

Product Specification

Model : FC-280PT-22125
Specification No. : TKS-71-J755
Date : DEC. 13. 2002

Remarks:

- 1) This specification applies to Mabuchi FC-280PT motor to be supplied to you.
- 2) In case the motor performance and/or life is questionable, tests and judgment are to be made based on this specification.
- 3) Please note that it is your responsibility to ensure that the motor can satisfy the requirements of your application.
- 4) Within the limit of satisfying this specification, the materials, sizes and shapes of components of the motor and/or other factors involved in the motor may be changed, without notice, for Mabuchi's production convenience, and/or for the purpose of improving quality and/or performance and/or production efficiency of the motor.
- 5) After having acknowledged the receipt of this specification, please give it back to us within one (1) month after the date of issuance thereof. If you fail to return to us within the term hereinabove, we regard it as the receipt of this specification acknowledged.

Mabuchi Motor Co., Ltd.

Prepared by _____

Checked by _____

Approved by _____

1. Standard Operating Conditions:

- 1-1 Rated Voltage: 12.0 V DC CONSTANT between motor terminals.
1-2 Operating Temperature Range: 9.0 V - 14.5 V DC CONSTANT between motor terminals.
1-3 Rated Load: 16.7 mN · m by torque meter.
1-4 Direction of Rotation: CW & CCW
1-5 Operating Temperature Range: —30°C - —80°C
1-6 Storage Temperature Range: —40°C - —90°C except longer term storage.

2. Measuring Conditions:

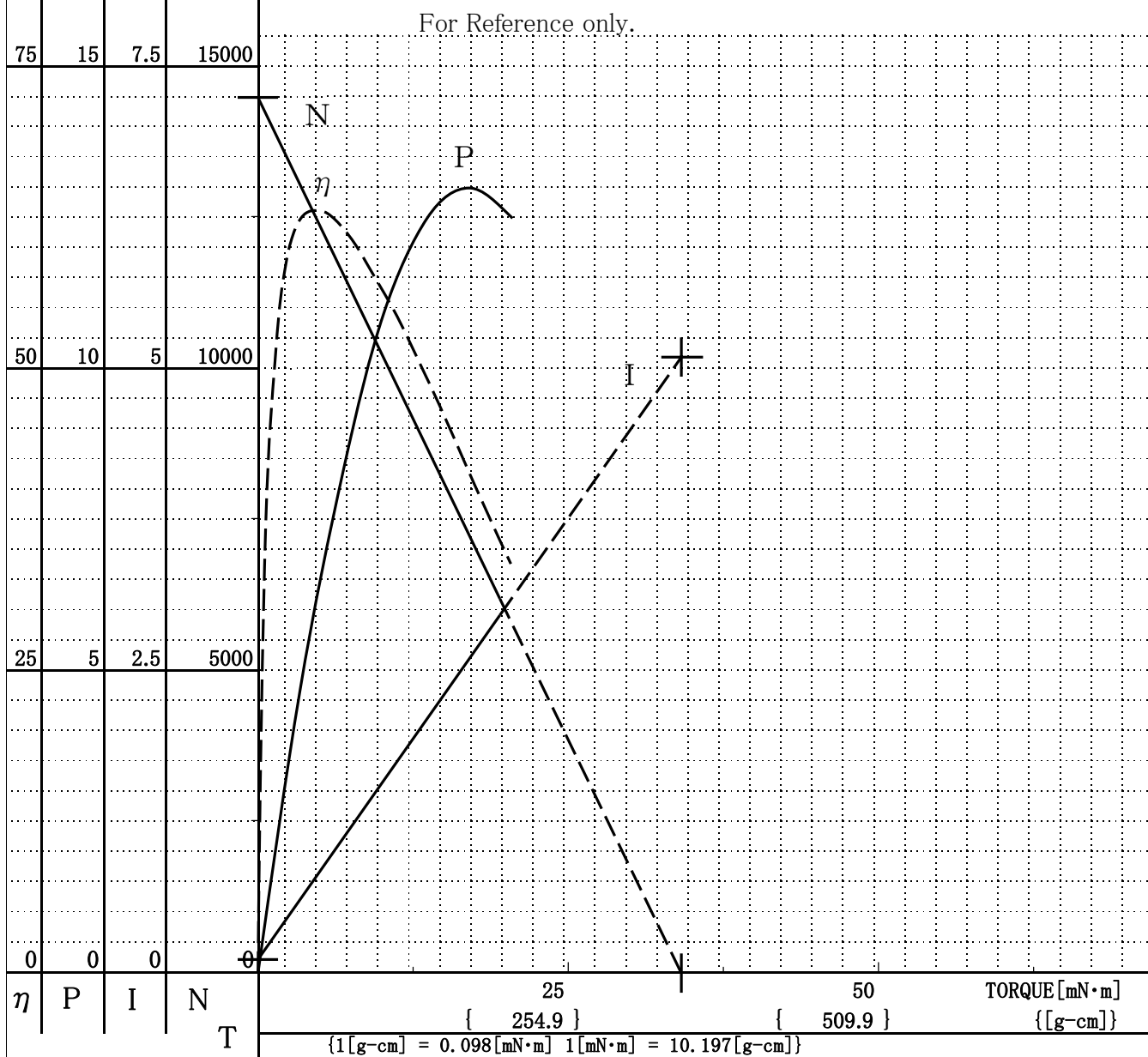
- 2-1 Motor Position: Motor to be held, with shaft horizontally.
2-2 Power Supply: Regulated power supply which assures unquestionable measurement.
2-3 Environmental Temperature and Humidity: The test is made in principle at a temperature between 10°C and 30°C, and at relative humidity between 30% and 95%. If the test result is questionable, it shall be judged from the test made at JIS Standard Testing Condition (20°C ± 2°C, 65% ± 5% RH) .
2-4 Direction of Rotation: CW when viewed from output shaft side.

3. Electrical Characteristics (at initial stage after 30 seconds run-in):

- 3-1 No Load Current: 180 mA max.
3-2 No Load Speed: 14500 + 1800 r/min
3-3 Rated Load Current: 3.2 A max.
3-4 Rated Load Speed: 7600 + 1000 r/min
3-5 Starting Voltage: 5.0 V (max.) under no load.
3-6 Stall Torque: 28.8 mN · m (min.) based on measurement at two different load (4.91mN · m & 16.7mN · m).
3-7 Stall Current: 8.1 A (max.) at any rotor position.
3-8 Insulation Resistance: 1.0 MΩ (min.) (DC 500 V)
between motor terminal and motor metal housing.
3-9 Reference Characteristic Curve: See spec. No. FC280-0232 attached.

DATE 3.2.01
approx.25°C

MODEL FC-280PT (22125)

VOLTAGE 12 V
CCW(0)/CW(0)
Constant


N = 40

No. FC280-0232

At Maximum Efficiency

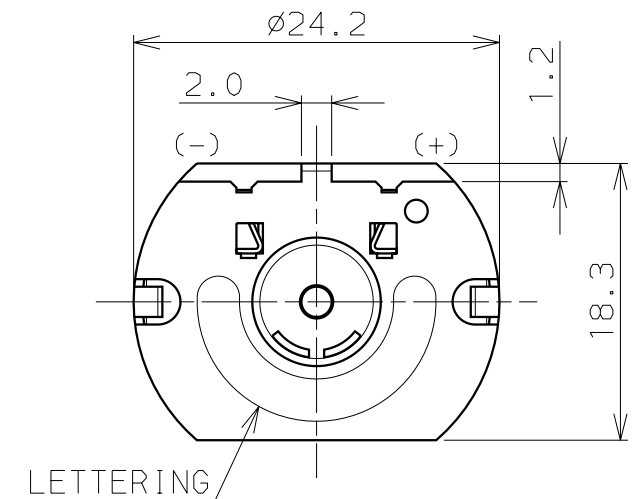
Speed 12470 r/min
Current 0.826 A
Power 6.275 W
Torque 4.805 mNm
Eff. 63.32 %

At Maximum Power

Torque 17.16 mNm
Speed 7250 r/min
Current 2.615 A
Power 13.03 W
Eff. 41.52 %

Motor Characteristics

No 14500 r/min E c 2.39 V
I o 0.13 A α 29.47
I s 5.1 A V 12 V
T s 34.32 mNm K t 6.906 mNm/A
R 2.353 Ω K m 4.502 mNm/√W



9. THIS TOLERANCE APPLIES ONLY BEFORE PRESS FIT
THE BUSH.
この許容差については、ブシュ圧入前に適用する。
10. POSITION OF IDENTIFICATION LINE TO BE AS
INDICATED.
線引きの位置は、図示の通りであること。

REVISIONS								TOLERANCES NOT OTHERWISE SPECIFIED	APPD. A.Y	MABUCHI MOTOR CO.,LTD.		
								DIMENSIONS ±0.3mm	CHKD. R.A	SCALE		MODEL FC-280PT
		DEC.- 3-2002	PRODUCTION RELEASE.	C-24433	E.O	R.A	A.Y		DWN. E.Ooki	DATE DEC.-3-2002	DWG.No. K3-13501	REV. -
	SYM.	DATE	DESCRIPTION	REF.No.	DWN.	CHKD.	APPD.					