

**MOTOR CHARACTERISTICS**

I T E M	SPECIFICATIONS	NOTE
RATED VOLTAGE	3.23 V	1
RATED CURRENT / PHASE	1.7 A	1
MAX. INPUT	11.0 W	
STEP ANGLE	1.8°	
STEP ACCURACY (POSITIONAL)	1.8° ±0.09°	3
MAX. HOLDING TORQUE	800 mNm { 8 160 gfcM} MIN.	3
PULL OUT TORQUE	— mNm { — gfcM} MIN. at — Hz	4, 10
PULL OUT TORQUE	— mNm { — gfcM} MIN. at — Hz	4, 10
PULL IN TORQUE	— mNm { — gfcM} MIN. at — Hz	4, 10
PULL IN TORQUE	— mNm { — gfcM} MIN. at — Hz	4, 10
MAX. NO LOAD RESPONSE	— Hz MIN.	10
MAX. SLEW SPEED	— Hz MIN.	10
WINDING RESISTANCE	1.9 Ω ±0.19 Ω	12
WINDING INDUCTANCE	7.8 mH REF.	5, 12
INSULATION RESISTANCE	100 MΩ MIN.	6
DIELECTRIC STRENGTH	AC 500 V	7
TEMPERATURE RISE	— °C MAX.	8, 13
CLASS OF INSULATION	B	
RADIAL PLAY	20 μm MAX. at 4.4 N [450 gf] [LOAD]	
END PLAY	0.2 mm MAX. at 49 N [5 kgf] [LOAD]	
ROTOR INERTIA	180 gcm <sup>2</sup> REF.	
DETENT TORQUE	29 mNm { 296 gfcM} REF.	
MASS	620 g REF.	
OPERATING TEMPERATURE	0 °C ~ 50 °C	14
STORAGE TEMPERATURE	-20 °C ~ 70 °C	14

**NOTE**

- AT 0 Hz
- ROTATION OF SHAFT TO BE CW FACING MOUNTING END WHEN SEQUENCED AS FIG. 2.
- AT RATED CURRENT AND 2 PHASES ON.
- ALL SPECIFICATION APPLY OUR COMPANY DRIVER CIRCUIT SWITCHING SEQUENCE AS FIG. 2, MEASURED BY PV-900 OR PV-7300.
- MEASURED AT 1 kHz 1 V [RMS].
- WITH DC 500 V INSULATION RESISTANCE TESTER APPLIED BETWEEN WINDING AND CASE.
- THERE SHALL BE NO BREAKDOWN AT (50 or 60) Hz APPLIED FOR 60 s BETWEEN WINDING AND CASE.
- DETERMINED BY MEANS OF RESISTANCE METHOD WITH "A" PHASE AND "B" PHASE ENERGIZED SIMULTANEOUSLY AT RATED VOLTAGE.
- ALL SPECIFICATIONS APPLY BEFORE TEMPERATURE RISE AT ROOM TEMPERATURE ONLY.
- UNDER DRIVER CIRCUIT — AND AT POWER SUPPLY VOLTAGE DC — V, CURRENT — A PER PHASE.
- COMPONENT PARTS ARE RoHS COMPLIANT.
- WITH L/WIRE CONN, ASS'Y L=300mm,
- DO NOT ALLOW THE SURFACE TEMPERATURE OF THE MOTOR TO RISE ABOVE 80°C TO PROTECT THE ENCODER.
- NO DEW ALLOWED.

### ENCODER CHARACTERISTICS

I T E M	SPECIFICATIONS	
ENCODER TYPE	AVAGO AEDR-8501 INCREMENTAL	
DETECTION METHOD	REFLECTIVE SURFACE	
OUTPUT SIGNAL	A, $\bar{A}$ , B, $\bar{B}$ , I, $\bar{I}$ (THREE CHANNEL) LINE DRIVER OUTPUT	
RESOLUTION	4 000 CPR (4X)	
SUPPLY VOLTAGE	DC 5 V $\pm$ 0.25 V	
SUPPLY CURRENT	25 mA REF.	
OUTPUT VOLTAGE	-0.5 V to +5.5 V	
WAVE FORM	RECTANGLE WAVE	
COUNT FREQUENCY	220 kHz MAX. (4X)	
CYCLE ERROR $\Delta C$	36 e deg.	(4X)
PULSE WIDTH ERROR $\Delta P$	30 e deg.	
PHASE ERROR $\Delta \phi$	18 e deg.	
STATE ERROR $\Delta S$	25 e deg.	

### OUTPUT WAVE FORM





