.566 W	8.760 W
Efficiency	0.00%	0.00%	67.48%	47.08%	0.00%
Torque Constant			17.8827 g.cm/A		
Motor Regulation			1,340.0000 rpm/g.cm		