

| Revision History |     |         |                            |           |
|------------------|-----|---------|----------------------------|-----------|
| EC No            | REV | Date    | Description                | Approvals |
| NA               | X00 | 7/11/16 | Created Dwg.               | JE        |
| NA               | X01 | 2/12/17 | Updt. Housing per new tool | JE        |

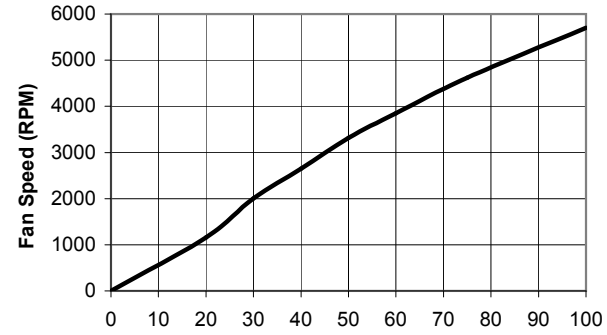
**NOT RELEASED FOR PRODUCTION**

- NOTES**
1. THIS FAN AND ALL OF ITS COMPONENTS COMPLY WITH THE REQUIREMENTS OF RoHS DIRECTIVE 2011/65/EU
  2. BASE MODEL FAN - ANY CHANGES TO SPECIFICATION REQUIRES NEW PART NUMBER AND DRAWING.
  3. RPM TOLERANCE IS +/-30% AT DUTY CYCLES BELOW 30%. AT DUTY CYCLES BETWEEN 30% AND 100%, RPM TOLERANCE CONVERGES LINEARLY TO 10%.

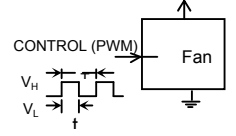
Twist wires 1 turn min. per 10 mm

| WIRE DESIGNATION |               |
|------------------|---------------|
| WIRE COLOR       | FUNCTION      |
| Black            | GND (-)       |
| Yellow           | PWR (+)       |
| Green            | Signal (Tach) |
| Blue             | PWM           |

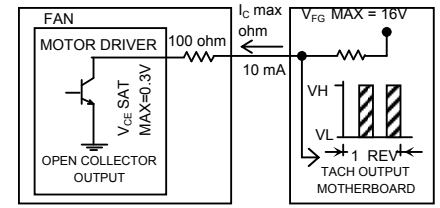
| All Dimensions in mm |                 |
|----------------------|-----------------|
| A                    | 48.92 +/- 0.5   |
| B                    | 18.0            |
| C                    | 24.9            |
| D                    | 20.0            |
| E                    | 20.0 +/- 0.5    |
| F                    | 10.5            |
| G                    | 4.0             |
| H                    | 23.0            |
| I                    | 20.0            |
| J                    | 2x Ø4.5 +/- 0.2 |
| K                    | Ø32.5           |
| L                    | 300 +/- 30      |
| M                    | 6.9             |
| N                    | 64.2            |
| O                    | M 1.7 x 2       |
| P                    | 29.5            |
| Q                    | 6.4 +/- 1.0     |



PWM DUTY CYCLE vs. FAN SPEED AT 12V

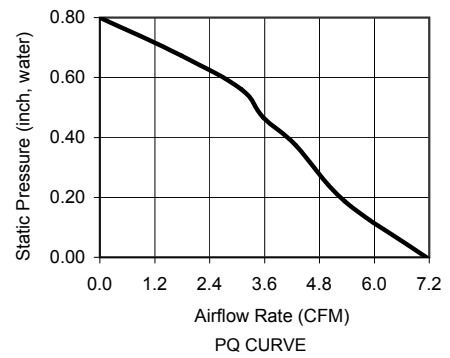


DUTY CYCLE =  $t/T \times 100\%$   
 PWM Fcy: 25KHz +/- 5KHz  
 PWM\_High VH : 2.8V - 5.5V  
 PWM\_Low VL : 0V - 0.8V  
 PWM Pin Open: Full Speed  
 FRONT END PWM CIRCUIT



TACH OUTPUT ELECTRICAL CHARACTERISTICS

|            | ITEM                    | SPECIFICATION   | UNITS / NOTES          |
|------------|-------------------------|-----------------|------------------------|
| MECHANICAL | Speed                   | 5700 +/- 10%    | RPM at 12 Vdc          |
|            | Airflow                 | 7.14            | CFM in Free Air        |
|            | Static Pressure         | 0.80            | Inch, H <sub>2</sub> O |
|            | Bearing Type            | Dual Ball       | N/A                    |
|            | Operating Temp          | (-)10 to 70     | Deg C                  |
|            | Storage Temp            | (-)40 to 70     | Deg C                  |
|            | Noise Level             | 34.9            | dBA Max at 1M          |
|            | Blade Material          | UL 94V-0        | N/A                    |
|            | Frame Material          | UL 94V-0        | N/A                    |
|            | Wire Size               | 28              | AWG                    |
| PHYSICAL   | Wire Type               | UL 1571         | N/A                    |
|            | Wire Assembly           | First Slot Only | N/A                    |
|            | Regulatory Approvals    | TBD             | N/A                    |
|            | Net Weight              | 30.0            | Grams                  |
|            | Operating Voltage       | 10.8 - 13.2     | Vdc                    |
| ELECTRICAL | Start up Voltage        | NA              | Vdc                    |
|            | Start up PWM duty cycle | 30              | %                      |
|            | Rated Current           | 0.12 (0.14 Max) | Amp                    |
|            | Input Power             | 1.44 (1.68 Max) | Watts                  |
|            | Tach Output             | 2.0             | Pulses/Rev             |
|            | Polarity Protection     | Yes             | N/A                    |
|            | Motor Protection        | Yes             | Type 2                 |



|                                     |            |   |                |     |
|-------------------------------------|------------|---|----------------|-----|
| 2                                   | 1          | Logo Label                                    | L05005B0004    | JMC |
| 1                                   | 1          | Fan Model                                     | B5020-12       | JMC |
| Item                                | Qty        | Description                                   | Part Number    | MFG |
| Austin Texas, USA<br>Dong Guan, PRC |            | Blower, 50x20 mm, 12Vdc, PWM, DBB, Base Model |                |     |
| Drawn By                            | A. Aguirre | Size  | Drawing Number | Rev |
| Engineer                            | J. Elmo    | A1  | 05005B0004     | X01 |
| Scale: None                         |            |   | Sheet 1 of 1   |     |

PROPRIETARY NOTE

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