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#### 1. SCOPE

THESE SPECIFICATIONS SHALL BE APPLIED TO THE D.C. BRUSHLESS FAN, MODEL CHA7012 - XX-X MANUFACTURED BY CHENG HOME ELECTRONICS CO., LTD.

#### 2. STANDARD OPERATIONAL & ELECTRICAL CHARACTERISTICS

Item	Description	CHA7012EBS-AH-NF
2.1	Rated and operating voltage VDC	$12 V (\pm 10\%)$
2.2	Rated current A (Max)	0.50 A (0.55A max)
2.3	Rated input W	6.0
2.4	Rated speed (rpm)	5400 ± 10%
2.5	Start up voltage VDC	9V
2.6	Start up current A (At D.C 9V)	Ref
2.7	Locked current A	Ref
2.8	Air volume M <sup>3</sup> /Min (CFM : Max)	1.14 (40.24)
2.8.1	When P=0; Qmin= M <sup>3</sup> /Min (CFM : MIN)	1.026 (36.22)
2.9	Static pressure Max (mmH2O)	6.77
2.9.1	When Q=0; Pmin= mmH <sub>2</sub> O	6.423
2.10	Noise db ( Front ± 3 )	44.0
2.10.1	Noise db ( at 0.5M distance)	49.3

2.11 Insulation resistance	: At least 10 M $\Omega$ at 500VDC between internal stator and
	both lead wires.
2.12 Dielectric strength	: Applied a 500VAC for 1.0 minute or 600VAC for 2
	seconds between housing and both lead wires.

- Note : A. Air volume measured by a double chamber. The value are recorded when the fan speed is stabilized at rated voltage.
  - B. Noise is measured from 1 meter from axis of the fan in-take face ( standard db )



C. Characteristics definition : Rated current, speed rated input power shall be measured after 30 minutes continuous operation at rated voltage.

## 3. MECHANICAL CHARACTERISTICS

3.1	Fan size	:	70 x 70 x 15 mm
3.2	Weight	:	About 50 g
3.3	Bearing	:	Sleeve Bearing/one ball one sleeve/ball bearing
3.4	Lead wire	:	UL 1061 AWG26, Rated 300V, 80°C
3.5	Frame	:	PBT UL94V-0
3.6	Impeller	:	PBT UL94V-0
3.7	P.C.B.	:	UL94V-0
3.8	Free drop shock	:	Free drop to a thick wooden board from 60 cm height in
			the smallest packing unit by dropping on X,Y and Z
			faces with no power supply.

#### 3.9 MATERIAL LIST

COMPONENTS	MATERIAL	TYPE	GRAD E	MANUFACTURER	UL NO.
FRAME	PBT (HALOGEN FREE)	F202G30	94V-0	SHINKONG SYNTHETIC FIBERS CORPORATION;	E107536
FAN BLADE	PBT (HALOGEN FREE)	F202G30	94V-0	SHINKONG SYNTHETIC FIBERS CORPORATION;	E107536
INSULATOR	PBT (HALOGEN FREE)	F202G30	94V-0	SHINKONG SYNTHETIC FIBERS CORPORATION;	E107536
STATOR	ELECTRICAL STEEL SHEETS	H-23 H-18		NIPPON STEEL CORPORATION	
SHAFT	STAINLESS	SUS-420J			
MAGNET	RUBBER			TDK TWN CORP. SUPER ELECTRONICS CO., LTD BEST RESULT ENTERPRISE CO.,LTD	
MAGNET CASE	CARBON STEEL	SPCD			
BEARING	SLEEVE BEARING			NAPAC,PORITE	
	BALL BEARING			NMB/ISC	

## 4. ENDURANCE CHARACTERISTICS

4.1	Operating temperature	: $-10$ °C $\sim$ $+70$ °C
	Conditions	: * Rated voltage D.C 12 V $(\pm 10\%)$
		* relative humidity(45-85%)
4.2	Storage temperature	: $-40$ °C $\sim$ $+70$ °C
	Conditions	: *relative humidity(45-85%)
4.3	Stator impedance	: It shall have no damage after test.
	Conditions	: * The fan is restricted for 72 hours.
		* Relative humidity(45-85%)
4.4	Vibration withstand	: It shall be satisfy the specified standards.
	Conditions	: * Cycle : $30 \sim 500$ Hz (Vibration acceleration 2G)
		* Amplitude : $5 \sim 30$ Hz
		* Time : 1 minute for each three right angle directions
4.5	Shock withstand	: It shall be satisfy the specified standards.
	Conditions	: * Peak value : 60G
		* Normal duration : 11MSEC
		* Each three right angle directions
4.6	Life expectancy	: About 20,000/30,000/40,000 Hrs in running conditions
		at 25°C ambient.
	Conditions	: *Ball bearing the best mounting direction : in any direction
		*One ball one sleeve the best mounting direction :with
		impeller up
		* Sleeve bearing the best mounting direction :with shaft
		horizontal.
		exception requirement with vertical impeller uputilization
		please consult our engineer to get the best solution
4.7	Shelf life	: * Please store the fan within 6 months, every 6months,
		there shall be a linkage of electric current to the fan,
		even though the fan is stored in room temperature.
		The sleeve bearing construction also needs to recheck
		The lubrication oil contained situation every 6months
		To perform the necessary rework process

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