

HYBRID STEPPING MOTOR SPECIFICATION

[ELECTRICAL CHARACTERISTICS]

1. 기본스텝각(STEP ANGLE)	1.8°	
2. 상수(NUMBER OF PHASE)	2상 바이폴라(2PHASE BIPOLAR)	
3. 정격전압(RATED VOLTAGE)	DC 2.1 V/상(PHASE)	
4. 정격전류(RATED CURRENT)	3.0 A/상(PHASE)	
5. 권선저항(WINDING RESISTANCE)	0.7 Ω ±10%/상(PHASE)	+25°C
6. 인덕턴스(WINDING INDUCTANCE)	2.7 mH ±20%/상(PHASE)	1kHz, 1Vrms
7. 절연등급(INSULATION CLASS)	B종(CLASS)	
8. 절연저항(INSULATION RESISTANCE)	100 MΩ 이상(MIN) DC 500V	MOTOR COIL-CASE
9. 절연내압(DIELECTRIC STRENGTH)	500V AC /1분(1MIN)	MOTOR COIL-CASE

[MOTOR PERFORMANCE]

1. 각도오차(POSITIONAL ACCURACY)	±0.09° 이하(MAX)	
2. 디텐트토크(DETENT TORQUE)	1000 gf-cm(NOM)	
3. 최대여자장치토크(HOLDING TORQUE)	16.5 kgf-cm 이상(MIN)	주)1/NOTE)1
4. 최대작동주파수 (MAX STARTING PULSE RATE)	800 PPS 이상(MIN)	
5. 최대슬로잉주파수(MAX SLEWING RATE)	5000 PPS 이상(MIN)	
6. 풀인토크(PULL-IN TORQUE)	gf-cm 이상(MIN) AT PPS	
7. 풀아웃토크(PULL-OUT TORQUE)	8.0 kgf-cm 이상(MIN) AT 2500 PPS	주)2/NOTE)2
8. 온도상승(TEMPERATURE RISE)	80 K(80 DEG) 이하(MAX)	주)3/NOTE)3

[CAUTION]

- Please do not hold motor by PCB or lead wires.
- Please do not drop or shock motor against hard material.
- Please do not disassemble motor.
- Please do not machine the motor shaft without a proper tool for the assurance of motor performance.

[MECHANICAL CHARACTERISTICS]

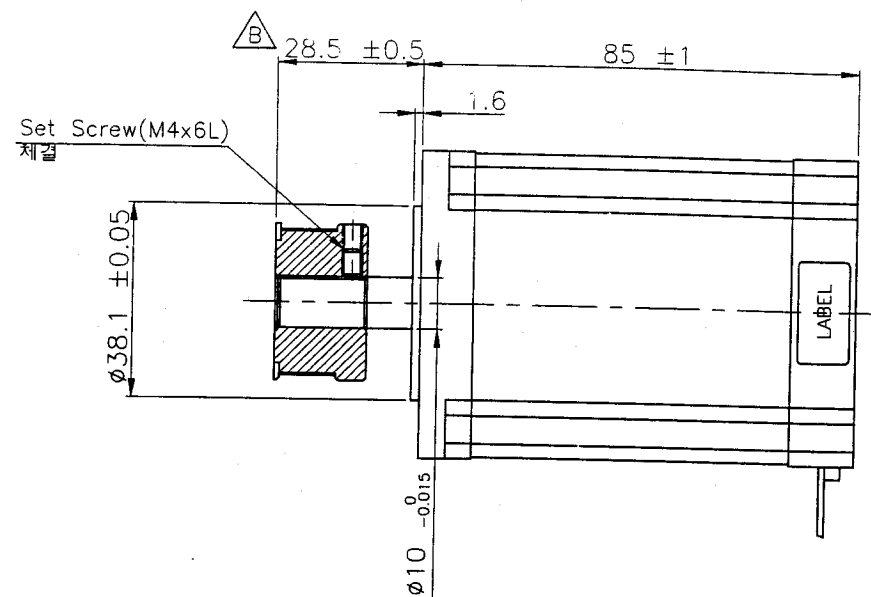
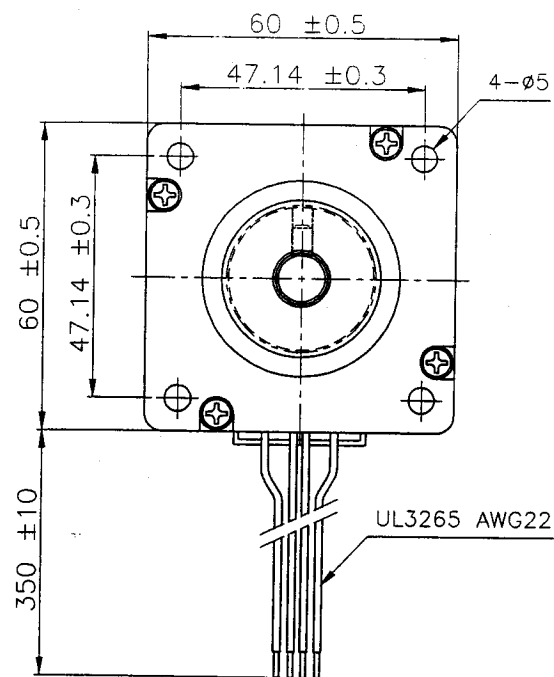
1. 외형치수(DEMENSION)	2페이지 참조(SEE SHEET 2)	
2. 회전자 관성(ROTOR INERTIA)	약(APPROXIMATELY) 920 g-cm ²	
3. 중량(MASS)	약(APPROXIMATELY) 1400 g	
4. 리드선(LEAD WIRE)	UL3265 AWG22	
5. 커넥터(CONNECTOR)		

[ENVIRONMENT CONDITION]

1. 사용주위온도 (OPERATING AMBIENT TEMP.)	-10°C ~ +50°C	주)4/NOTE)4
2. 사용주위습도 (OPERATING AMBIENT HUMIDITY)	5%RH ~ 85%RH	주)4/NOTE)4
3. 보관온도(STORAGE TEMP.)	-30°C ~ +70°C	주)4/NOTE)4
4. 보관습도(STORAGE HUMIDITY)	5%RH ~ 95%RH	주)4/NOTE)4

- 주)1/NOTE)1 2상여자, DC 3.0 A/상
Both of A and B phases are excited, DC 3.0 A/PHASE
- 주)2/NOTE)2 2상여자, DC 3.0 A/상, 부하관성 100 g-cm², 정전류드라이버 36.0 V
2phase exciting, DC 3.0 A/phase, Load inertia 100 g-cm², Constant Current Driver 36.0 V
- 주)3/NOTE)3 코일 저항법 측정, 2상여자, 풀인형역에서 정격전류인가, 방열판(100x100x2t).
Measured by resistance method, 2phase exciting, rated current at pull in rate, heat sink plate(100x100x2t).
- 주)4/NOTE)4 결로가 없을 것
No condensation

D			Designed	Checked	Approved	Part Name	Date	Scale
C						Hybrid Step Motor	2014.11.05	N/S
B			HAN.M.R	LEE.J.M	CHUNG.S.W	2S60Q-02185S4		
A	Original Revision	2014.11.05				Drawing no.	Rev.	Sheet
REV.	Revision Record	Date				1 9 C 1 0 2 1 0 5	A	1/1

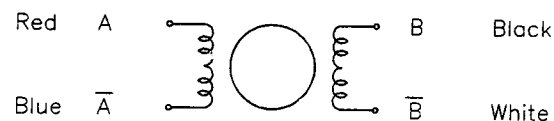


[Exciting Sequence]

상(PHASE)	A	B	$\bar{A}$	$\bar{B}$	CW	CCW
STEP	1	+	+	-	-	
	2	-	+	+	-	
	3	-	-	+	+	
	4	+	-	-	+	

2상여자(2PHASE EXCITING)

[Wiring Diagram]



[Label Detail]

2S60Q-02185S4
3.0A 0.7Ω 1.8°/STEP
LOT NO :
SAEHAN ELECTRONICS

This component or assembly must meet the ROHS/WEEE directive.
any homogeneous component shall not contain LEAD, MERCURY, CADMIUM,
HEXAVALENT CHROMIUM, PBB'S(PBD'S) or PBDE(PBDE'S) unless otherwise noted
in the directive.

D			Designed	Checked	Approved	Part Name	Date	Scale
C			HAN.M.R	LEE.J.M	CHUNG.S.W	Hybrid Step Motor	2015.03.25	N/S
B	shaft length 20.5→28.5	2015.03.25				2S60Q-02185S4		
A	Original Revision	2014.11.05						
REV.	Revision Record	Date	 SAEHAN ELECTRONICS CO.,LTD.			Drawing no.	Rev.	Sheet
						1 9 C 1 0 2 1 0 5	B	1/2