

PRODUCT DATASHEET

ES-DC-SL05-M002

Slotted Series

Slotted Series | ES-DC-SL05 42 mm Slotted Brushless DC Motor Series

Product Overview

Slotted Series with rated Torque 0.0625 N·m, rated Speed 3000 rpm and continuous Rated Output Power 19.6 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.0625	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	19.6	W
Rated Voltage	24	V
Continuous Rated Current	1.2	A
Instantaneous Maximum Current	3.6	A
Body Length	50	mm
Dielectric strength	500VAC/1KHz/1mA/1s	
Duty Cycle	S2	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.0625	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	19.6	W
No-Load Rotational Speed	4000	rpm
Motor efficiency	72	%
ELECTRICAL		
Rated Voltage	24	V
Continuous Rated Current	1.2	A
Instantaneous Maximum Current	3.6	A
Dielectric strength	500VAC/1KHz/1mA/1s	
Insulation Resistance	100 MOhm 20C	
Duty Cycle	S2	
Rotational Back-EMF Constant	5.44	V/krpm
No-load Current	0.15	A

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Line resistance	2.482	Ω
Line inductance	1.062	mH
THERMAL		
Housing-to-Ambient Thermal Resistance	0.75	K/W
Maximum Winding Temperature	68.5	$^{\circ}\text{C}$
MECHANICAL		
Body Length	50	mm
Housing Type	No housing	
Frame size	42	mm
Housing shape	Square	
Commutation angle	120	$^{\circ}$
Motor Weight	260	g
ENVIRONMENTAL		
Noise	≤ 50	dB
Ambient temperature	31.3	$^{\circ}\text{C}$

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Output shaft length	5 mm
	Output shaft diameter	$\phi 30\ 0/-0.033\ \text{mm}$
	Shaft shoulder depth	$4.5\ 0/-0.1\ \text{mm}$
	Shaft end hole diameter	$\phi 5\ 0/-0.012\ \text{mm}$
	Motor body face boss height	$2\pm 0.3\ \text{mm}$
	Distance from shaft end face to motor body face	$25\pm 1\ \text{mm}$
	Total motor length	$50\pm 1\ \text{mm}$
Mechanical View 2	Motor body length	300 ± 10
	Mounting hole center distance	$4-36\pm 0.1$
	Motor faceplate dimension	4-42
	Through hole diameter	4- $\phi 3.5\ \text{THRU}$

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01 Specifications are subject to change without notice. Verify the current product configuration before final design release.

02 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.