OD6038 XC Series

DC Fan 12V
60x38mm (2.36” x 1.5”)

<table>
<thead>
<tr>
<th>Frame &amp; Impeller</th>
<th>PBT, UL94V-O plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>3x Lead wires *</td>
</tr>
<tr>
<td>Motor</td>
<td>Brushless DC, auto restart, polarity protected.</td>
</tr>
<tr>
<td>Bearing System</td>
<td>Dual ball bearing</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>Min. 10M at 500VDC</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>1 minute at 500 VAC, max leakage &lt; 500 MicroAmp</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-10C ~ +70C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40C ~ +80C</td>
</tr>
<tr>
<td>Life (L10)</td>
<td>70,000 hours (40C)</td>
</tr>
</tbody>
</table>

Part Number | OD6038-12HBXC01A
Nominal Voltage | 12V DC
Voltage Range | 10.8 ~ 13.2V DC
Nominal Current | 2.10 A
Rated Power | 28.8 W
Rated Speed (RPM) | 14500
Airflow (CFM) | 76
Noise Level (dB) | 64
Max. Static Pressure | 2.4” H2O

*Output type ................. Open collector type
*Electrical design suggestion:

*Transistor Q1 at "ON" position
Collector current .................. Ic=10mA Max
Saturation Voltage .................. Vcd=1.0V Max
(Between Collector and Emitter at Ic=10mA)
*Transistor Q1 at "OFF" position
Release Voltage .................... Voh=15V Max

Knight Electronics, Inc.
10557 Metric Drive
Dallas, Texas 75243
214-340-0265

RoHS Compliant

Orion Fans
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### OD6038 XC Series

**DC Fan 12V**  
60x38mm (2.36” x 1.5”)

---

<table>
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<tr>
<th>Specification</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Frame &amp; Impeller</td>
<td>PBT, UL94V-O plastic</td>
</tr>
<tr>
<td>Connection</td>
<td>4x Lead wires *</td>
</tr>
<tr>
<td>Motor</td>
<td>Brushless DC, auto restart, polarity protected.</td>
</tr>
<tr>
<td>Bearing System</td>
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<tr>
<td>Insulation Resistance</td>
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</tr>
<tr>
<td>Life (L10)</td>
<td>70,000 hours (40C)</td>
</tr>
<tr>
<td>Weight</td>
<td>~ 125 g</td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>12V DC</td>
</tr>
<tr>
<td>Voltage Range</td>
<td>10.8 ~ 13.2V DC</td>
</tr>
<tr>
<td>Nominal Current</td>
<td>2.10 A</td>
</tr>
<tr>
<td>Rated Power</td>
<td>28.8 W</td>
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<tr>
<td>Rated Speed (RPM)</td>
<td>14500</td>
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<tr>
<td>Airflow (CFM)</td>
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<td>Noise Level (dB)</td>
<td>64</td>
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<tr>
<td>Max. Static Pressure</td>
<td>2.4” H₂O</td>
</tr>
</tbody>
</table>

---

*Connection UL1007, 24AWG, ~320mm Red (+), Black (-), White Tachometer, Blue PWM*

---

* PWM Input Voltage High: Vᵢ ≥ 5.5 V MAX  
  * PWM Input Voltage Low: Vᵢ ≤ 0.0 V MAX  

---

*PWM Input Frequency: FPWM=18KHZ~30KHZ*

---

*Customer’s Circuit Diagram:*

---

*Transistor Q1 at "ON" Position: Collector Current: Iᵢ ≤ 10mA MAX  
  Transistor Q1 at "OFF" Position: Release Voltage: Vᵢ ≤ 15V MAX  
  Digital PWM Speed Control Position: PWM Input Voltage High: Vᵢ ≥ 5.5V MAX  
  PWM Input Voltage Low: Vᵢ ≤ 0.0V MAX  

---

*Note: External signal function design is decided by customer.*

---

*Knights Electronics, Inc.*

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Dallas, Texas 75243  
214-340-0265
# OD6038 XC Series

**DC Fan 12V**

60x38mm (2.36” x 1.5”)

---

**Frame & Impeller**
- PBT, UL94V-O plastic

**Connection**
- 3x Lead wires *

**Motor**
- Brushless DC, auto restart, polarity protected.

**Bearing System**
- Dual ball bearing

**Insulation Resistance**
- Min. 10M at 500VDC

**Dielectric Strength**
- 1 minute at 500 VAC, max leakage < 500 MicroAmp

**Temperature Range**
- -10°C ~ +70°C

**Storage Temperature**
- -40°C ~ +80°C

**Life (L10)**
- 70,000 hours (40°C)

---

**Part Number**
- OD6038-12HHBXC01A

**Nominal Voltage**
- 12V DC

**Voltage Range**
- 10.8 ~ 13.2V DC

**Nominal Current**
- 2.70 A

**Rated Power**
- 36 W

**Rated Speed (RPM)**
- 16000

**Airflow (CFM)**
- 86

**Noise Level (dB)**
- 66

**Max. Static Pressure**
- 2.95” H2O

---

**Motor**

- Brushless DC, auto restart, polarity protected.

**Bearing System**
- Dual ball bearing

**Insulation Resistance**
- Min. 10M at 500VDC

**Dielectric Strength**
- 1 minute at 500 VAC, max leakage < 500 MicroAmp

---

**Part Number**
- OD6038-12HHBXC01A

**Nominal Voltage**
- 12V DC

**Voltage Range**
- 10.8 ~ 13.2V DC

**Nominal Current**
- 2.70 A

**Rated Power**
- 36 W

**Rated Speed (RPM)**
- 16000

**Airflow (CFM)**
- 86

**Noise Level (dB)**
- 66

**Max. Static Pressure**
- 2.95” H2O

---

**Connection**

- UL1007, 24AWG, ~320mm
- Red (+)
- Black (-)
- White Tachometer

**Connection**

- Tachometer - Open Collector

**Graph**

- Static Pressure (H2O) vs. Airflow (CFM)

---

*Output type: Open collector type*

*Electrical design suggestion:

```
Q1
\[ V_D \]
\[ I_c \]
GND

CUSTORMER'S CIRCUIT

\[ 15V \] Max

\[ V_{\text{OH}} = 1.0V \] Max

(Between Collector and Emitter at \( I_c = 10mA \))

*Transistor Q1 at "ON" position

Collector current \( I_c = 10mA \) Max

Saturation Voltage \( V_{CE} = 1.0V \) Max

*Transistor Q1 at "OFF" position

Release Voltage \( V_{\text{OH}} = 15V \) Max
```
## OD6038 XC Series

### DC Fan 12V

60x38mm (2.36"x 1.5")

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### Specifications

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<tr>
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<th>OD6038-12HHBXC10A</th>
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<tr>
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<tr>
<td>Voltage Range</td>
<td>10.8 ~ 13.2V DC</td>
</tr>
<tr>
<td>Nominal Current</td>
<td>2.70 A</td>
</tr>
<tr>
<td>Rated Power</td>
<td>36 W</td>
</tr>
<tr>
<td>Rated Speed (RPM)</td>
<td>16000</td>
</tr>
<tr>
<td>Airflow (CFM)</td>
<td>86</td>
</tr>
<tr>
<td>Noise Level (dB)</td>
<td>66</td>
</tr>
<tr>
<td>Max. Static Pressure</td>
<td>2.95” H2O</td>
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</table>

* Connection UL1007, 24AWG, ~320mm
Red (+) Black (-) White Tachometer Blue PWM

---

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Part Number: OD6038-12LBXC01A

Nominal Voltage: 12V DC
Voltage Range: 10.8 ~ 13.2V DC
Nominal Current: 1.45 A
Rated Power: 21.6 W
Rated Speed (RPM): 13000
Airflow (CFM): 68
Noise Level (dB): 61
Max. Static Pressure: 1.95” H2O

*Connection UL1007, 24AWG, ~320mm Red (+) Black (-) White Tachometer

*Output type..................Open collector type
*Electrical design suggestion:

*Transistor Q1 at "ON" position
Collector current..............Ic=10mA Max
Saturation Voltage..............Vce=1.0V Max
(Between Collector and Emitter at Ic=10mA)
*Transistor Q1 at "OFF" position
Release Voltage...............Vo=15V Max

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## OD6038 XC Series

**DC Fan 24V**

60x38mm (2.36”x 1.5”)

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<td>4x Lead wires *</td>
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### Part Number

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<thead>
<tr>
<th>Nominal Voltage</th>
<th>24V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Range</td>
<td>21.6 ~ 26.4V DC</td>
</tr>
<tr>
<td>Nominal Current</td>
<td>1.25 A</td>
</tr>
<tr>
<td>Rated Power</td>
<td>30 W</td>
</tr>
<tr>
<td>Rated Speed (RPM)</td>
<td>16000</td>
</tr>
<tr>
<td>Airflow (CFM)</td>
<td>86</td>
</tr>
<tr>
<td>Noise Level (dB)</td>
<td>69.5</td>
</tr>
<tr>
<td>Max. Static Pressure</td>
<td>2.95” H2O</td>
</tr>
</tbody>
</table>

*Connection: UL1007, 24AWG, ~320mm Red (+), Black (-), White Tachometer, Blue PWM

* (External signal function design is decided by customer)

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