



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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6.1 GENERAL..... 7

Special features according to QMH 2-5.4.7 and company standard 1-23.00 have the following definitions:

"A" : Product features or process parameters which influence the safety of a product or the compliance of legal requirements. (Must not necessary verified and documented 100%. Standards and legal requirements must be considered.)

"FK" : Product features or process parameters which influence the fit and function of a product or which have to be controlled or documented for some other reasons (e.g. Customer requirements).

1 General

Fan type	Fan	
Rotational direction looking at rotor	counterclockwise	FK
Airflow direction	Air outlet over struts	FK
Bearing system	Ball bearing	
Lubrication	see sectional drawing of the bearing	
Mounting position	any	
Tolerance		
Balancing grade	40,0	FK
Impeller weight		

2 Mechanics

2.1 General

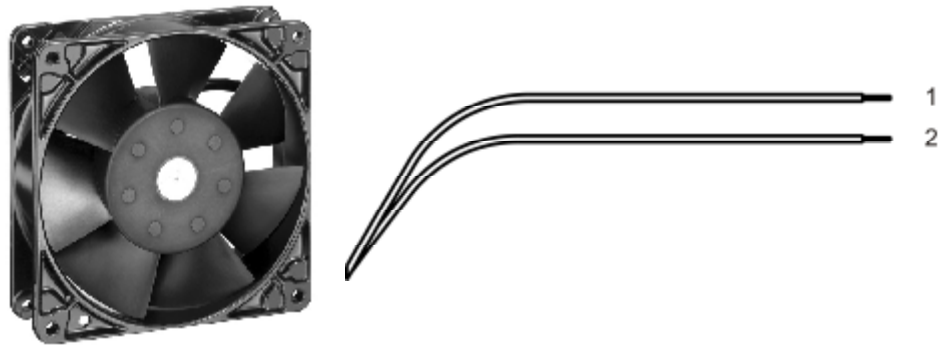
Width	127,0 mm	
Height	127,0 mm	
Depth	38,0 mm	
Diameter	0,0 mm	
Weight	0,570 kg	
Surface protection	see single part drawing of the housing, flange and impeller	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	wire outlet corner: 200 Ncm remaining corners: 410 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Motor

Type of motor	Shaded pole motor-intern rotor	
Diameter of the motor	31,0 mm	
Height of the motor	18,0 mm	
Operating mode	Continuous duty	
Insulation material class	B	

2.3 Connections

Electrical connection	Wires	
Length of lead wire	270,0 mm	
Tolerance	+ - 10,0 mm	
Length of tube	see drawing	
Tolerance		
Wire gauge (AWG)	22	
Insulation diameter	1,70 mm	
Plug	see drawing	
Contact	see drawing	



	Colour	Operation
Wire 1	black	L
Wire 2	black	N

3 Operating Data

3.1 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified).
In the intake and outlet area should not be any solid obstruction within 0,5 m.

$\Delta p = 0$: corresp. to free air flow (see section 3.4)

I: corresp. to RMS line current

Features	Condition	Symbol	Values	
Frequency	$\Delta p = 0$	f	50 Hz	60 Hz
Nominal voltage	$\Delta p = 0$	U_N	230,0 V	230,0 V
Tolerance			+ 6,0 % - 10,0 %	+ 6,0 % - 10,0 %
Power consumption	$\Delta p = 0$	P	18,0 W	17,0 W
Tolerance			+ 5,0 % - 10,0 %	+ 5,0 % - 10,0 %
Current consumption	$\Delta p = 0$	I	105 mA *)	95 mA *)
Tolerance			+ 5,0 % - 10,0 %	+ 5,0 % - 10,0 %
Speed	$\Delta p = 0$	n	2.750 1/min *)	3.100 1/min *)
Tolerance			+ - 5,0 %	+ - 5,0 %

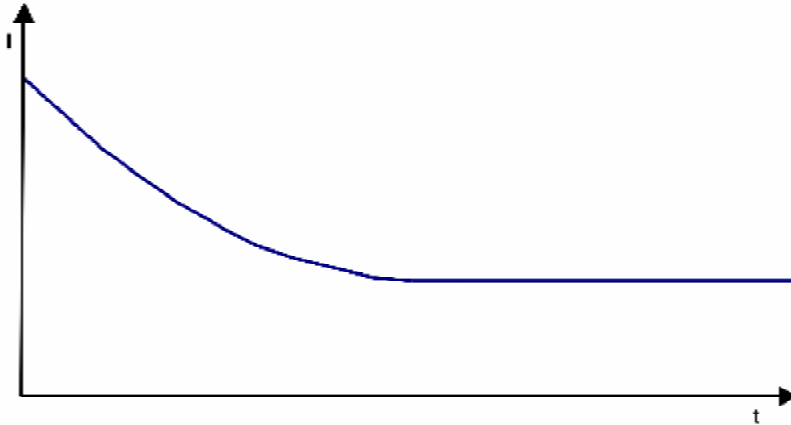
*) Attention: Marked values are "FK" features

3.2 Operating Data - Electrical Interface -Output

Tacho type	None
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3.3 Electrical Features

Locked rotor protection	Impedance	A
Locked rotor current at U_n		



3.4 Aerodynamic

Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.
 Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
 In the intake and outlet area should not be any solid obstruction within 0,5 m.

a.) Operation condition:
 2.750 1/min at free air flow Frequency: 50 Hz

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	178,0 m ³ /h	FK
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	80 Pa	FK

b.) Operation condition:
 3.100 1/min at free air flow Frequency: 60 Hz

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	200,0 m ³ /h	FK
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	65 Pa	FK

3.5 Sound Data

Measurement conditions: Sound pressure level: 1 Meter distance between microphone and the air intake.
 Sound power level: Acc. to DIN 45635 part 38 (ISO 10302)
 Measured in a semianchoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
 For further measurement conditions see section 3.4

a.) Operation condition:
 2.750 1/min at free air flow Frequency: 50 Hz

Optimal operating point	150,0 m ³ /h @ 21 Pa	
Sound power level at the optimal operating point	5,4 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	42,0 dB(A)	

b.) Operation condition:
 3.100 1/min at free air flow Frequency: 60 Hz

Optimal operating point	162,0 m ³ /h @ 25 Pa	
Sound power level at the optimal operating point	5,7 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	46,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-30 °C / 50 Hz -30 °C / 60 Hz	
Max. permitted ambient temperature TU max.	60 °C / 50 Hz 75 °C / 60 Hz	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	80 °C	

4.2 Climatic requirements *)

Humidity requirements	humid heat, constant; according to DIN EN 60068-2-78, 14 days	
Water exposure	None	
Radiation exposure	None	
Dust requirements	None	
Salt fog requirements	None	
Harmful gas requirements	None	

*) Permitted application area:
 The product is intended for use in sheltered rooms with controlled temperature and controlled humidity. Directly exposure to water must be avoided.

Pollution degree 1 (according DIN EN 60664-1)
 There is either no pollution or it occurs only dry, non-conductive pollution. The pollution has no negative impact.

4.3 Mechanical requirements

Please require severity levels and specification parameters from the responsible development departments **EMC**

not specified

5 Safety

5.1 Electrical Safety

Dielectric strength DIN EN 60950 (VDE 0805) and DIN EN 60335 (VDE 0700) A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	1500 VAC / 1 Min. 1500 VAC / 1 Sec.	A
Isolation resistance Measuring conditions: After 48h of storage at 95% R.H. and 25°C measured with U=500 VDC for 1 min.	RI > 50 MOhm	
Air and leakage distances	2,0 mm / 1,8 mm	
Protection class	I	

5.2 Approval Tests

CE	Yes
UL	Yes / UL507, Electric Fans
VDE	Yes / Approval acc. to EN 60335 (VDE 0700) - Safety for household and similar electrical appliances
CSA	Yes / C22.2 No. 113-M1984 Fans and Ventilators
CCC	Yes / GB 12350 Safety Requirements for small Power Motors

The approval tests are observed to:

U approval max.: 230 V / f: 60 Hz @ TU approval max.: 75 °C

6 Reliability

6.1 General

Life expectancy L10 at TU = 40 °C	40.000 h / 50 Hz 42.500 h / 60 Hz	
Life expectancy L10 at TU max.	25.000 h / 50 Hz 20.000 h / 60 Hz	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	/ 50 Hz / 60 Hz	