

- NOTES:
1. MAIN CONDUIT BOX MAY BE ROTATED IN 90~INCREMENTS
  2. STANDARD PRODUCT USE BI-DIRECTIONAL FAN. OPPOSITE ROTATION AVAILABLE ONLY BY CONNECTION CHANGE.
  3. KEY DIMENSIONS EQUAL (MOTOR SUPPLIED WITH KEY)

UNITS: mm

TOSHIBA RESERVES THE RIGHT TO MAKE CHANGES OF TECHNICAL IMPROVEMENT WITHOUT NOTICE. DO NOT USE FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS THE DRAWING IS CERTIFIED.

PERMANENT MAGNET 71 IEC  
TEFC (IP55) B3 ALUMINUM FRAME

MDSLE024-01

TOLERANCES	
.X	.1
.XX	.03
.XXX	.005
.XXXX	.0005

MAXIMUM MOTOR WEIGHT

XXX kgs.  
(XXX lbs.)

NO	REVISION	DRAWN BY	DATE	CHECK
0	FIRST ISSUE	R. Roth	08/24/16	

**Tosh-ECO PM**

DRAWN BY: \_\_\_\_\_  
CHECK BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

**TOSHIBA**  
TOSHIBA INTERNATIONAL CORPORATION

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**TYPICAL MOTOR PERFORMANCE DATA**

Model: PM15

	<b>kW</b>	<b>Pole</b>	<b>r/min</b>	<b>Frame</b>	<b>BEMF K<sub>E</sub> Volt. (V)</b>	<b>Hz</b>	<b>Phase</b>	<b>I<sub>N</sub> Amps (A)</b>
	2.2	6	3600	71M	273.5	180	3	4.5
	<b>IP</b>	<b>Ins. Class</b>		<b>Duty</b>	<b>Nom. Eff.</b>			<b>Ambient (°C)</b>
	55	F		S1	91.8			40

<b>Load</b>		<b>kW</b>	<b>Amperes (A)</b>	<b>Efficiency (%)</b>
<b>Full Load</b>		2.20	4.54	91.8
<b>¾ Load</b>		1.65	3.50	90.9
<b>½ Load</b>		1.10	2.43	88.6
<b>¼ Load</b>		0.55	1.32	81.6
<b>No Load</b>			0.55	

<b>Torque</b>			<b>Rotor wk<sup>2</sup> Inertia (kg-m<sup>2</sup>)</b>
<b>Full Load (N-m)</b>		<b>Breakdown (% FLT)</b>	0.001
5.96		260	

	<b>Sound Pressure dB(A) @ 1M</b>	<b>Bearings*</b>		<b>Approx. Motor Weight (kg)</b>
		<b>DE</b>	<b>NDE</b>	
	69	6202-2RS	6202-2RS	7

\*Bearings are the only recommended spare part(s).

**Motor Options:**

<b>Customer</b>	
<b>Customer PO</b>	
<b>Sales Order</b>	
<b>Project #</b>	

Tag:

All characteristics are average expected values. The declared locked rotor current has a tolerance of 20%.

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<b>Engineering</b>		<b>Doc. Written By</b>	P. Anderson	<b>Doc.# / Rev</b>	MPCF-1190 / 0
<b>Engr. Date</b>		<b>Doc. Approved By</b>	PAA	<b>Doc. Issued</b>	12/6/2016



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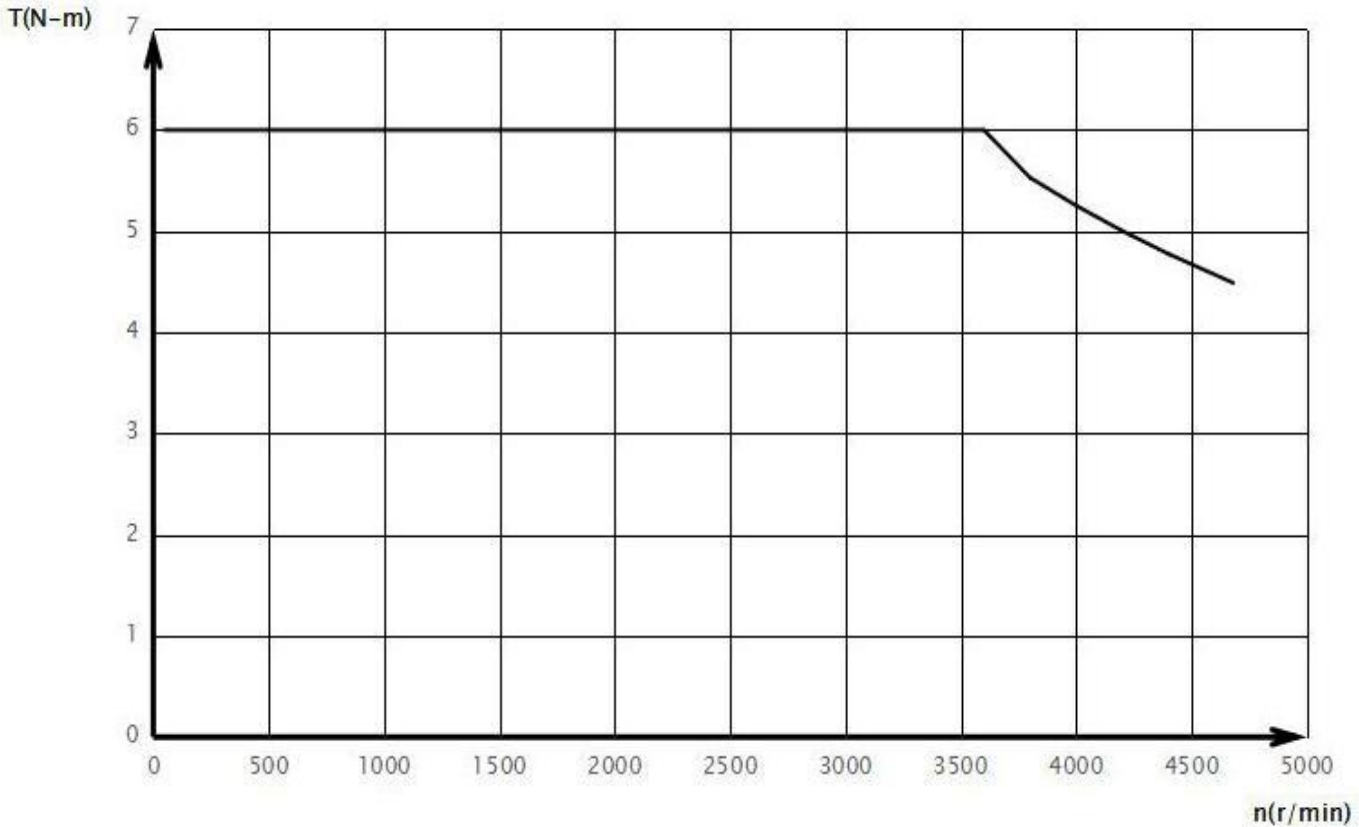
### SPEED TORQUE/CURRENT CURVE

Model: PM15

	<b>kW</b>	<b>Pole</b>	<b>r/min</b>	<b>Frame</b>	<b>BEMF K<sub>E</sub> Volt. (V)</b>	<b>Hz</b>	<b>Phase</b>	<b>I<sub>N</sub> Amps (A)</b>	
	2.2	6	3600	71M	273.5	180	3	4.5	
	<b>IP</b>	<b>Ins. Class</b>		<b>Duty</b>	<b>Nom. Eff.</b>			<b>Ambient (°C)</b>	
	55	F		S1	91.8			40	
	<b>Rotor wk<sup>2</sup> Inertia (kg-m<sup>2</sup>)</b>	<b>Torque</b>					<b>Breakdown (%)</b>		
		<b>Full Load (N-m)</b>							
	0.001	5.96					260		

## CHARACTERISTIC CURVES RELATED TO SPEED

Three-phase synchronous motor



Customer		<b>wk<sup>2</sup> Load Inertia (kg-m<sup>2</sup>)</b>		
Customer PO			<b>Load Type</b>	CONT
Sales Order			<b>Voltage (%)</b>	
Project #			<b>Accel. Time</b>	10-15S

Tag:

All characteristics are average expected values. The declared locked rotor current has a tolerance of 20%.

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**SPARE PARTS LIST\***

**Model:** PM15

	<b>kW</b>	<b>Pole</b>	<b>r/min</b>	<b>Frame</b>	<b>BEMF K<sub>E</sub> Volt. (V)</b>	<b>Hz</b>	<b>Phase</b>	<b>I<sub>N</sub> Amps (A)</b>
	2.2	6	3600	71M	273.5	180	3	4.5
	<b>IP</b>	<b>Ins. Class</b>		<b>Duty</b>	<b>Nom. Eff.</b>			<b>Ambient (°C)</b>
	55	F		S1	91.8			40

<b>DE Bearing:</b>	6202-2RS
<b>NDE Bearing:</b>	6202-2RS

\*Bearings are the only recommended spare part(s).

Other than the grease used for regreasable bearings and the oil used for oil-lubricated bearings, Toshiba advises that there are no "use" parts. The only insurance spares that Toshiba suggests for these squirrel-cage induction motors are industry-standard and commercially available off-the-shelf bearings as noted above.

Motor components such as terminal boxes, fan covers and other machined parts are available on special request. In these cases, please advise our order entry department of the model and serial numbers found on the motor nameplate and a description of the needed components. With this information they will be able to furnish the current part number, price and availability.

Note: Our internal part numbers are subject to change without notice and are not published.

<b>Customer</b>	
<b>Customer PO</b>	
<b>Sales Order</b>	
<b>Project #</b>	

**Tag:**

All characteristics are average expected values.

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<b>Engineering</b>		<b>Doc. Written By</b>	P. Anderson
<b>Engr. Date</b>		<b>Doc. Approved By</b>	PAA
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### NAMEPLATE DATA

Model: PM15

	kW	Pole	r/min	Frame	BEMF $K_E$ Volt. (V)	Hz	Phase	$I_N$ Amps (A)
	2.2	6	3600	71M	273.5	180	3	4.5
	IP	Ins. Class		Duty	Nom. Eff.			Ambient (°C)
	55	F		S1	91.8			40

Drive End Bearing: 6202-2RS

Non-Drive End Bearing: 6202-2RS

Rated Torque: 5.96 Nm

Voltage Constant ( $K_e$ ): 0.732 VS

Torque Constant ( $K_t$ ): 1.27 Nm/A

BEMF at: 3600 r/min

Comments 1:

Customer		
Customer PO		
Sales Order		
Project #		

Tag:

All characteristics are average expected values.

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**TOSHIBA**

## Motor Connection Diagrams

