

# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

1 · Mechanical		9 · Notes: Model no.: RD12038B12H
1 1 · External dimension	120*120*38mm	
		91.
1 2 · Weight	246g/pcs (Lead wire length x 300mm & without connector)	We will not guarantee the products if the application of our products are exceeded the limitation which
1 3 · Bearing	Two Ball bearing	is specified on this specification
2 · Electrical characteristics( in free air at rated voltage)		92.
2 1 · Rated voltage	12V	In case of changes of the specification specified on this document A written notice is requested in
2 2 · Rated current	0.5±10%A	advance
2 3 · Rated input power	60±10%W	93.
3 · Efficiency		Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing
3 1 · Rated speed( range)	2800RPM±10%	and lead wire may be damaged
3 2 · Maximum air flow	113 99CFM	9.4.
3 3 · Maximum static air pressure	8 66mm H2O	No. 10 April
4 · Characteristics		No guarantee on the products against the safety problem or failure caused by powder dust or insect
4 1 · Operating voltage range	7 5V 13 8V	95.
4 2 · Starting voltage	7 5V(ON/OFF)	If there is any data or related documentation different from this data sheet This data sheet is the
4 3 · Locked current	0 55A(Reference)	principle reference
4 4 · Operating temperature	10°C +70°C	96.
4 5 · Storage temperature	30°C +85°C	
4 6 · Waterproof class	Grade IP58 to an immersion depth of 1 0 metre in water	Please do not use the fan in the environment of corrosive liquid or detrimental gas
4 8 · Insulation resistance	At least 10M $\Omega$ at 500 VDC between housing and both lead wires	97-
49 · Dielectric strength	Withstand 500 VAC 1 minute 1mA between housing and both lead wires	Please do not store the fan in the environment of high/low temperature or detrimental gas
4 10 · MTBF : 50,000Hours		98.
Life ecpectance:50,000Hours continuous operation at rated	voltage and normal temperature & humidity	While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since
4 11 - Tensible strength of connector	Connector will not be any broken at 1 Kg for 15 seconds per	the continuous stoppage will result in overheat and thus burnt out the fan
4 11 * Tensible strength of connector	piece	99.
4 12 · Accoustic sound level	44 6dB A(Max 44 6dBA)	During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock
4 12 1 . Accoustic sound level test descriptions		9 10 -
At rated voltage in sound proof room	Suspension	It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down
Background noise:14 9dBA	↑   ← Im → MIC Sensor	9 11 •
Free air	← (Aim to center of the fan) ←★	The torque of the screw which locked the frame should not exceed 4 Kgf

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

#### 4 13 · Characteristics definition:

- 4 13 1 s. Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on

#### 5 · Protection:

Reversal voltage test: We took 200 pcs for reversal voltage test at 12V for 1 minutes and all remain still Fans work normally after corrected voltage

6 - Cofatu	UL	CE	RoHS
o - Salety		√-	√

#### 7 · Material

Item	Major components	Material & Specification	Grade	Rmark
71	Fan housing	PBT 70% + Fiber 30%	94V 0	
72	Fan blade	PBT 85% + Fiber 15%	94V 0	
73	Stator core	Stainless steel (SUS420J2)		
7 4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
15	Rubber magnet	Strontium ferrite (BOB 14W)		
76	Silicon steel strip	(H23) (H8)	87 - 6	
17	Enamelled copper wires	Material & Specification 022 023mm	MW 2 UEW	Heat resistance120℃
7 8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
79	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
7 10	Label	Polyester		

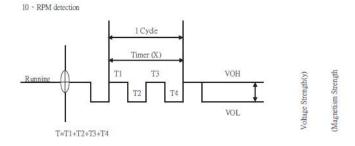
### 8 · Product inspection procedure

Inspection procedures below are extremely followed

- 81 . 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 82 . 100% Current wave test with scope on production line
- 83 . 100% Strike test by hand and noise filter in quiet room
- 8 4 · 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 . Random inspection in accordance with MIL STD 105E standard

### 86 · Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0



- 1 · Output waveform:square wave
- 2 . When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 · When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{4200}{X(ns)}$$

Example

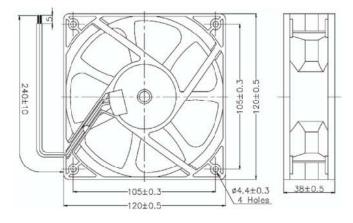
X=15ns

Ls=1000ns

Lmin=42000ns

$$RPM = \frac{4200}{15} = 2800$$

### 11 - Installation drawing



Unit:mm

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## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

Model no.: RD12038B12L1 1 · Mechanical 9 · Notes: 120\*120\*38mm 11 · External dimension 12 · Weight 246g/pcs (Lead wire length x 300mm & without connector) We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification 92. 2 · Electrical characteristics( in free air at rated voltage) 21 · Rated voltage In case of changes of the specification specified on this document A written notice is requested in advance 22 · Rated current 0.08±10%A 23 · Rated input power 0 96±10%W 93. 3 · Efficiency Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing 31 · Rated speed( range) 1500RPM±10% 32 · Maximum air flow 65 9CFM 94 . 2 2mm H2O 33 · Maximum static air pressure No guarantee on the products against the safety problem or failure caused by powder dust or insect 4 · Characteristics 75V 138V 41 · Operating voltage range 42 · Starting voltage 75V(ON/OFF) If there is any data or related documentation different from this data sheet This data sheet is the 0 16A(Reference) principle reference 44 · Operating temperature 10°C +70°C 96. 30°C +85°C 45 · Storage temperature Please do not use the fan in the environment of corrosive liquid or detrimental gas 46 · Waterproof class Grade IP58 to an immersion depth of 10 metre in water 97. At least  $10 M\Omega$  at 500 VDC between housing and both lead 48 . Insulation resistance Withstand 500 VAC 1 minute 1mA between housing and both Please do not store the fan in the environment of high/low temperature or detrimental gas 49 · Dielectric strength lead wires 410 - MTBF: 50,000Hours Life ecpectance:50,000Hours continuous operation at rated voltage and normal temperature & humidity While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since Connector will not be any broken at 1 Kg for 15 seconds per 4.11 - Tensible strength of connector the continuous stoppage will result in overheat and thus burnt out the fan During the installation of the fan, please pay substantial attention to possible notice caused by 4 12 . Accoustic sound level 27 0dBA(Max 27 0dBA) resonance vibration and shock 4 12 1 . Accoustic sound level test descriptions It is very important to notify that avoid to drop from 60cm height when in any movement or At rated voltage in sound proof room Suspension operation it will impact the balance of blade Especially ball bearing structure is avoided to drop down Background noise:14.9dBA MIC Sensor The torque of the screw which locked the frame should not exceed 4 Kgf (Aim to center of the fan) 👉 🖈

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

10 - RPM detection

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

### 4 13 · Characteristics definition:

- 4.13.1 \( \) Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage.
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on
- 5 Protection

Reversal voltage test: We took 200 pcs for reversal voltage test at 12V for 1 minutes and all remain still Fans work normally after corrected voltage

6 - Pacata	UL	CE	RoHS
o · Salety		√	√

### 7 · Material

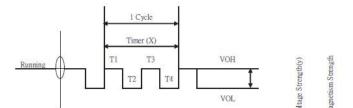
Item	Major components	Material & Specification	Grade	Rmark
7 1	Fan housing	PBT 70% + Fiber 30%	94V 0	1 10010
72	Fan blade	PBT 85% + Fiber 15%	94V 0	
13	Stator core	Stainless steel (SUS420J2)		
4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
7.5	Rubber magnet	Strontium ferrite (BOB 14W)		
76	Silicon steel strip	(H23) (H8)		
7	Enamelled copper wires	Material & Specification 022 023mm	MW 2 UEW	Heat resistance120°C
8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
79	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
7 10	Label	Polyester		

### 8 · Product inspection procedure

Inspection procedures below are extremely followed

- 8 1 . 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 . 100% Current wave test with scope on production line
- 83 . 100% Strike test by hand and noise filter in quiet room
- 8 4 10 cm drop test at random in accordance with MIL STD 105E standard
- 85 . Random inspection in accordance with MIL STD 105E standard
- 86 · Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0



1 · Output waveform:square wave

T=T1+T2+T3+T4

- 2 · When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 . When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{2250}{X(ns)}$$

Example

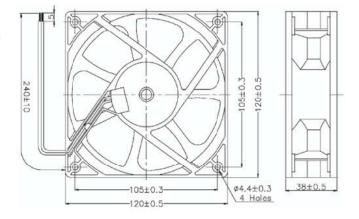
X=15ns

Ls=1000ns

Lmin=22500ns

$$RPM = \frac{2250}{15} = 15$$

11 - Installation drawing



Unit:mm

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## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

Model no.: RD12038B12L 1 · Mechanical 11 - External dimension 120\*120\*38mm 91. 246g/pcs (Lead wire length x 300mm & without connector) We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification 2 . Electrical characteristics( in free air at rated voltage) In case of changes of the specification specified on this document A written notice is requested in 2 1 . Rated voltage 2 2 - Rated current 016±10%A 192±10%W 93. 2 3 . Rated input power Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing 3 · Efficiency 1950RPM±10% and lead wire may be damaged 3 1 · Rated speed( range) 3 2 . Maximum air flow 83 6CFM 94 . 3 3 . Maximum static air pressure 4 72mm H2O No guarantee on the products against the safety problem or failure caused by powder dust or insect 4 · Characteristics 4 1 · Operating voltage range 7 5V 13 8V 4 2 . Starting voltage 7 SV(ON/OFF) If there is any data or related documentation different from this data sheet This data sheet is the 43 · Locked current 0 24A (Reference) principle reference 4 4 · Operating temperature 10°C +70°C 96 -4 5 · Storage temperature 30°C +85°C Please do not use the fan in the environment of corrosive liquid or detrimental gas 4 6 · Waterproof class Grade IP58 to an immersion depth of 1 0 metre in water 97. At least  $10 \mathrm{M}\,\Omega$  at 500 VDC between housing and both lead 4 8 · Insulation resistance Withstand 500 VAC 1 minute 1mA between housing and both Please do not store the fan in the environment of high/low temperature or detrimental gas 49 - Dielectric strength lead wires 4 10 · MTBF : 50,000Hours 98. Life expectance: 50,000 Hours continuous operation at rated voltage and normal temperature & humidity While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since Connector will not be any broken at 1 Kg for 15 seconds per 4 11 . Tensible strength of connector the continuous stoppage will result in overheat and thus burnt out the fan During the installation of the fan, please pay substantial attention to possible notice caused by 4 12 . Accoustic sound level 34 0dBA(Max 34 0dBA) resonance vibration and shock 4.12.1 - Accoustic sound level test descriptions It is very important to notify that avoid to drop from 60cm height when in any movement or At rated voltage in sound proof room operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down Background noise:14 9dBA MIC Sensor The torque of the screw which locked the frame should not exceed 4 Kgf

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Fan



# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

Magnetism Strength

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

#### 4 13 . Characteristics definition:

4 13 1 ° Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage

4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on

#### 5 · Protection

Reversal voltage test: We took 200pcs for reversal voltage test at 12V for 1 minutes and all remain still Fans work normally after corrected voltage

Pans work normally after corrected voltage

6 - Safety	UL	CE	RoHS
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#### 7 · Material

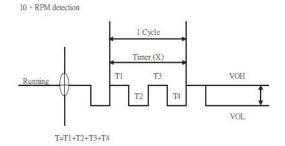
Item	Major components	Material & Specification	Grade	Rmark
7.1	Fan housing	PBT 70% + Fiber 30%	94V 0	
7 2	Fan blade	PBT 85% + Fiber 15%	94V 0	
7 3	Stator core	Stainless steel (SUS420J2)		
4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
5	Rubber magnet	Strontium ferrite (BOB 14W)		
7 6	Silicon steel strip	(H23) (H 8)	4	
7	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	Heat resistance 120℃
7 8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7 9	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire; polarity
7 10	Label	Polyester		

### 8 - Product inspection procedure

Inspection procedures below are extremely followed

- 8 1 · 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 . 100% Current wave test with scope on production line
- 8 3 100% Strike test by hand and noise filter in quiet room
- 8 4 · 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 · Random inspection in accordance with MIL STD 105E standard
- 8 6 Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0



- 1 · Output waveform:square wave
- 2 . When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 . When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{2925}{X(ns)}$$

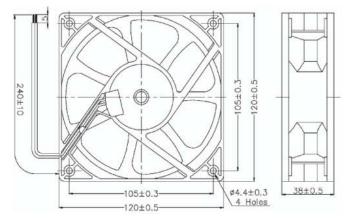
Example

X=15ns

Ls=1000ns

Lmin=292500ns

11 · Installation drawing



Unit:mm

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

1 · Mechanical		9 · Notes: Model no.: RD12038B12M
1 1 · External dimension	120*120*38mm	91:
1 2 · Weight	246g/pcs (Lead wire length x 300mm & without connector)	We will not guarantee the products if the application of our products are exceeded the limitation which
1 3 · Bearing	Two Ball bearing	is specified on this specification
2 · Electrical characteristics( in free air at rated voltage	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	92.
2 1 · Rated voltage	12V	In case of changes of the specification specified on this document A written notice is requested in
2.2 · Rated current	0.37±10%A	advance
2 3 · Rated input power	4 44±10%W	93.
3 · Efficiency		Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing
3 1 · Rated speed( range)	2540RPM±10%	and lead wire may be damaged
3 2 · Maximum air flow	101 3CFM	94.
3 3 · Maximum static air pressure	7 66mm H2O	
4 · Characteristics		No guarantee on the products against the safety problem or failure caused by powder dust or insect
4.1 · Operating voltage range	7.5V 13.8V	95.
4 2 · Starting voltage	7.5V(ON/OFF)	If there is any data or related documentation different from this data sheet This data sheet is the
4 3 · Locked current	0 46A(Reference)	principle reference
4 4 · Operating temperature	10°C +70°C	96.
4 5 · Storage temperature	30°C +85°C	THE RESIDENCE OF THE PROPERTY
4 6 · Waterproof class	Grade IP58 to an immersion depth of 10 metre in water	Please do not use the fan in the environment of corrosive liquid or detrimental gas
4 8 · Insulation resistance	At least $10 M\Omega$ at 500 VDC between housing and both lead wires	97.
49 · Dielectric strength	Withstand 500 VAC 1 minute 1mA between housing and both lead wires	Please do not store the fan in the environment of high/low temperature or detrimental gas
4 10 · MTBF : 50,000 Hours		98.
Life ecpectance:50,000Hours continuous operation a	t rated voltage and normal temperature & humidity	
4 11 · Tensible strength of connector	Connector will not be any broken at 1 Kg for 15 seconds per piece	While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan 99 v
4 12 · Accoustic sound level	41 0dBA(Max 41 0dBA)	During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock
4 12 1 . Accoustic sound level test descriptions		9 10 •
At rated voltage in sound proof room	Suspension	It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade. Especially ball bearing structure is avoided to drop down
Background noise:14 9dBA	↑   ← Im → MIC Sensor	911
2.0		The torque of the screw which locked the frame should not exceed 4 Kgf
Free air	← (Aim to center of the fan) ← ★	

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Fan



# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

### 4 13 · Characteristics definition:

- 4.13.1 Nated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on
- 5 · Protection:

Reversal voltage test; We took 200pcs for reversal voltage test at 12V for 1 minutes and all remain still Fans work normally after corrected voltage

6 - Safety	UL	CE	RoHS
o - Salety	1	- V	√

#### 7 - Material

Item	Major components	Material & Specification	Grade	Rmark
7 1	Fan housing	PBT 70% + Fiber 30%	94V 0	
7 2	Fan blade	PBT 85% + Fiber 15%	94V 0	
7 3	Stator core	Stainless steel (SUS420J2)		
4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
5	Rubber magnet	Strontium ferrite (BOB 14W)		
6	Silicon steel strip	(H23) (H 8)		
7	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	He at resistance 120°C
8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7 9	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
7 10	Label	Polyester		

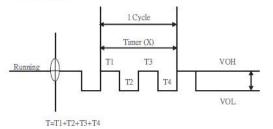
### 8 - Product inspection procedure

Inspection procedures below are extremely followed

- 8 1 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 . 100% Current wave test with scope on production line
- 8 3 . 100% Strike test by hand and noise filter in quiet room
- 8 4 . 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 · Random inspection in accordance with MIL STD 105E standard
- 8 6 · Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0

### 10 · RPM detection



(Magnetism Strength

- 1 · Output waveform:square wave
- 2 . When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 . When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{3810}{X(ns)}$$

Example

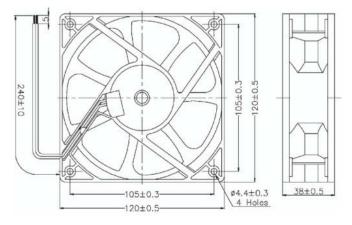
X=15ns

Ls=1000ns Lmin=38100ns

3810

$$RPM = \frac{3810}{15} = 2540$$

11 · Installation drawing



Unit:mm

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

Model no · RD12038R24H

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

1 · Mechanical		9 · Notes: Model no.: RD12038B24H
1 1 · External dimension	120*120*38mm	91.
1 2 · Weight	246g/pcs (Lead wire length x 300mm & without connector)	
ACK CAMPA		We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification
1 3 · Bearing	Two Ball bearing	
2 · Electrical characteristics( in free air at rated voltage		92.
2 1 * Rated voltage	24V	In case of changes of the specification specified on this document A written notice is requested in
2 2 · Rated current	0 26±10%A	advance
2 3 · Rated input power	6 24±10%W	93,
3 · Efficiency		Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing
3 1 · Rated speed( range)	2800RPM±10%	and lead wire may be damaged
3 2 Maximum air flow	113 99CFM	94-
3 3 Maximum static air pressure	8 66mm H2O	No guarantee on the products against the safety problem or failure caused by powder dust or insect
4 · Characteristics		No guarantee on the products against the safety problem of famule caused by powder dust of insect
4 1 · Operating voltage range	14V 28V	95.
4 2 · Starting voltage	14V(ON/OFF)	If there is any data or related documentation different from this data sheet This data sheet is the
4 3 · Locked current	0 31A(Reference)	principle reference
4 4 · Operating temperature	10°C +70°C	96-
4.5 · Storage temperature	30°C +85°C	
4 6 · Waterproof class	Grade IP58 to an immersion depth of 10 metre in water	Please do not use the fan in the environment of corrosive liquid or detrimental gas
4 8 · Insulation resistance	At least $10 M\Omega$ at 500 VDC between housing and both lead wires	97.
4 9 · Dielectric strength	Withstand 500 VAC 1 minute 1mA between housing and both lead wires	Please do not store the fan in the environment of high/low temperature or detrimental gas
4 10 · MTBF : 50,000Hours		98.
Life ecpectance:50,000 Hours continuous operation a	at rated voltage and normal temperature & humidity	While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since
4 11 'Tensible strength of connector	Connector will not be any broken at 1 Kg for 15 seconds per piece	the continuous stoppage will result in overheat and thus burnt out the fan  9.9 \tag{9.5}
4 12 · Accoustic sound level	44 6dB A(Max 44 6dB A)	During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock
4 12 1 . Accoustic sound level test descriptions		9 10 -
At rated voltage in sound proof room	Suspension	It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down
Background noise:14 9dBA	↑ ← 1m → MIC Sensor	9 11 -
		The torque of the screw which locked the frame should not exceed 4 Kgf
Free air	← (Aim to center of the fan) ← ★	

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Fan



## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

### 4 13 · Characteristics definition:

- 4.13.1 Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage.
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on

#### 5 · Protection

Reversal voltage test: We took 200pcs for reversal voltage test at 24V for 1 minutes and all remain still Fans work normally after corrected voltage

6 × Cafatu	UL	CE	RoHS
o · Saldy		√	√

### 7 · Material

Item	Major components	Material & Specification	Grade	Rmark
7 1	Fan housing	PBT 70% + Fiber 30%	94V 0	
7 2	Fan blade	PBT 85% + Fiber 15%	94V 0	
7 3	Stator core	Stainless steel (SUS420J2)		
7 4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
7.5	Rubber magnet	Strontium ferrite (BOB 14W)		
7 6	Silicon steel strip	(H23) (H 8)		
7 7	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	Heat resistance 120°C
7 8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7 9	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
7 10	Label	Polyester		

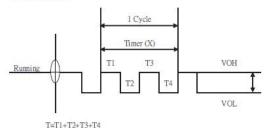
### 8 · Product inspection procedure

Inspection procedures below are extremely followed

- 8 1 . 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 . 100% Current wave test with scope on production line
- 8 3 · 100% Strike test by hand and noise filter in quiet room
- 8 4 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 Random inspection in accordance with MIL STD 105E standard
- 8 6 · Pass/Reject standard:

Critical AQL:04 Major AQL:065 Minor AQL:10





Voltage Strength(y)

- 1 · Output waveform:square wave
- 2 · When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 · When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

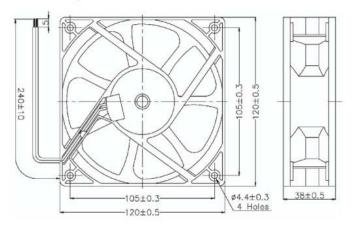
$$RPM = \frac{4200}{X(ns)}$$

Example

X=15ns

Ls=1000ns Lmin=42000ns

11 · Installation drawing



Unit:mm

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## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

Model no.: RD12038B24L1 1 · Mechanical 9 · Notes: 1 1 \* External dimension 246 g/pcs (Lead wire length x 300mm & without connector) We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification Two Ball bearing 2 · Electrical characteristics( in free air at rated voltage) In case of changes of the specification specified on this document A written notice is requested in 0 09±10%A 2 2 · Rated current advance 2 3 · Rated input power 2 16±10% W 93. 3 - Efficiency Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing 1500RPM±10% 3 1 - Rated speed( range) 3 2 - Maximum air flow 65 9CFM 94 -3 3 . Maximum static air pressure 2 2mm H2O No guarantee on the products against the safety problem or failure caused by powder dust or insect 4 1 · Operating voltage range 14V 28V 4 2 · Starting voltage 14V(ON/OFF) 43 · Locked current 0 15A(Reference) If there is any data or related documentation different from this data sheet This data sheet is the 10°C +70°C principle reference 4 4 · Operating temperature 30°C +85°C 96. 4 6 - Waterproof class Grade IP58 to an immersion depth of 1 0 metre in water Please do not use the fan in the environment of comosive liquid or detrimental gas At least 10M  $\Omega\,$  at 500 VDC between housing and both lead 97. 48 · Insulation resistance Withstand 500 VAC 1 minute 1mA between housing and both 49 · Dielectric strength lead wires Please do not store the fan in the environment of high/low temperature or detrimental gas 4 10 · MTBF : 50,000Hours Life ecpectance:50,000Hours continuous operation at rated voltage and normal temperature & humidity Connector will not be any broken at 1 Kg for 15 seconds per While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since 4 11 . Tensible strength of connector the continuous stoppage will result in overheat and thus burnt out the fan During the installation of the fan, please pay substantial attention to possible notice caused by 4 12 · Accoustic sound level 27 OdBA(Max 27 OdBA) resonance vibration and shock 4 12 1 . Accoustic sound level test descriptions It is very important to notify that avoid to drop from 60cm height when in any movement or At rated voltage in sound proof room Suspension. operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down 1 ← 1m → MIC Sensor Background noise:14 9d BA The torque of the screw which locked the frame should not exceed 4 Kgf ← (Aim to center of the fan) ← ★

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

10 · RPM detection

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

#### 4 13 · Characteristics definition:

- 4 13 1 · Ra ed current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage
- $4\ 13\ 2$  · Starting voltage is the least voltage that enables to start the fan by sudden power on
- 5 Protection

Reversal voltage test: We took 200pcs for reversal voltage test at 24V for 1 minutes and all remain still Fans work normally after corrected voltage

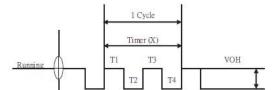
	7017 <del>-</del> 07			
	UL	CE	RoHS	
o Salety	P	5	1	

#### 7 · Material

Item	Major components	Material & Specification	Grade	Rmark
7 1	Fan housing	PBT 70% + Fiber 30%	94V 0	
7 2	Fan blade	PBT 85% + Fiber 15%	94V 0	
7 3	Stator core	Stainless steel (SUS420J2)		
7 4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
7.5	Rubber magnet	Strontium ferrite (BOB 14W)		
7 6	Silicon steel strip	(H23) (H 8)		
77	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	Heat resistance 120°C
7 8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7.9	Lead wires	Polywinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
7 10	Label	Polyester		

- 8 · Product inspection procedure
  - Inspection procedures below are extremely followed
- 8 1 > 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 100% Current wave test with scope on production line
- 8 3 . 100% Strike test by hand and noise filter in quiet room
- 8 4 . 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 . Random inspection in accordance with MIL STD 105E standard
- 8 6 · Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0



Voltage Strength(y)

1 · Output waveform:square wave

T=T1+T2+T3+T4

2 . When the voltage value is higher (Voltage Y )then output waveform is higher

VOL

- 3 · When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{2250}{X(ns)}$$

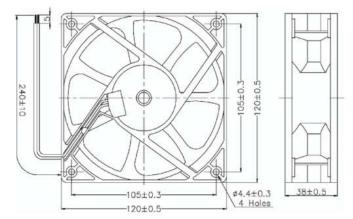
Example

X=15ns

Ls=1000ns

Lmin=22500ns

11 · Installation drawing



Unit:mm

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## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

Model no.: RD12038B24L 1 · Mechanical 9 - Notes: 1 1 \* External dimension 120\*120\*38mm 12 · Weight 246g/pcs (Lead wire length x 300mm & without connector) We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification Two Ball bearing 2 · Electrical characteristics( in free air at rated voltage) 2 1 . Rated voltage In case of changes of the specification specified on this document A written notice is requested in 2 2 · Rated current 0 13±10%A advance 2 3 · Rated input power 3 12±10%W 93. 3 · Efficiency Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing 3 1 · Rated speed( range) 1950RPM±10% and lead wire may be damaged 3 2 · Maximum air flow 83 6CFM 3 3 · Maximum static air pressure 472mm H2O No guarantee on the products against the safety problem or failure caused by powder dust or insect 4 · Characteristics 4 1 · Operating voltage range 14V 28V 95. 42 · Starting voltage 14V(ON/OFF) If there is any data or related documentation different from this data sheet This data sheet is the 0 22A(Reference) 43 · Locked current principle reference 4 4 · Operating temperature 4 5 · Storage temperature 30°C +85°C Please do not use the fan in the environment of corrosive liquid or detrimental gas 46 · Waterproof class Grade IP58 to an immersion depth of 10 metre in water At least  $10M\Omega$  at 500 VDC between housing and both lead 48 · Insulation resistance Withstand 500 VAC 1 minute 1mA between housing and both Please do not store the fan in the environment of high/low temperature or detrimental gas 49 · Dielectric strength 4 10 · MTBF : 50,000Hours Life expectance: 50,000 Hours continuous operation at rated voltage and normal temperature & humidity While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since Connector will not be any broken at 1 Kg for 15 seconds per the continuous stoppage will result in overheat and thus burnt out the fan 4 11 . Tensible strength of connector During the installation of the fan, please pay substantial attention to possible notice caused by 34 0dBA(Max 34 0dBA) 4 12 · Accoustic sound level resonance vibration and shock 4 12 1 . Accoustic sound level test descriptions It is very important to notify that avoid to drop from 60cm height when in any movement or At rated voltage in sound proof room Suspension operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down lm → MIC Sensor 9 11 9 Background noise:14 9dBA The torque of the screw which locked the frame should not exceed 4 Kgf Free air ← (Aim to center of the fan) ← ★

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## **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

Magnetism Strength

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

- 4 13 · Characteristics definition:
- 4 13 1 ° Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated voltage
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on
- 5 · Protection:

Reversal voltage test: We took 200pcs for reversal voltage test at 24V for 1 minutes and all remain still Fans work normally after corrected voltage

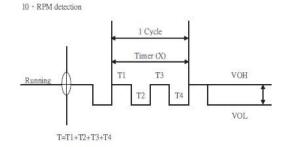
6 · Safety	ÜL	CE	RoHS
o - Salety		5	√ .

#### 7 - Material

Item	Major components	Material & Specification	Grade	Rmark
1	Fan housing	PBT 70% + Fiber 30%	94V 0	
2	Fan blade	PBT 85% + Fiber 15%	94V 0	
3	Stator core	Stainless steel (SUS420J2)		
4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
5	Rubber magnet	Strontium ferrite (BOB 14W)		
6	Silicon steel strip	(H23) (H 8)	24	
7	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	Heat resistance 120°C
8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7 9	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire: polarity
10	Label	Polyester		

- 8 Product inspection procedure
  - Inspection procedures below are extremely followed
- 8 1 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 . 100% Current wave test with scope on production line
- 8 3 · 100% Strike test by hand and noise filter in quiet room
- 8 4 . 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 · Random inspection in accordance with MIL STD 105E standard
- 8 6 Pass/Reject standard:

Critical AQL:0 4 Major AQL:0 65 Minor AQL:1 0



- 1 · Output waveform:square wave
- 2 . When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 . When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 RPM formula as follows:

$$RPM = \frac{2925}{X(ns)}$$

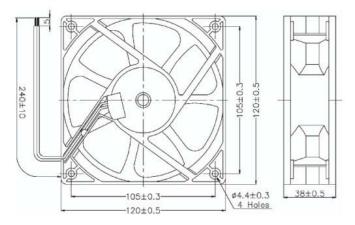
Example

X=15ns Ls=1000ns

Lmin=29250ns

$$RPM = \frac{2925}{15} = 1950$$

11 · Installation drawing



Unit:mm

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# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

Model no : PD12038B24M

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

1.1 · External dimension 120*120*38mm 9.1 ·	1 · Mechanical		9 · Notes:
12 - Weight  13 - Bearing  Two Ball bearing  15 - Bearting chamceristos(in free air at most voltage)  21 - Rated voltage  22 - Rated current  0 21±10%A  23 - Rated grapt power  3 - Brilicency  31 - Brilicency  32 - Maximum air flow  33 - Maximum air flow  33 - Maximum air flow  34 - Operating voltage range  14 V 28V  4 - Storage temperature  4 - Operating voltage range  14 V 28V  4 - Storage temperature  4 - Operating temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  4 - Operating temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  5 - Storage temperature  4 - Operating temperature  5 - Storage temperature  6 - Waterproof class  6 - In the operation operation of the environment of comoxive liquid or detrimental gas  5 - Storage temperature  5 - Storage temperature  6 - Please do not use the fan in the environment of highlow temperature or detrimental gas  5 - Please do not use the fan in the environment of highlow temperature or detrimental gas  6 - Please do not store the fan in the environment of highlow temperature	1 1 * External dimension	120*120*38mm	
1 3 - Bearing 2 - Betrial charactristics in fire air at nited voltage 2 - Betrial charactristics in fire air at nited voltage 2 - Rand outnear 2 - Rand outnear 2 - Rand outnear 3 - Bearing 3 - Bearing 2 - Rand outnear 4 - Descriptions of the specification specified on this document A written notice is requested in advance 3 - Bridgen outnear 3 - Bridgen outnear 3 - Bridgen outnear 3 - Bridgen outnear 3 - Rand outnear 4 - Outnear outnear 5 -	1 2 · Weight	246g/pcs (Lead wire length x 300mm & without connector)	We will not guarantee the products if the application of our products are exceeded the limitation which
2 1 - Rated voltage 2 2 - Rated purpower 3 - Efficiency 4 - Characteristics 4 - Operating redusper range 4 - Competing voltage range 4 - Competing voltage range 4 - Competing redusperature 4 - Operating redusperature 5 - Operation redusperature 5 - Operation reducts a signification of the firm the environment of conosive liquid or detrimental gas 6 - Operation redusperature 6 - Operation redusperature 7 - Operation redusperature 7 - Operation redusperature 8 - Operation redusperature 9 - Operation reducts a signif	1 3 · Bearing	Two Ball bearing	
2 2. Rated current 2 3. Rated purp ower 3 3. Efficiency 3 1. Rated speed, range) 3 1. Rated speed, range) 3 2. Maximum air flow 3 2. Maximum air flow 3 3. Maximum static air pressure 4 1. Operating voltage range 4 1. Operating voltage range 4 2. Starting voltage range 4 2. Starting voltage range 4 3. No guarantee on the products against the safety problem or failure caused by powder dust or insect  8 3. Maximum static air pressure 9 5.  1 Workpring voltage range 1 WV 28V 4 2. Starting voltage range 1 WVON/OFF) 1 Storage temperature 1 0°C +70°C 9 5.  1 Storage temperature 1 0°C +85°C 4 Storage temperature 4 S. Insulation resistance 3 or Heast 10MΩ at 500 VDC between housing and both lead wires 4 S. Insulation resistance 5 Storage temperature 4 S. Insulation resistance 5 Storage temperature 5 Connector will not be any broken at 1 Kg for 15 seconds per piece  4 11 · Tensible strength econoctor  4 12 · Accounties cound level 4 11 · Tensible strength for connector  4 12 · Accounties cound level 4 12 · Accounties cound level test descriptions  4 12 · Accounties cound level test descriptions  5 Storage temperature 5 Storage temperature 5 Storage temperature 6 humidity 6 Storage 7 Please do not store the fan in the environment of high/low temperature or detrimental gas  9 7 · While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan 9 9 · While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan 9 9 · Died	2 · Electrical characteristics( in free air at rated voltage	(e)	92.
2 S. Rated appt power 5 04±10% 93.  2 Efficiency 50 10 1 SCPM 50 10 1 SCPM 94.  3 Efficiency 50 10 1 SCPM 94.  4 Characteristics 42 Starting worth generature 766mm H2O 94.  4 C. Starting worth generature 10° + NO guarantiee on the products against the safety problem or failure caused by powder dust or insect 44. Operating temperature 96.  4 S. Storage temperature 10° + NO° 48°C 96.  4 S. Waterproof class Grade IPS8 to an immersion depth of 10 metre in water 45. Storage temperature 30° + 8°C 96.  4 S. Insulation resistance wires 49. Dielectric strength with the pressure and never bring the fan with lead wire The bearing and lead wire may be damaged 94.  5 Storage temperature 95.  6 Waterproof class 14 (NONOFF) 15 (Fifter is any data or related documentation different from this data sheet. This data sheet is the principle reference 96.  7 Flease do not use the fan in the environment of corrosive liquid or detrimental gas 15 (Fifter is any data or related documentation different from this data sheet. This data sheet is the principle reference 96.  8 If there is any data or related documentation different from this data sheet. This data sheet is the principle reference 96.  96.  97.  98.  98.  11 Flease do not use the fan in the environment of corrosive liquid or detrimental gas 15 (Fifter is principle reference 15 (Fifter is principle reference 15 (Fifter is any data or related documentation different from this data sheet is the principle reference 96.  96.  97.  98.  Withstand 500 VAC 1 minute 1mA between housing and both lead wires 15 (Fifter is principle reference 15 (Fifter is any data or related documentation different from this data sheet This data sheet is the principle reference 15 (Fifter is any data or related documentation different from this data sheet. This data sheet is the principle reference 15 (Fifter is any data or related documentation different from this data sheet. This data sheet is the principle reference 15 (Fifter is any data or related documentation different from this data sheet. This	2 1 · Rated voltage	24V	In case of changes of the specification specified on this document A written notice is requested in
Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing and lead wire may be damaged  9 4 * 3 * Maximum air flow  10 1 3 CPM  3 * Maximum air flow  10 1 3 CPM  3 * Maximum air flow  10 1 3 CPM  3 * Maximum air flow  10 1 3 CPM  3 * Maximum air flow  10 1 3 CPM  3 * Maximum air flow  10 * Characteristics  4 * Open ting voltage range  4 * V 28V  4 * Starting voltage range  14 * V 28V  4 * Starting voltage range  14 * V 28V  4 * Open ting temperature  10 * C +70°C  4 * Open ting temperature  10 * V +80°C  4 * Insulation resistance  At least 10 MΩ at 500 VDC between housing and both lead wires  4 * Insulation resistance  At least 10 MΩ at 500 VDC between housing and both lead wires  10 * OTHER : 5,000 OH/sours  11 * Tensible strength  11 * Tensible strength  12 * Accoustic sound level  12 * Accoustic sound level  13 * Adaminum air flow  14 * OBA/Max 41 0/BA)  14 * Accoustic sound level test descriptions  15 * Insulation resistance  16 * Waterproof class  17 * Please do not touch the impeller with the pressure and never bring the fan with lead wire may be damaged  9 4 * No guarantee on the products against the safety problem or failure caused by powder dust or insect  16 * Hether is any data or related documentation different from this data sheet This data sheet is the principle reference  9 6 * Please do not use the fan in the environment of corrosive liquid or detrimental gas  9 7 * Please do not use the fan in the environment of brightow temperature or detrimental gas  18 * Accounties trength  19 * S. * While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan  10 * Tensible strength of connector  10 * Water proof from Suspension  11 * Very important to notify that avoid to drop from 60cm height when in any movement or operation, will mill impact the balance of blade. Especially ball bearing structure is avoided to drop down  11 * Tensible stren	2 2 - Rated current	0 21±10%A	advance
3 1 - Rated speed (range) 2 2 - Maximum ar flow 10 1 SCPM 9 4 × Assuming static air pressure 4 - Characteristics 4 1 - Openting voltage range 4 2 - Starting voltage 4 2 - Starting voltage 4 3 - Locked current 4 3 - Locked current 4 3 - Locked current 4 5 - Storage temperature 4 5 - Storage temperature 4 5 - Storage temperature 4 6 - Waterproof class 4 - Insulation resistance 4 8 - Insulation resistance 4 8 - Insulation resistance 4 9 - Dielectric strength 4 10 - MTBF : 50,000 Hours Life expectance: 50,000 Hours continuous openation at rated voltage and normal temperature & humidity 4 11 - Tensible strength of connector 4 12 1 - Accoustic sound level 4 13 Max 41 OdBA 4 1	2 3 - Rated input power	5 04±10%W	93.
3 1 × Rating spooth range) 3 2 × Maximum air flow 3 3 × Maximum air flow 3 3 × Maximum static air pressure 4 × Characteristics 4 1 × Operating voltage range 4 × Operating working emperature 4 × Starting voltage 4 × Starting voltage 4 × Starting voltage 4 × Starting voltage 4 × Operating temperature 4 × Starting voltage 4 × Starting voltage 4 × Operating temperature 5 × Operating temperature 5 × Operating temperature 6 × Operating temperature 7 × Operating temperature 7 × Operating temperature 7 × Operating temperature 8 × Operating temperature 9 × Operatin	3 · Efficiency		Please do not touch the impeller with the pressure and never bring the fan with lead wire The bearing
3 3 Maximum static air pressure 4 Characteristics 4 1 Operating voltage range 4 2 2 Starting voltage 4 2 2 Starting voltage 4 3 Cooked current 5 C 700 C 5 Storage temperature 10° V +8°° C 6 Mater IPS8 to an immersion depth of 10 metre in water 4 8 Insulation resistance 4 8 Insulation resistance 4 9 Dielectric strength 4 0 Mithstand 500 VAC 1 minute 1mA between housing and both lead wires 4 10 MTBF: 50,000Hours Life expectance: 50,000Hours continuous operation at rated voltage and normal temperature & humidity 4 11 * Tensible strength 4 12 * Accoustic sound level 4 12 * Accoustic sound level 4 12 * Accoustic sound level 4 13 * Cooked current 4 10 MBA(Max 41 OdBA)  At nated voltage in sound proof room  Suspension  No guarantee on the products against the safety problem or failure caused by powder dust or insect  95 * If there is any data or related documentation different from this data sheet is the principle reference  96 * Please do not use the fan in the environment of corrosive liquid or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  97 * While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan  98 * While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan  99 * During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock  910 * It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  1 * In the torque of the screw which locked the fanne should not exceed 4 Kgf	3 1 · Rated speed( range)	2540RPM±10%	
4 Characteristics 4 1 Coprating voltage range 4 1 V 28V 4 1 Coprating voltage range 4 V (CNO)FF) 4 2 Starting voltage 4 Starting voltage range 4 V (CNO)FF) 5 If there is any data or related documentation different from this data sheet is the principle reference 9 6 × 4 S Storage temperature 4 C V expertance properature 4 S Storage temperature 5 Cornector will not be any broken at 1 Kg for 15 seconds per piece 4 S Insulation resistance 5 Connector will not be any broken at 1 Kg for 15 seconds per piece 5 Please do not use the fan in the environment of high/low temperature or detrimental gas 6 S W While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan 9 S Urring the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock 9 10 It is very important to notify that avoid to drop from 60cm height when in any movement or operation, will impact the balance of blade Especially ball bearing structure is avoided to drop down 9 10 It is very important to notify that avoid to drop from 60cm height when in any movement or operation, will impact the balance of blade Especially ball bearing structure is avoided to drop down 9 10 It is very important to notify that avoid to drop from 60cm height when in any movement or operation, will impact the balance of blade Especially ball bearing structure is avoided to drop down 9 10 It is very important to notify that avoid to drop from 60cm height when in any movement or operation. 9 11 The to	3 2 - Maximum air flow	101 3CFM	94.
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4 2 · Starting voltage 4 3 · Locked current 4 3 · Locked current 4 0 · Operating temperature 4 0 · Operating temperature 4 0 · Operating temperature 4 0 · Waterproof class 4 · Operating temperature 5 · Storage temperature 4 · Operating temperature 4 · Operating temperature 5 · Storage temperature 4 · Operating temperature 5 · Storage temperature 6 · Waterproof class 5 · Storage temperature 4 · Operating temperature 5 · Storage temperature 6 · Waterproof class 7	4 · Characteristics		No guarantee on the products against the safety problem or failure caused by powder dust or insect
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4 3 · Locked current 4 5 · Okade furmers 10°C +70°C 5 · Storage temperature 4 6 · Waterproof class 4 8 · Insulation resistance 4 9 · Dielectric strength 4 10 · MTBF : 50,000Hours 4 10 · MTBF : 50,000Hours 4 11 · Tensible strength of connector 4 12 · Accoustic sound level 4 10 dBA(Max 41 0dBA) 4 12 · Accoustic sound level 4 11 · Accoustic sound level 4 12 · Accoustic sound level 4 11 · Tensible strength of connector  Suspension  Background noise:14 9dBA  ↑ ← 1m → MIC Sensor  Please do not use the fan in the environment of corrosive liquid or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not use the fan in the environment of corrosive liquid or detrimental gas  Please do not use the fan in the environment of corrosive liquid or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  Please do not use the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Please do not store the fan in the environment of high/low temperature or detrimental gas  Plea	4 2 * Starting voltage	14V(ON/OFF)	
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4 8 · Insulation resistance  At least 10MΩ at 500 VDC between housing and both lead wires  4 9 · Dielectric strength  4 10 · MTBF : 50,000 Hours  Life expectance: 50,000 Hours continuous operation at rated voltage and normal temperature & humidity  Connector will not be any broken at 1 Kg for 15 seconds per piece  4 11 · Tensible strength of connector  4 12 · Accoustic sound level  4 10 dBA(Max 41 0dBA)  At rated voltage in sound proof room  Background noise: 14 9dBA   At least 10MΩ at 500 VDC between housing and both lead wires  Please do not store the fan in the environment of high/low temperature or detrimental gas  9 8 ·  While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan 9 9 ·  During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock  9 10 ·  It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  1 is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  1 is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  1 is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  1 is to requested.	4.5 · Storage temperature	30°C +85°C	2.0 :
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4 10 · MTBF : 50,000 Hours  Life expectance: 50,000 Hours  Life expectance: 50,000 Hours  Connector will not be any broken at 1 Kg for 15 seconds per piece  4 12 · Accoustic sound level  4 12 · Accoustic sound level test descriptions  At rated voltage in sound proof room  Background noise: 14 9 dBA  ↑ ← 1m → MIC Sensor    ead wires  9 8 ·   While the fan is in operation, please do not lock the fan intentionally for a long periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will result in overheat and thus burnt out the fan periods of time, since the continuous stoppage will	4 8 · Insulation resistance		97~
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4 11 · Tensible strength of connector  Connector will not be any broken at 1 Kg for 15 seconds per piece  4 12 · Accoustic sound level  4 10 dB A(Max 41 0dBA)  At nated voltage in sound proof room  Background noise:14 9dBA  At method voltage in sound proof room  Background noise:14 9dBA  The torque of the screw which locked the frame should not exceed 4 Kgf  the continuous stoppage will result in overheat and thus burnt out the fan 99 ·  During the installation of the fan, please pay substantial attention to possible notice caused by resonance vibration and shock  9 10 ·  It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade Especially ball bearing structure is avoided to drop down  11 ·  The torque of the screw which locked the frame should not exceed 4 Kgf	Life ecpectance:50,000Hours continuous operation	at rated voltage and normal temperature & humidity	
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100 A	Dataground noise, 14 70DA	Tim - wife sensor	
	Free air	← (Aim to center of the fan) ← ★	THE BOILDS OF THE SOLOW WHICH DOROGE THE DRILLE SHOULD HOLD CACCOURT INC.

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Fan



# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)

- 4 13 1 . Rated current, rated speed, and rated input power shall reach bottom line of specification after 5 minutes continuous rotation at rated voltage and reach standard specification after 10 minutes continuous at rated
- 4 13 2 . Starting voltage is the least voltage that enables to start the fan by sudden power on

Reversal voltage test: We took 200pcs for reversal voltage test at 24V for 1 minutes and all remain still

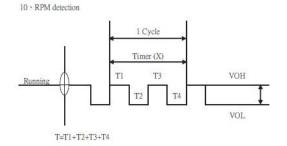
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### 7 · Material

Item	Major components	Material & Specification	Grade	Rmark
1	Fan housing	PBT 70% + Fiber 30%	94V 0	
7 2	Fan blade	PBT 85% + Fiber 15%	94V 0	
7 3	Stator core	Stainless steel (SUS420J2)		
7 4	Bearing	Ball bearing or sleeve bearing (Cu+GLY) 2100		Two Ball bearing
15	Rubber magnet	Strontium ferrite (BOB 14W)	2 2	
7.6	Silicon steel strip	(H23) (H 8)		
7	Enamelled copper wires	Material & Specification 0 22 0 23mm	MW 2 UEW	He at resistance 120°C
7 8	Printed Circuit Board	Wiring printed single layer board	94V 0	CAM 1 T:0 8mm
7 9	Lead wires	Polyvinyl Choride enamelled copper wires (AWG#22)	94V 0	Red wire:+polarity Black wire polarity
7.10	Labal	Dolyactar	1 1	7

- 8 · Product inspection procedure
  - Inspection procedures below are extremely followed
- 8 1 · 100% Electric, rotating, dead spot, fan blade fasten, and primary noise test on production line
- 8 2 · 100% Current wave test with scope on production line
- 8 3 . 100% Strike test by hand and noise filter in quiet room
- 8 4 . 10 cm drop test at random in accordance with MIL STD 105E standard
- 8.5 · Random inspection in accordance with MIL STD 105E standard
- 8 6 Pass/Reject standard:

Critical AQL:04 Major AQL:0 65 Minor AQL:1 0



Magnetism Strength 'oltage Strength(y)

- 1 · Output waveform:square wave
- 2 · When the voltage value is higher (Voltage Y )then output waveform is higher
- 3 . When the fan is shutdown then output waveform is a horizontal line
- 4 . The cyclic distance is longer then the RPM is Slower
- 5 · RPM formula as follows:

$$RPM = \frac{3810}{X(ns)}$$

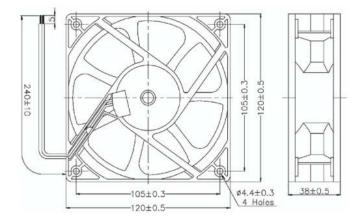
Example

Ls=1000ns

Lmin=38100ns

$$RPM = \frac{3810}{15} = 2540$$

11 · Installation drawing



Unit:mm

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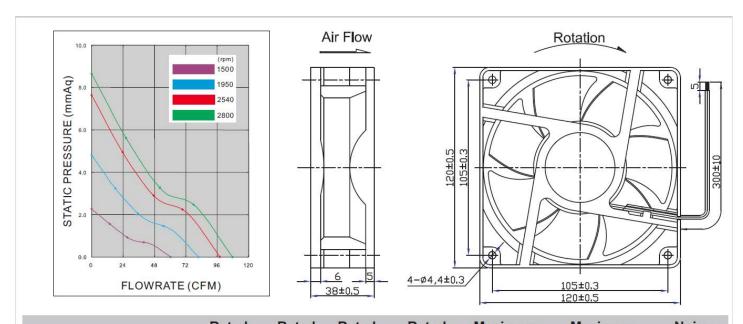


# **Datasheet**

Item no. 1566434, 1564999, 1565000, 1566435, 1565001, 1566436-1566438

V1\_0917\_01\_en

# Waterproof fan, IP 58 rating, 12V (0.5A, 0.16A, 0.08A, 0.37A); IP 58 rating, 24V, (0.13A, 0.09A, 0.21A, 0.26A)



	Best-Nr.	Туре	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (rpm)	Maximum AirFlow (CFM)	Maximum Pressure (mmAq)	Noise Level (dB/A)
1565000	189262	RD12038B12L1	12	0.08	0.96	1500	65.9	2.20	27.0
1564999	189261	RD12038B12L	12	0.16	1.92	1950	83.6	4.72	34.0
1566435	189263	RD12038B12M	12	0.37	4.44	2540	101.3	7.66	41.0
1566434	189259	RD12038B12H	12	0.50	6.0	2800	113.99	8.66	44.6
1566436	189266	RD12038B24L1	24	0.09	2.16	1500	65.9	2.20	27.0
1565001	189264	RD12038B24L	24	0.13	3.12	1950	83.6	4.72	34.0
1566437	189267	RD12038B24M	24	0.21	5.04	2540	101.3	7.66	41.0
1566438	189268	RD12038B24H	24	0.26	6.24	2800	113.99	8.66	44.6

Unit:mm