

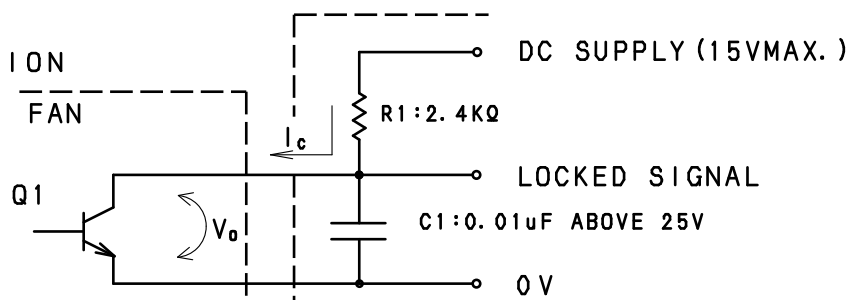
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3. PROVISION OF LOCKED SIGNAL

3-1 OUTPUT OF LOCKED SIGNAL

· OUTPUT TYPE OPEN COLLECTOR TYPE

· ELECTRICAL
SPECIFICATION



REMARK: AS FOR MEASURING V_{OL} , IT IS NECESSARY TO PUT CR
LOW PASS FILTER WHICH IS CONSTRUCTED OF R1 AND C1.
THE TIME CONSTANT OF $R1 \times C1$ IS TO BE MORE THAN
24us SUCH AS $R1=2.4k\Omega$ $C1=0.01\mu F$.

TRANSISTOR Q1 AT "ON" POSITION

COLLECTOR CURRENT

$I_c = 10mA$ MAX.

SATURATION VOLTAGE

$0V_{OL} = 0.5V$ MAX.

BETWEEN COLLECTOR AND EMITTER

AT $I_c = 5mA$

TRANSISTOR Q1 AT "OFF" POSITION

RELEASE VOLTAGE

$V_{OH} = 15V$ MAX.

OUTPUT WAVEFORM

(AT REVOLUTION)

(AT LOCKED POSITION)

V_{OL} _____
0V _____

_____ V_{OH}
_____ 0V

NOTE1)

AT LOCKED POSITION,
OUTPUT BECOMES V_{OH}

3-2 CAUTION

PLEASE BE CAREFUL THAT LOCKED SIGNAL LEAD WIRE
(YELLOW LEAD WIRE) SHALL NOT HAVE ANY VOLTAGE DIRECTLY
APPLIED. (IT SHOULD DAMAGE INNER CIRCUIT.)

SPECIFICATIONS

2011-11-15

NCDA-FAN

REV	ISSUE	Q	Fig.	No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL
	ECO No.									
	APPROVED									
	DESIGNED									
A	APPROVED	L. ZONG	2011-11-15							
	CHECKED	Z. XIA	2011-11-15							
	DESIGNED	Y. YOKOYAMA	2011-10-19							
	DRAWN	X. JINTAI	2011-10-19							

4. SPECIAL TEST

4-1 LIFE EXPECTANCY

MORE THAN 90% MUST RUN AFTER CONTINUOUS OPERATION OF 60,000 HOURS AT RATED VOLTAGE, 60°C AMBIENT TEMPERATURE AND 65% RELATIVE HUMIDITY.

LIFE IS DEFINED WHEN THE MOTOR SPEED DECREASES MORE THAN 30% AGAINST ITS INITIAL SPEED.

4-2 VIBRATION TEST

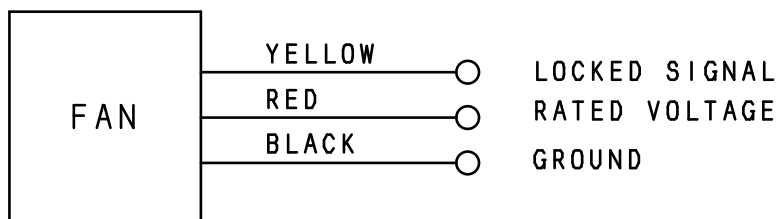
STANDARDS FOR ITEMS 2-3~2-8 AND 5-2 SHOULD BE MET AFTER 30 MINUTES 0.2mm AMPLITUDE, 55Hz VIBRATION IN EACH DIRECTION: UP-DOWN, RIGHT-LEFT, FORWARD-BACK.

4-3 SHOCK TEST

STANDARDS FOR ITEMS 2-3~2-8 AND 5-2 SHOULD BE MET IF THE FANS FALL NATURALLY FROM A HEIGHT OF 30cm IN THE PACKING BOX FOR EACH DIRECTION.

5. OTHERS

5-1 CONNECTION



5-2 LOCKED ROTOR

NO DAMAGE SHALL BE FOUND FOR CONTINUOUS 1 HOUR AT LOCKED ROTOR.

SPECIFICATIONS

2011-11-15

NCDA-FAN

				No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL								
REV	ISSUE	0	Fig.	TOLERANCE				TREAT.		MTL.								
	ECO No.			UNLESS OTHERWISE SPECIFIED						MODEL								
	APPROVED			LINEAR						FINISH	PARTS	U80T12BS2AA7-53Z99						
	DESIGNED			~ :± ~ :± ~ :±								DC Fan DC Fan						
APPROVED	L. ZONG	2011-11-15	ANGULAR :±				UNIT	SCALE	⌕	A4	DWG.	Specification of DC Fan Specification of DC Fan						
CHECKED	Z. XIA	2011-11-15	CORNER						DWG. No.	F98	0	0	0	4	7	0	0	
DESIGNED	Y. YOKOYAMA	2011-10-19	OUTSIDE :C INSIDE :R															
DRAWN	X. JINTAI	2011-10-19																
		4			3				2				4 OF 7 SHEETS					

5-3 CAUTIONS IN INSTALLATION OF FAN MOTORS

PLEASE CONSIDER SYSTEM LAYOUT NOT TO PLACE ANY OBSTACLES WITHIN 3mm FROM THE FAN HOUSING EDGE OF INLET SIDE (IMPELLER SIDE).

IN CASE OF SCREWING THE FAN HOUSING, FLATNESS OF INSTALLATION SURFACE SHOULD BE MAX. 0.1, OTHERWISE THE HOUSING MAY TRANSFORM AND INTERFERE WITH THE IMPELLER.

THE FAN SHOULD NOT GET ANY IMPACT OR VIBRATION DURING ROTATION. WHEN VIBRATION OR IMPACT IS APPLIED TO THE FAN DURING ROTATION, THE FAN MAY BREAK BY INTERFERING WITH OBSTACLE IN THE SYSTEM.

PLEASE FIX THE FAN IN THE SYSTEM SO THAT IT WILL NOT RATTLE. VIBRATION OF THE FAN MAY CAUSE CONTACT BETWEEN THE FAN AND THE SYSTEM, WHICH WILL GENERATE NOISE.

PLEASE DO NOT PLACE ANY OBSTACLE NEAR OUTLET AND INLET SIDE OF THE FAN.

PLACING OBSTACLES NEAR THE FAN MAY DETERIORATE AIR FLOW. IT MAY CAUSE COOLING PERFORMANCE REDUCTION AS WELL AS FAN MOTOR LIFE DETERIORATION DUE TO HEAVY LOAD ON THE BEARINGS.

FOR ANY USAGE THAT DOES NOT MEET ABOVE CONDITIONS, PLEASE EVALUATE AT USER'S SIDE OR CONSULT WITH US.

5-4 USAGE OF FAN MOTOR

PLEASE DO NOT PUT RESISTORS OR OTHER ELECTRONIC COMPONENTS ON THE EXTENSION OF THE FAN MOTOR LEAD WIRES FOR THE PURPOSE OF FAN MOTOR SPEED REDUCTION.

IT MAY MAKE THE VOLTAGE TO THE FAN FLUCTUATE AND BECOME LOWER THAN LOWER LIMIT OF OPERATING VOLTAGE RANGE. IN THIS CASE, THERE MAY BE SUCH FAILURES LIKE NO START OR UNSTABLE ROTATION OF FAN MOTOR.

PLEASE DO NOT PLUG IN OR OFF WHEN THE POWER IS ON. IT MAY DAMAGE THE FAN.

5-5 WET-PROOF TREATMENT

PCB SURFACE SHALL BE WET-PROOF TREATED (DIPPING).

SILICONE COATING: 1B73 TYPE
(MADE BY SHIN-ETSU CHEMICAL CO., LTD.)
OR EQUIVALENT.

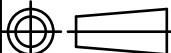
5-6 RUST-PROOF TREATMENT

OUT-SIDE SURFACE OF STATOR CORE SHALL BE RUST-PROOF TREATED WITH NITTOL 120R (MADE BY NITTO DENKO CORP.)
OR EQUIVALENT.

SPECIFICATIONS

2011-11-15

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REV	ISSUE	0	Fig.	TOLERANCE			TREAT.				MTL.									
	ECO No.			UNLESS OTHERWISE SPECIFIED																
	APPROVED			LINEAR																
	DESIGNED			~ ±																
APPROVED	L. ZONG	2011-11-15	~ ±			FINISH				PARTS			DC Fan DC Fan							
CHECKED	Z. XIA	2011-11-15	ANGULAR ±																	
DESIGNED	Y. YOKOYAMA	2011-10-19	CORNER																	
DRAWN	X. JINTAI	2011-10-19	OUTSIDE :C INSIDE :R					DWG. No.		F98	0	0	0	4	7	0	0			
													5 OF 7 SHEETS							

6. SPECIAL ITEMS

6-1 SPECIFICATION CHANGE

ANY CHANGE TO THE PARAMETERS SPECIFIED IN THIS DOCUMENT
SHALL BE DETERMINED BY MUTUAL AGREEMENT ON BOTH PARTIES.

6-2 UNCERTAINTY

IN THE EVENT THAT A QUESTION MAY ARISE ABOUT THIS
DOCUMENT OR AN AREA NOT SPECIFIED IN THIS DOCUMENT,
BOTH PARTIES SHALL DISCUSS AND DETERMINE A SOLUTION
IN GOOD FAITH.

6-3 WARRANTY

OUR WARRANTY IS LIMITED TO THE REPLACEMENT OF FAILED
FAN AT FREE OF CHARGE, IF AND ONLY IF THE FAILURE IS
FOUND WITHIN TWO YEARS AFTER IT WAS SHIPPED OUT FROM OUR
PRODUCTION FACILITY, AND IF THE CAUSE OF THE FAILURE IS
PROVEN TO BE ATTRIBUTABLE TO THE SUPPLIER.

OUR LIABILITY DOES NOT EXTEND TO THE CONSEQUENTIAL
DAMAGES CAUSED BY THE FAILED FAN.

6-4 PRODUCTION LOCATION

NIDEC (DALIAN) LIMITED:CHINA (DALIAN)

OR

NIDEC (SHAOGUAN) LIMITED:CHINA (SHAOGUAN)

OR

NIDEC VIETNAM CORPORATION:VIETNAM (HO CHI MINH CITY)

OR

NIDEC (DONGGUAN) LIMITED:CHINA (DONGGUAN)

IN CASE OF PRODUCTION FACTORY CHANGE, WE SHALL GET
APPROVAL FROM CUSTOMERS BEFOREHAND.



6-5 NOTE

PLEASE CONSIDER HAVING AN INDEPENDENT PROTECTION SYSTEM
IN THE CUSTOMER'S INSTRUMENTS IN THE EVENT THAT THE FAN
SHOULD STOP OPERATING.

SPECIFICATIONS

2011-11-15

NCDA-FAN

				No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL										
REV	ISSUE	0	Fig.	TOLERANCE			TREAT.			MTL.										
	ECO No.			UNLESS OTHERWISE SPECIFIED																
	APPROVED			LINEAR																
	DESIGNED			~ :±			FINISH		MODEL	U80T12BS2AA7-53Z99										
A	APPROVED	L. ZONG	2011-11-15	~ :±						PARTS	DC Fan DC Fan									
	CHECKED	Z. XIA	2011-11-15	~ :±								DWG.	Specification of DC Fan Specification of DC Fan							
	DESIGNED	Y. YOKOYAMA	2011-10-19	~ :±																
	DRAWN	X. JINTAI	2011-10-19	ANGULAR :±			UNIT	SCALE	⌕	A4										
				CORNER			mm				DWG. No.	F98	0004700							
				OUTSIDE :C																
				INSIDE :R																

6-6 POWER SOURCE

BRUSHLESS DC FANS ARE DESIGNED TO BE USED AT DC POWER SOURCE WITH BYPASS CAPACITOR. WE WOULD RECOMMEND YOU TO USE DC POWER SOURCE WHICH IS FILTERED RIPPLE AND NOISE.

- FANS ARE DESIGNED TO PERFORM AS EXPECTED WHEN STABLE VOLTAGE IS SUPPLIED.
- FLUCTUATION OF THE VOLTAGE BETWEEN Vcc(+) AND GND WHILE THE FAN IS POWERED MUST BE WITHIN THE SPECIFIED OPERATING VOLTAGE RANGE.
- FLUCTUATION CYCLE OF THE VOLTAGE BETWEEN Vcc(+) AND GND WHILE THE FAN IS POWERED MUST BE LONGER THAN THE FAN'S ROTATION CYCLE.
- GND OF THE FAN MUST BE KEPT BELOW THE VOLTAGE OF ITS Vcc(+) WHEN THE VOLTAGE IS SWITCHED ON/OFF OR THE FAN IS NOT RUNNING.
- DEVICES THAT USE THE FANS ARE SUPPOSED TO BE DESIGNED SO THAT THE VOLTAGE APPLIED ON THE LOCKED SIGNAL IS NOT AFFECTED BY POWER ON/OFF.

6-7 ENVIRONMENT-RELATED SUBSTANCES

BASED ON ROHS, CADMIUM, LEAD, MERCURY, AND, COMPOUND OF THESE SUBSTANCES AND HEXAVALENT CHROMIUM COMPOUND, POLYBROMO BI-PHENYL (PBB) AND POLYBROMO DI-PHENYL ETHER (PBDE) ARE NOT INCLUDED IN THIS PRODUCT.

SPECIFICATIONS
2011-11-15
NCDA-FAN

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REV	ISSUE	0	Fig.	TOLERANCE			TREAT.			MTL.																								
	ECO No.			UNLESS OTHERWISE SPECIFIED																														
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