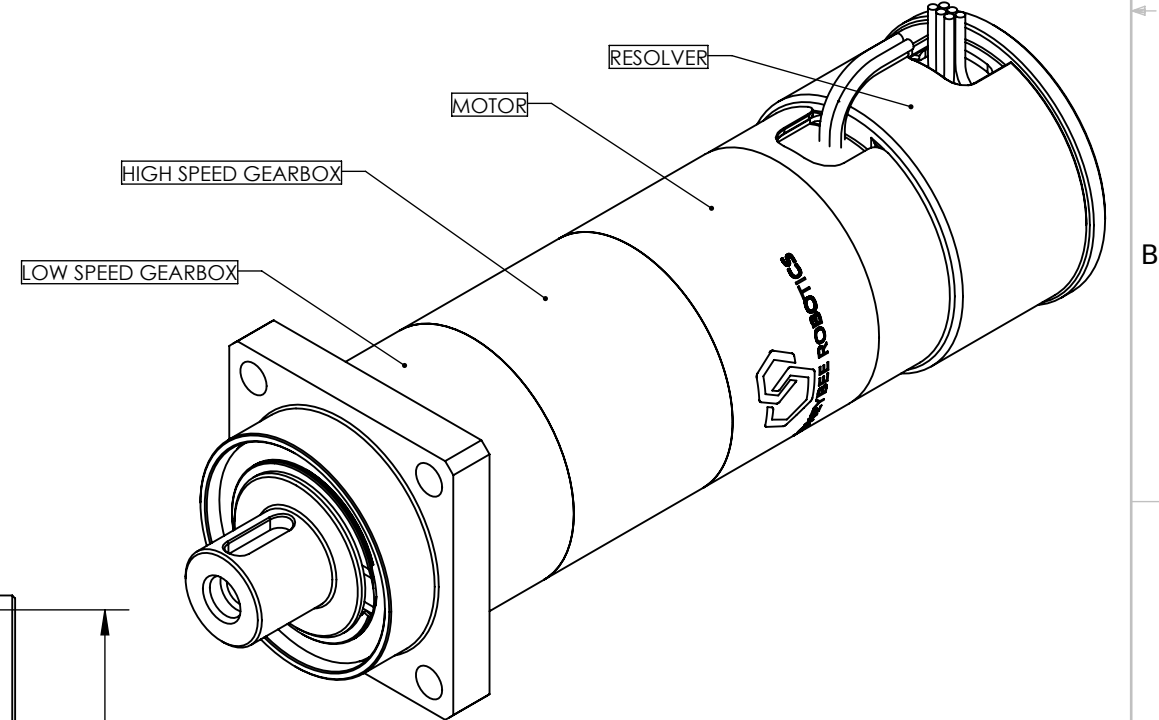
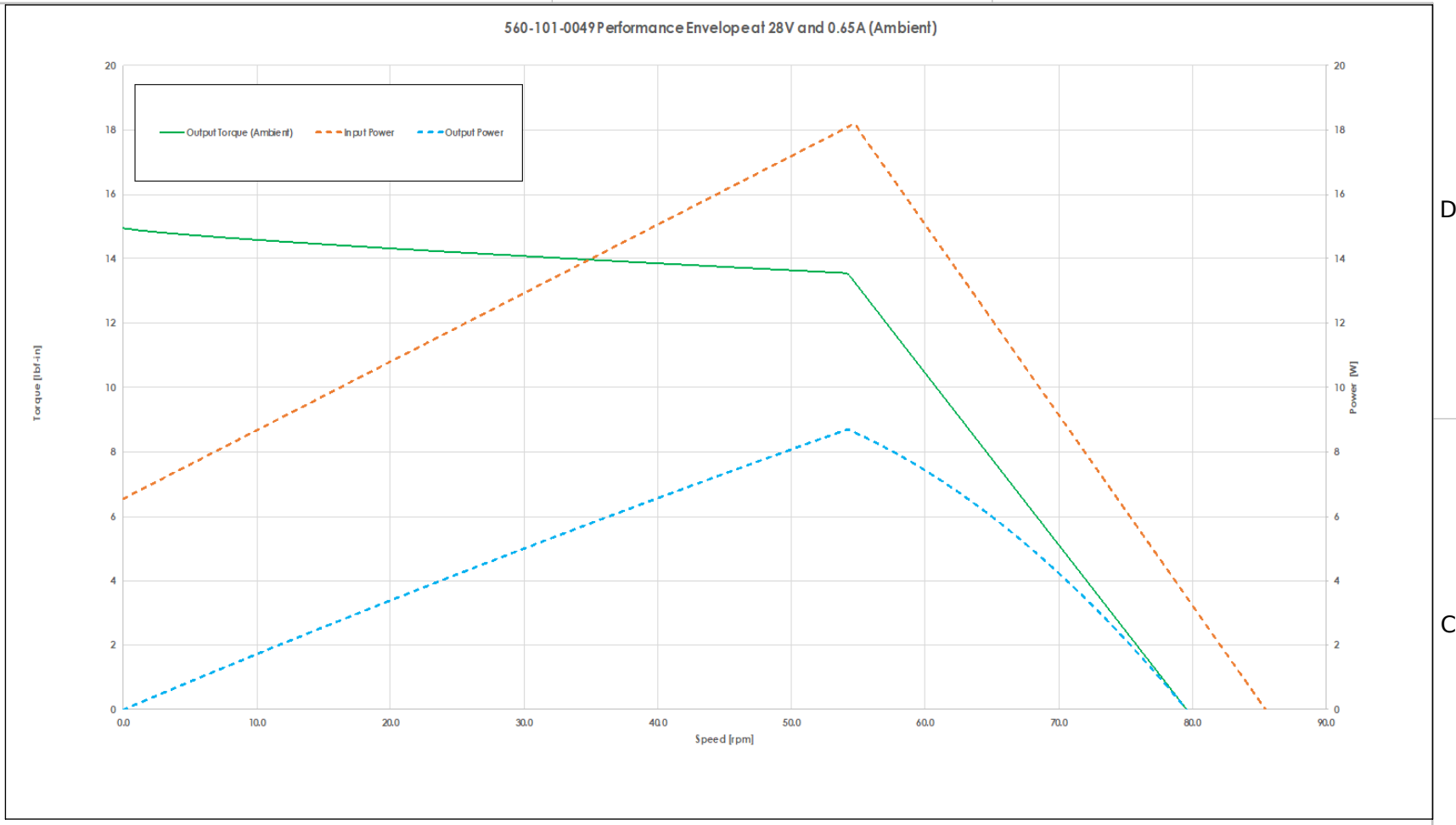
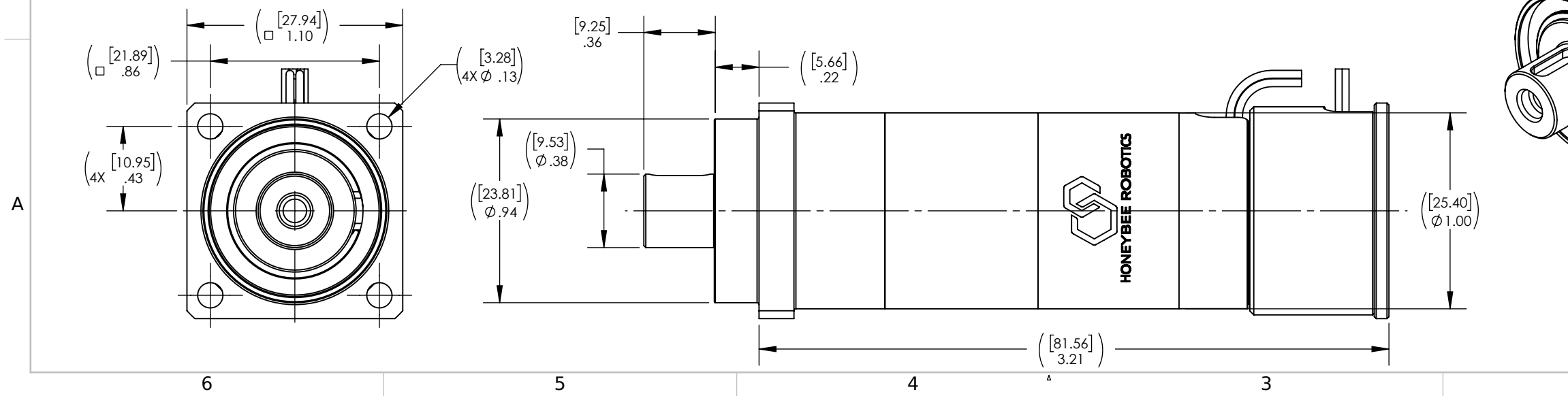


6	5	4
MECHANICAL PARAMETERS		UNITS
FRAME SIZE	-	C
MASS	lbm [kg]	0.55 [0.25]
ROTOR INERTIA	oz-in-sec ² x 10 ⁻³ [g·cm ²]	0.044 [3.11]
OPERATION TEMPERATURE RANGE	°C	-60 TO +200
MOTOR PARAMETERS		
DRIVE TYPE	-	3 PHASE - TRAPEZOIDAL/SINUSOIDAL
NUMBER OF PHASES	-	3
NUMBER OF POLE PAIRS	-	2
REDUNDANCY	-	SIMPLEX
NO LOAD SPEED ¹	RPM	79.5
STALL TORQUE ²	lbf-in [N·m]	14.9 [1.7]
STEADY STATE CURRENT LIMIT ²	A	0.65
BACK EMF CONSTANT ⁵	V _{peak} /rad/sec	0.052
TORQUE CONSTANT ^{5,6}	lbf-in/A _{peak} [N·m/A _{peak}]	0.46 [0.052]
MOTOR CONSTANT ⁵	lbf-in/sqrt(W) [N·m/sqrt(W)]	0.12 [0.014]
RESISTANCE ³	Ohms	12.0 - 16.0
INDUCTANCE ³	mH	3.0 - 5.0
MAXIMUM ALLOWABLE WINDING TEMPERATURE	°C	200
COMMUTATION SENSOR PARAMETERS		
SENSOR TYPE	-	VARIABLE RELUCTANCE RESOLVER
REDUNDANCY	-	SIMPLEX
EXCITATION FREQUENCY	kHz	20
EXCITATION VOLTAGE	V _{rms}	5.1
SINE AND COSINE OUTPUT VOLTAGE	V _{rms}	1.8
TRANSFORMATION RATIO (OUTPUT/INPUT)	-	0.4
ELECTRICAL CYCLES PER MECHANICAL CYCLE	-	2
GEARBOX PARAMETERS		
GEARBOX TYPE	-	PLANETARY
GEAR REDUCTION	-	60:1
NUMBER OF STAGES	-	2
TYPICAL MECHANICAL EFFICIENCY ⁴	%	81
TYPICAL BACKLASH	DEGREES	1

- NOTES:
1. ASSUMING 28 VDC BUS VOLTAGE AT 22°C. CONTACT HBR FOR PERFORMANCE AT OTHER VOLTAGES AND TEMPERATURES.
 2. CURRENT LIMIT AND STALL TORQUE DERATED TO GEARBOX LOAD CAPACITY LIMITS, EEE-INST-0002 OR ELECTROMAGNETIC SATURATION. ACTUAL RMS CURRENT LIMIT AND STALL TORQUE WILL VARY BASED ON DUTY CYCLE AND INTERFACE TEMPERATURES. CONTACT HONEYBEE ROBOTICS FOR MORE INFORMATION.
 3. LINE TO LINE.
 4. TOTAL EFFICIENCY OF BOTH STAGES.
 5. AT MOTOR LEVEL.
 6. DERIVED FROM BACK EMF CONSTANT.
 7. STANDARD OUTPUT SHAFT GEOMETRY. CONTACT HONEYBEE ROBOTICS FOR FURTHER OPTIONS.
 8. STEP FILE ATTACHED TO PDF.



UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
 (CRITICAL DIMENSION)
 (ALL FEATURE CONTROL FRAME)
 INTERPRET DRAWING PER ASME Y14.5-2018

LINEAR TOLERANCES:	SURFACE ROUGHNESS
.X ±.05	63
.XX ±.01	MICROINCHES OR BETTER
.XXX ±.005	
(XXX) CRITICAL	
ANGULAR TOLERANCES:	
±0.5 DEGREES	

HONEYBEE ROBOTICS

PROJECT TITLE: STANDARD PRODUCT DATA SHEETS
 PART NUMBER: 560-101-0049
 PART DESCRIPTION: C-SIZE BLDC (RESOLVER), 3-PHASE, 60:1
 CAGE CODE 8DSS5 | SHEET SIZE B | SHEET 1 OF 1