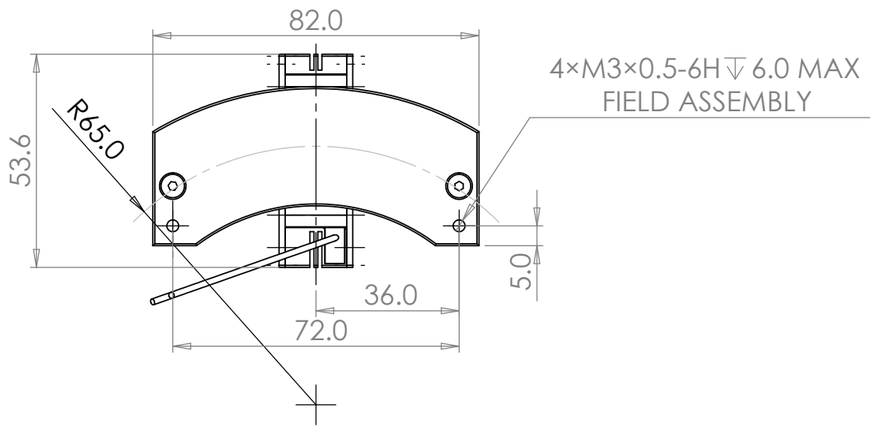
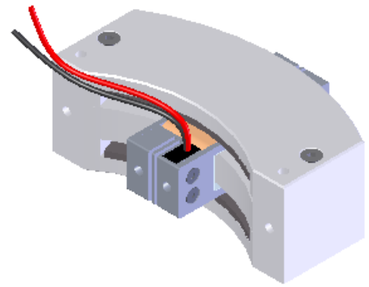
REV	ECO NO.	DESCRIPTION	DRN	APP'D	Q.A	DATE
X1	---	INITIAL RELEASE	BWZ	WYG	LBQ	07-12-13

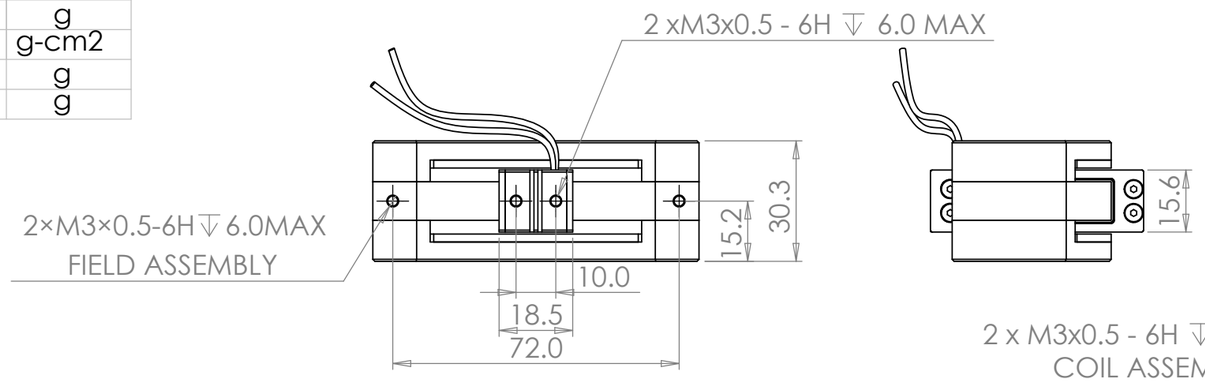
WINDING CONSTANT	TOL	SYM	VALUE	UNITS
DC RESISTANCE	± 10%	R	1.0	OHMS
VOLTAGE @ Fp	NOMINAL	Vp	3.5	VOLTS
CURRENT @ Fp	NOMINAL	Ip	3.5	AMPS
TORQUE SENSITIVITY	± 10%	Kt	0.12	N-m / A
BACK EMF CONSTANT	NOMINAL	Kb	0.12	**V/Rad/Sec**
INDUCTANCE *****	± 30%	L	0.3	mH
ACTUATOR PARAMETER		SYM	VALUE	UNITS
PEAK TORQUE *		Tp	0.42	N-m
CONTINIOUS STALL TORQUE * *		Tcs	0.38	N-m
CONTINIOUS TORQUE WITH HEAT SINK		Tcs	0.42	N-m
ACTUATOR CONSTANT		Ka	0.12	N-m/√w
ELECT TIME CONSTANT		Te	0.3	milli-sec
POWER I2R@Fp		Pp	12.2	W
TOTAL STROKE(ANGULAR)		S	40	degree
CLEARANCE ON SIDE OF COIL		CL	0.5	mm
THERMAL RESISTANCE * * *		Θth	12.5	C / W
THERMAL RESISTANCE WITH HEAT SINK****		Θth	6.3	C / W
MAX WINDING TEMP		Tmax	150	C
WEIGHT OF COIL ASSEMBLY		WTc	38	g
INERTIA OF COIL ASSEMBLY		Ic	1400	g-cm2
WEIGHT OF FIELD ASSEMBLY		WTf	490	g
WEIGHT OF ACTUATOR		WTa	528	g

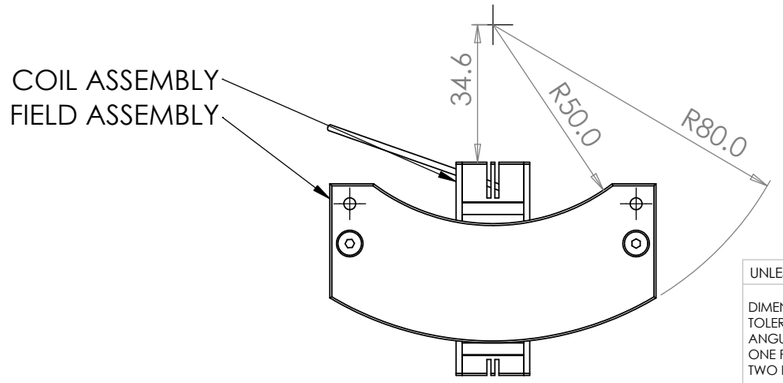
* 10 sec @ 25C ambient, 150C coil temp.
* * 25C ambient, 150C coil temp.
* * * In free air.
* * * * Measured with 250×250×10mm heat sink.
* * * * * Measured with TONGHUI TH2821A.

1. FORCE VECTOR
CCW ↶ CW









2.INSULATION RESISANCE:100 MEGOHMS MINIMUM AT 500 VDC.

1.A POSITIVE(+)VOLTAGE APPLIED TO THE RED LEAD WILL PRODUCE A FORCE ON THE COIL ASSEMBLY IN CLOCKWISE(CW) DIRECTION.

NOTES:UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: MACH ±0° 30 '
ONE PLACE DECIMAL ±0.25
TWO PLACE DECIMAL ±0.1

INTERPRET GEOMETRIC TOLERANCING PER:
ANSI Y14.5M-1982.

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	BWZ	07-08-26
CHECKED		
ENG APPR.	WYG	07-08-26
MFG APPR.		
Q.A.	LBQ	07-08-26
COMMENTS:		

usas motion Suzhou, China

TITLE:
ROTARY ACTUATOR

SIZE	DWG. NO.	REV
B	VRS0042-040-00A	X1

SCALE: 1: 1.5 SHEET 1 OF 1