



**MODEL:** HSE-B20X-01 | **DESCRIPTION:** HEAT SINK

**FEATURES**

- TO-220 package
- placement pins for secure PCB attachment
- slide in style
- multiple available cut lengths



**MODEL**

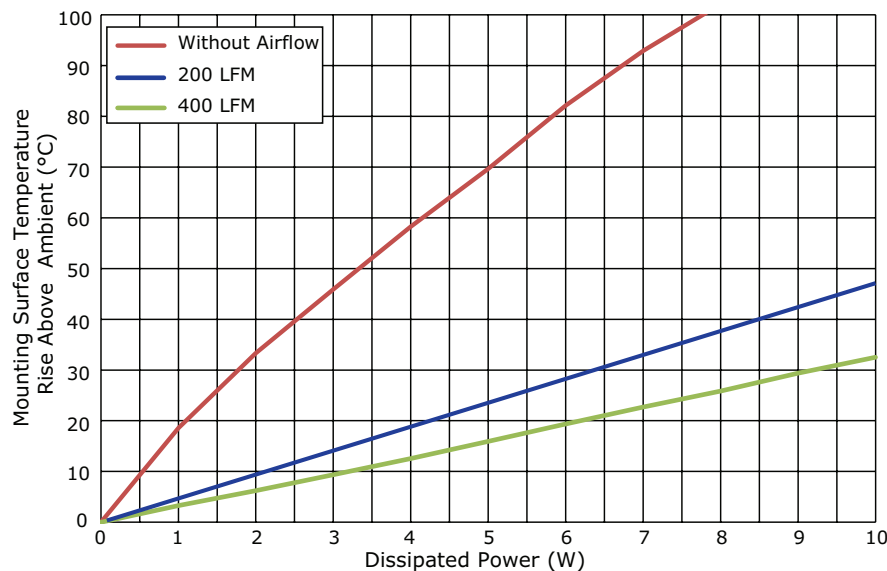
|                    | length<br>[mm] | thermal resistance <sup>1</sup> |                              |                             | power<br>dissipation <sup>1</sup><br>@ 75°C ΔT, nat<br>conv [W] |                             |
|--------------------|----------------|---------------------------------|------------------------------|-----------------------------|---|-----------------------------|
|                    |                | @ 75°C ΔT, nat<br>conv [°C/W]   | @ 1 W,<br>nat conv<br>[°C/W] | @ 1 W,<br>200 LFM<br>[°C/W] |   | @ 1 W,<br>400 LFM<br>[°C/W] |
| HSE-B20250-040H-01 | 25             | 13.64                           | 18.58                        | 4.44                        | 3.30  | 5.50                        |
| HSE-B20380-040H-01 | 38             | 10.27                           | 13.31                        | 5.77                        | 3.68  | 7.30                        |
| HSE-B20500-040H-01 | 50             | 8.43                            | 11.67                        | 2.85                        | 1.91  | 8.90                        |
| HSE-B20630-040H-01 | 63             | 8.24                            | 11.01                        | 4.46                        | 2.97  | 9.10                        |

Note: 1. See performance curves for full thermal resistance details.  
2. Custom cut to length options available. Thermal data not available on custom lengths.

**PERFORMANCE CURVES**

**HSE-B20250-040H-01**

| Power [W] | Heatsink Temperature Rise Above Ambient (ΔT = T <sub>hs</sub> - T <sub>a</sub> ) [°C] |         |         |
|-----------|---|---------|---------|
|           | Natural Conv.   | 200 LFM | 400 LFM |
| 0         | 0   | 0       | 0       |
| 1         | 18.58   | 4.44    | 3.30    |
| 2         | 33.32   | 9.59    | 6.21    |
| 3         | 45.87   | 14.21   | 9.38    |
| 4         | 58.26   | 18.79   | 12.55   |
| 5         | 69.68   | 23.71   | 15.95   |
| 6         | 82.14   | 28.49   | 19.39   |
| 7         | 92.93   | 32.90   | 22.71   |
| 8         | 102.15  | 37.44   | 25.85   |
| 9         | 110.43  | 42.50   | 29.39   |
| 10        | 117.47  | 47.13   | 32.50   |



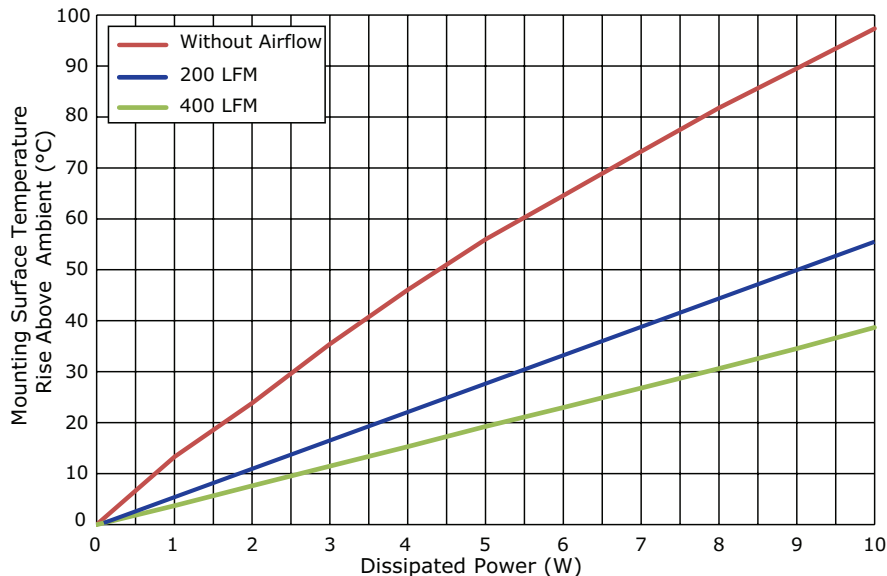
T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
T<sub>a</sub>: ambient temperature

## PERFORMANCE CURVES (CONTINUED)

### HSE-B20380-040H-01

| Power [W] | Heatsink Temperature Rise Above Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |         |         |
|-----------|--|---------|---------|
|           | Natural Conv.  | 200 LFM | 400 LFM |
| 0         | 0  | 0       | 0       |
| 1         | 13.31  | 5.77    | 3.68    |
| 2         | 23.81  | 11.53   | 7.60    |
| 3         | 35.45  | 17.15   | 11.49   |
| 4         | 46.08  | 22.72   | 15.29   |
| 5         | 55.96  | 28.33   | 19.24   |
| 6         | 64.57  | 33.55   | 22.98   |
| 7         | 73.20  | 38.93   | 26.79   |
| 8         | 81.80  | 44.23   | 30.63   |
| 9         | 89.50  | 50.00   | 34.54   |
| 10        | 97.33  | 55.53   | 38.67   |

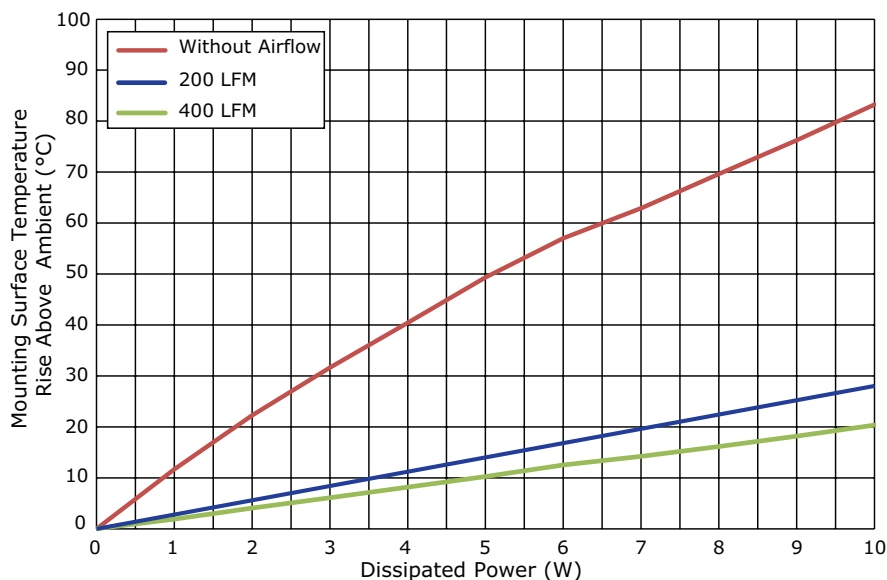
T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
 T<sub>a</sub>: ambient temperature



### HSE-B20500-040H-01

| Power [W] | Heatsink Temperature Rise Above Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |         |         |
|-----------|--|---------|---------|
|           | Natural Conv.  | 200 LFM | 400 LFM |
| 0         | 0  | 0       | 0       |
| 1         | 11.67  | 2.85    | 1.91    |
| 2         | 22.26  | 5.68    | 4.07    |
| 3         | 31.61  | 8.58    | 6.11    |
| 4         | 40.44  | 11.07   | 8.18    |
| 5         | 49.31  | 14.07   | 10.26   |
| 6         | 57.03  | 16.67   | 12.51   |
| 7         | 62.88  | 19.49   | 14.23   |
| 8         | 69.61  | 22.33   | 16.13   |
| 9         | 76.25  | 25.14   | 18.16   |
| 10        | 83.27  | 28.02   | 20.35   |

T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
 T<sub>a</sub>: ambient temperature

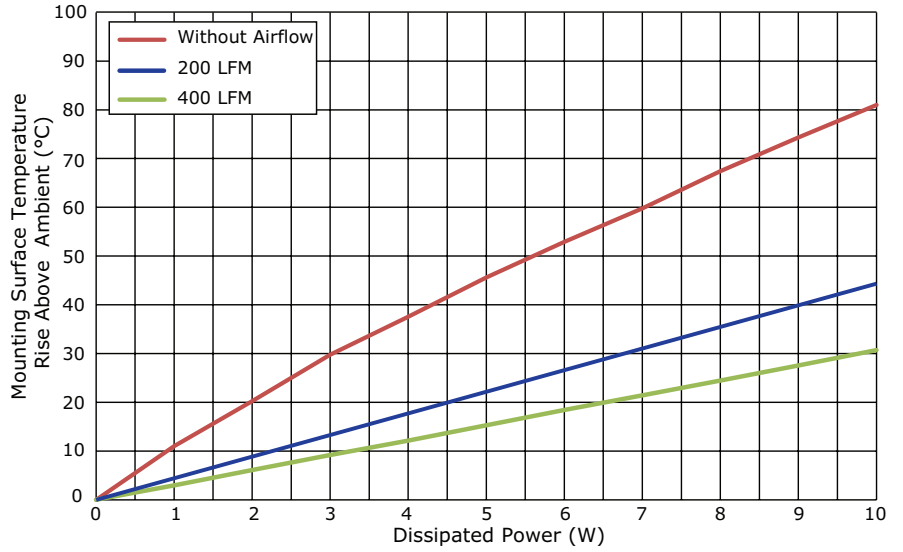


## PERFORMANCE CURVES (CONTINUED)

### HSE-B20630-040H-01

| Power [W] | Heatsink Temperature Rise Above Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |         |         |
|-----------|--|---------|---------|
|           | Natural Conv.  | 200 LFM | 400 LFM |
| 0         | 0  | 0       | 0       |
| 1         | 11.01  | 4.46    | 2.97    |
| 2         | 20.23  | 8.99    | 6.12    |
| 3         | 29.76  | 13.50   | 9.20    |
| 4         | 37.54  | 18.04   | 12.16   |
| 5         | 45.62  | 22.74   | 15.31   |
| 6         | 52.89  | 27.33   | 18.44   |
| 7         | 59.78  | 31.53   | 21.42   |
| 8         | 67.39  | 35.77   | 24.49   |
| 9         | 74.31  | 40.18   | 27.56   |
| 10        | 80.97  | 44.35   | 30.69   |

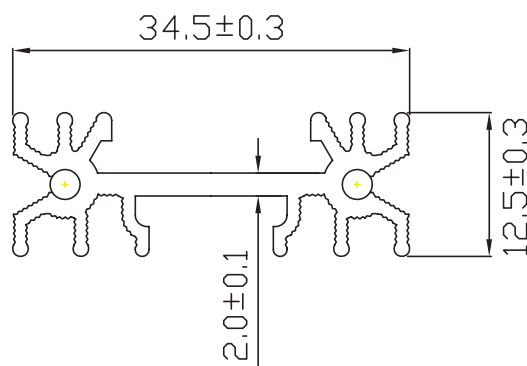
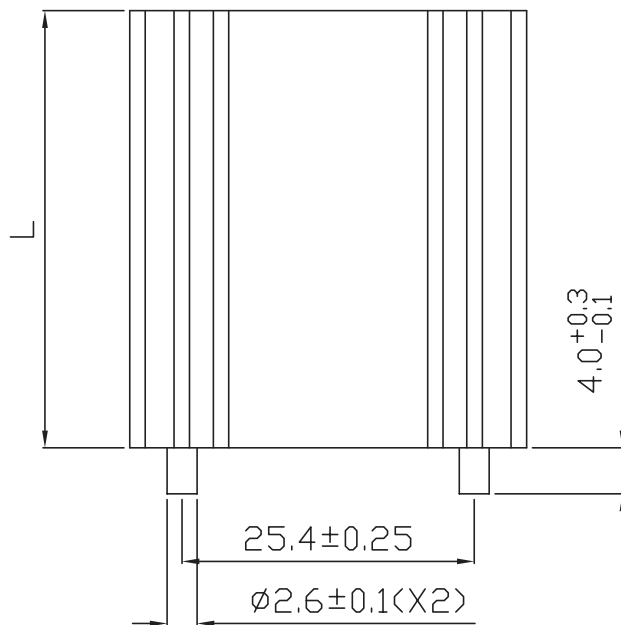
$T_{hs}$ : "hot spot" temperature measured on the heatsink  
 $T_a$ : ambient temperature



## MECHANICAL DRAWING

units: mm  
tolerance: ±0.5 mm

|              |                |
|--------------|----------------|
| MATERIAL     | AL 6063-T5     |
| FINISH       | black anodized |
| PIN MATERIAL | steel          |
| PIN PLATING  | tin            |



| MODEL NO.          | LENGTH, L [mm] | WEIGHT [g] |
|--------------------|----------------|------------|
| HSE-B20250-040H-01 | 25             | 11.33      |
| HSE-B20380-040H-01 | 38             | 16.67      |
| HSE-B20500-040H-01 | 50             | 19.45      |
| HSE-B20630-040H-01 | 63             | 24.16      |

## REVISION HISTORY

| rev. | description                  | date       |
|------|------------------------------|------------|
| 1.0  | initial release              | 05/02/2017 |
| 1.01 | brand update                 | 02/10/2020 |
| 1.02 | logo, datasheet style update | 08/05/2022 |

The revision history provided is for informational purposes only and is believed to be accurate.



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