



**SERIES:** HSE-BX-02 | **DESCRIPTION:** HEAT SINK

**FEATURES**

- TO-220 package
- placement pins for secure PCB attachment
- round hole for component attachment
- 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-B20254-035H                | 25.4           | 12.93                           | 14.40                        | 3.28                        | 2.49                        | 5.80                                                            |
| HSE-B20381-035H                | 38.1           | 11.54                           | 13.64                        | 3.66                        | 2.76                        | 6.50                                                            |
| HSE-B20508-035H                | 50.8           | 9.62                            | 12.98                        | 5.17                        | 3.28                        | 7.80                                                            |
| HSE-B20508-035H-W <sup>2</sup> | 50.8           | 9.62                            | 12.98                        | 5.17                        | 3.28                        | 7.80                                                            |
| HSE-B20635-035H                | 63.5           | 8.15                            | 10.92                        | 4.35                        | 2.86                        | 9.20                                                            |
| HSE-B20635-035H-W <sup>2</sup> | 63.5           | 8.15                            | 10.92                        | 4.35                        | 2.86                        | 9.20                                                            |

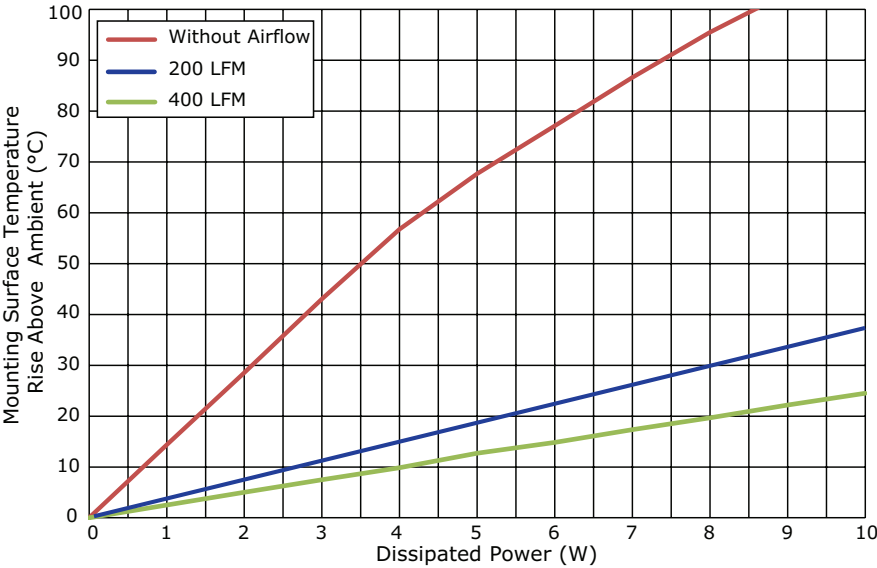
Note: 1. See performance curves for full thermal resistance details.  
2. Placement pins with standoffs.  
3. Custom cut to length options available. Thermal data not available on custom lengths.

**PERFORMANCE CURVES**

**HSE-B20254-035H**

| Power<br>[W] | Heatsink Temperature Rise Above<br>Ambient (ΔT = T <sub>hs</sub> - T <sub>a</sub> ) [°C] |         |         |
|--------------|------------------------------------------------------------------------------------------|---------|---------|
|              | Natural<br>Conv.                                                                         | 200 LFM | 400 LFM |
| 0            | 0                                                                                        | 0       | 0       |
| 1            | 14.40                                                                                    | 3.28    | 2.49    |
| 2            | 28.52                                                                                    | 6.90    | 5.02    |
| 3            | 43.03                                                                                    | 10.51   | 7.48    |
| 4            | 56.78                                                                                    | 13.98   | 9.87    |
| 5            | 67.70                                                                                    | 17.81   | 12.71   |
| 6            | 77.09                                                                                    | 21.84   | 14.82   |
| 7            | 86.63                                                                                    | 25.55   | 17.33   |
| 8            | 95.53                                                                                    | 29.43   | 19.68   |
| 9            | 103.32                                                                                   | 33.25   | 22.19   |
| 10           | 112.39                                                                                   | 37.35   | 24.51   |

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

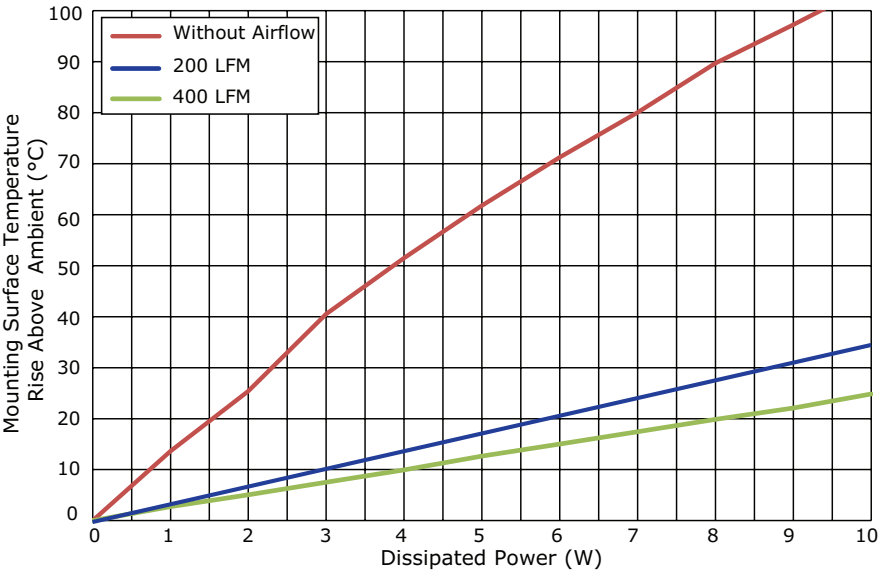


PERFORMANCE CURVES (CONTINUED)

HSE-B20381-035H

| Heatsink Temperature Rise Above Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |               |         |         |
|----------------------------------------------------------------------------|---------------|---------|---------|
| Power [W]                                                                  | Natural Conv. | 200 LFM | 400 LFM |
| 0                                                                          | 0             | 0       | 0       |
| 1                                                                          | 13.64         | 3.66    | 2.76    |
| 2                                                                          | 25.38         | 6.96    | 5.06    |
| 3                                                                          | 40.52         | 10.35   | 7.51    |
| 4                                                                          | 51.51         | 13.65   | 9.97    |
| 5                                                                          | 61.79         | 17.05   | 12.65   |
| 6                                                                          | 71.27         | 20.69   | 15.04   |
| 7                                                                          | 80.06         | 24.37   | 17.45   |
| 8                                                                          | 89.74         | 27.82   | 19.84   |
| 9                                                                          | 97.27         | 30.95   | 22.10   |
| 10                                                                         | 105.15        | 34.45   | 24.85   |

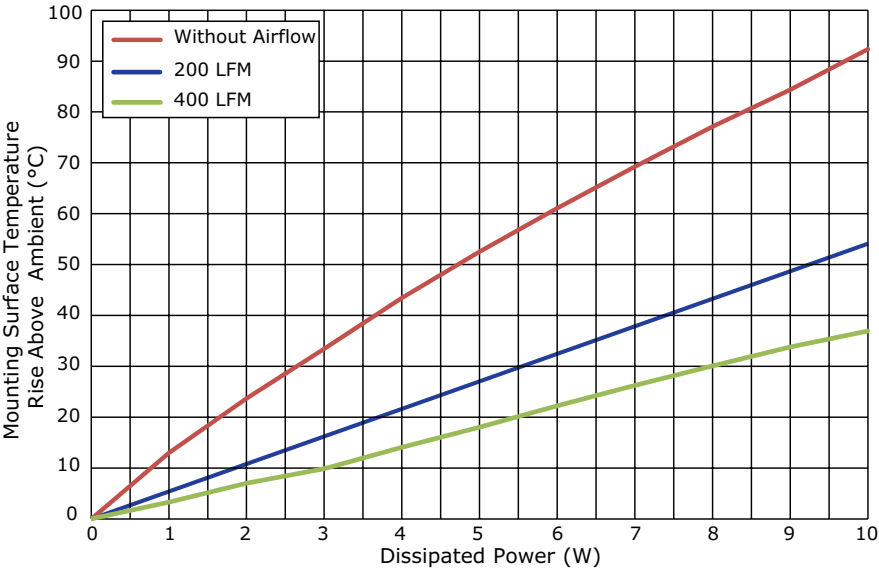
T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
T<sub>a</sub>: ambient temperature



HSE-B20508-035H(-W)

| Heatsink Temperature Rise Above Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |               |         |         |
|----------------------------------------------------------------------------|---------------|---------|---------|
| Power [W]                                                                  | Natural Conv. | 200 LFM | 400 LFM |
| 0                                                                          | 0             | 0       | 0       |
| 1                                                                          | 12.98         | 5.17    | 3.28    |
| 2                                                                          | 23.69         | 10.43   | 7.01    |
| 3                                                                          | 33.43         | 16.23   | 9.87    |
| 4                                                                          | 43.43         | 22.15   | 14.05   |
| 5                                                                          | 52.51         | 27.62   | 18.06   |
| 6                                                                          | 61.06         | 33.03   | 22.24   |
| 7                                                                          | 69.25         | 38.72   | 26.25   |
| 8                                                                          | 77.11         | 43.92   | 30.07   |
| 9                                                                          | 84.38         | 49.28   | 33.81   |
| 10                                                                         | 92.34         | 54.09   | 36.92   |

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

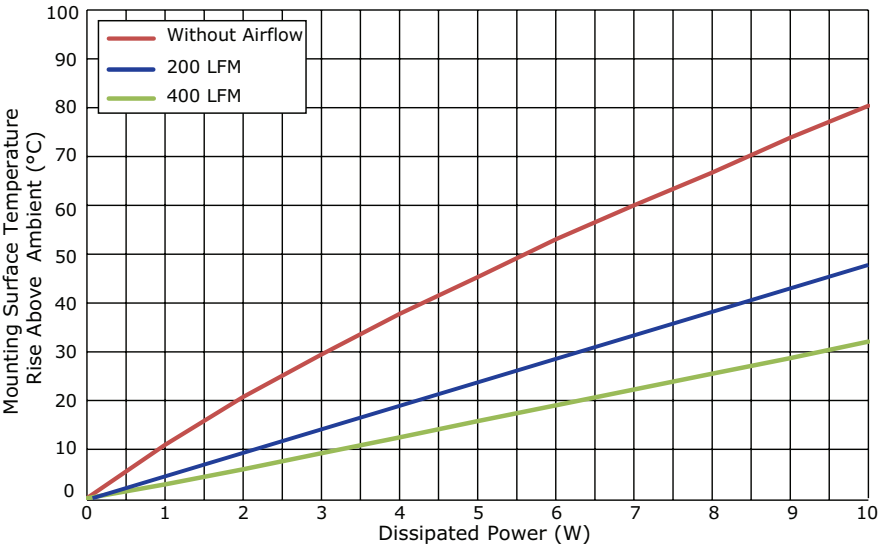


PERFORMANCE CURVES (CONTINUED)

HSE-20635-035H(-W)

| Power<br>[W] | Heatsink Temperature Rise Above<br>Ambient ( $\Delta T = T_{hs} - T_a$ ) [°C] |         |         |
|--------------|-------------------------------------------------------------------------------|---------|---------|
|              | Natural<br>Conv.                                                              | 200 LFM | 400 LFM |
| 0            | 0                                                                             | 0       | 0       |
| 1            | 10.92                                                                         | 4.35    | 2.86    |
| 2            | 20.75                                                                         | 9.46    | 5.94    |
| 3            | 29.43                                                                         | 14.60   | 9.20    |
| 4            | 37.74                                                                         | 19.72   | 12.44   |
| 5            | 45.32                                                                         | 24.84   | 15.80   |
| 6            | 53.03                                                                         | 29.05   | 19.04   |
| 7            | 59.98                                                                         | 33.85   | 22.26   |
| 8            | 66.72                                                                         | 38.44   | 25.51   |
| 9            | 73.88                                                                         | 43.38   | 28.69   |
| 10           | 80.40                                                                         | 47.80   | 32.10   |

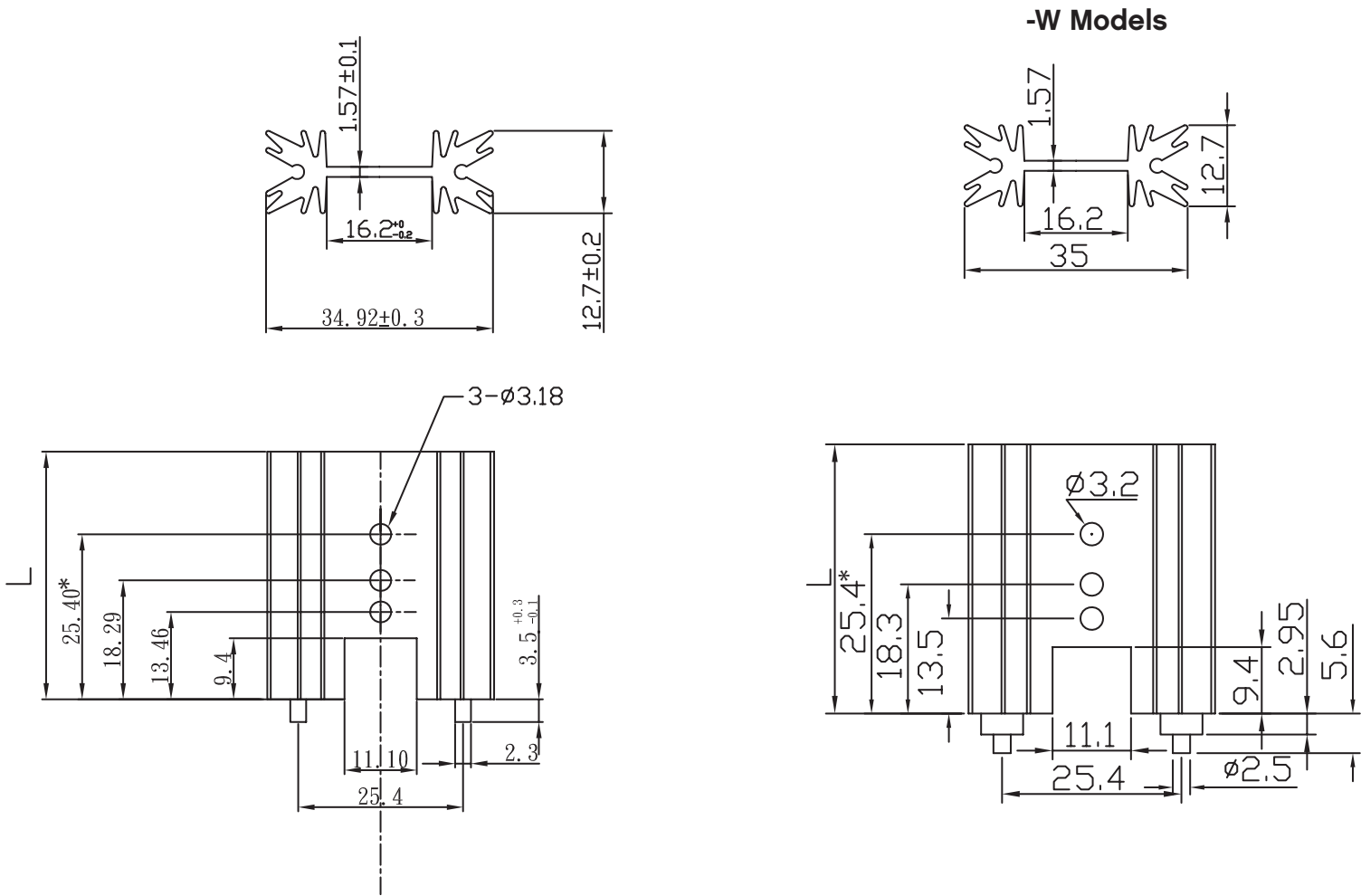
T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
T<sub>a</sub>: ambient temperature



**MECHANICAL DRAWING**

units: mm  
tolerance:  $\pm 0.5$  mm

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



| MODEL NO.         | LENGTH, L [mm] | WEIGHT [g] |
|-------------------|----------------|------------|
| HSE-B20254-035H*  | 25.4           | 11.33      |
| HSE-B20381-035H   | 38.1           | 16.67      |
| HSE-B20508-035H   | 50.8           | 22.22      |
| HSE-B20508-035H-W | 50.8           | 22.22      |
| HSE-B20635-035H   | 63.5           | 27.5       |
| HSE-B20635-035H-W | 63.5           | 27.5       |

Note: \* Mounting hole not present on 25.4 mm length model.

REVISION HISTORY

| rev. | description                       | date       |
|------|-----------------------------------|------------|
| 1.0  | initial release                   | 05/09/2017 |
| 1.01 | updated datasheet                 | 09/11/2017 |
| 1.02 | brand update                      | 02/10/2020 |
| 1.03 | logo, datasheet style update      | 08/05/2022 |
| 1.04 | CUI Devices rebranded to Same Sky | 09/12/2024 |

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



Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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