



SERIES: 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                                                            |

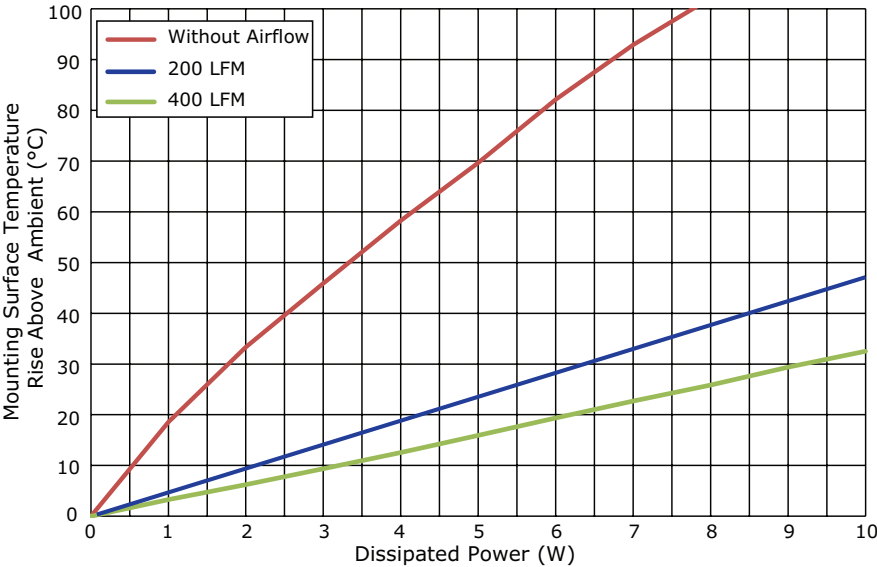
Note: 1. See performance curves for full thermal resistance details.  
2. Custom cut to length options available. Thermal data not available on custom lengths.

PERFORMANCE CURVES

HSE-B20250-040H-01

| Power<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            | 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

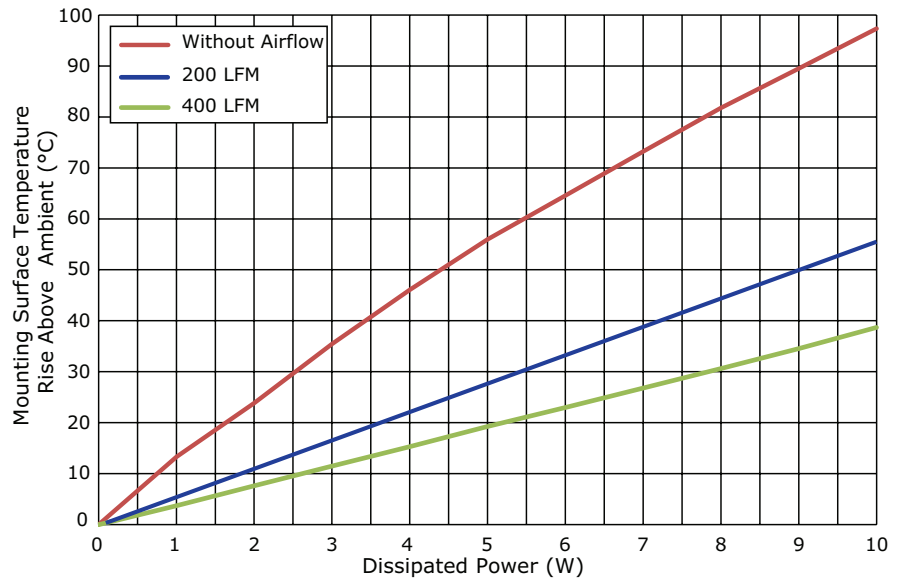


## PERFORMANCE CURVES (CONTINUED)

### HSE-B20380-040H-01

| 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                                                                          | 13.31         | 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   |

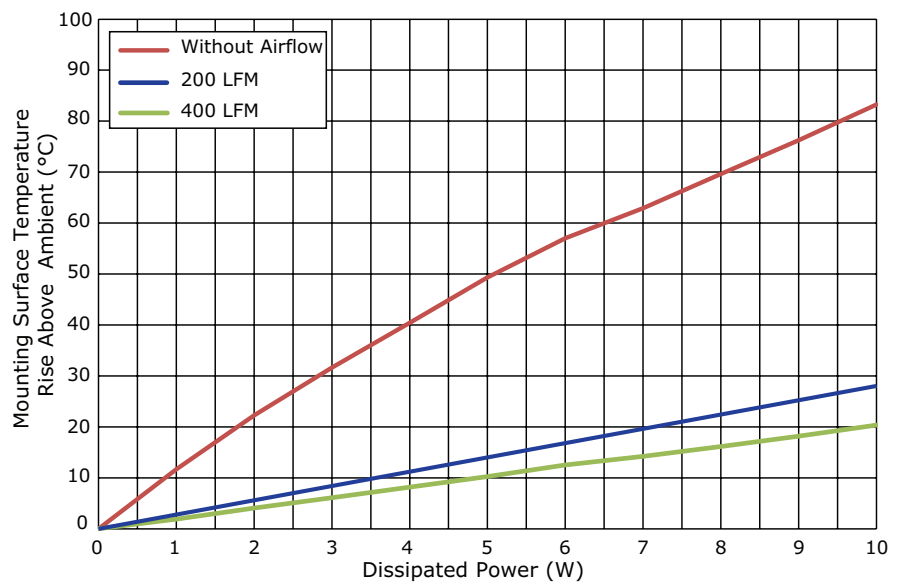
$T_{hs}$ : "hot spot" temperature measured on the heatsink  
 $T_a$ : ambient temperature



### HSE-B20500-040H-01

| 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                                                                          | 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   |

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

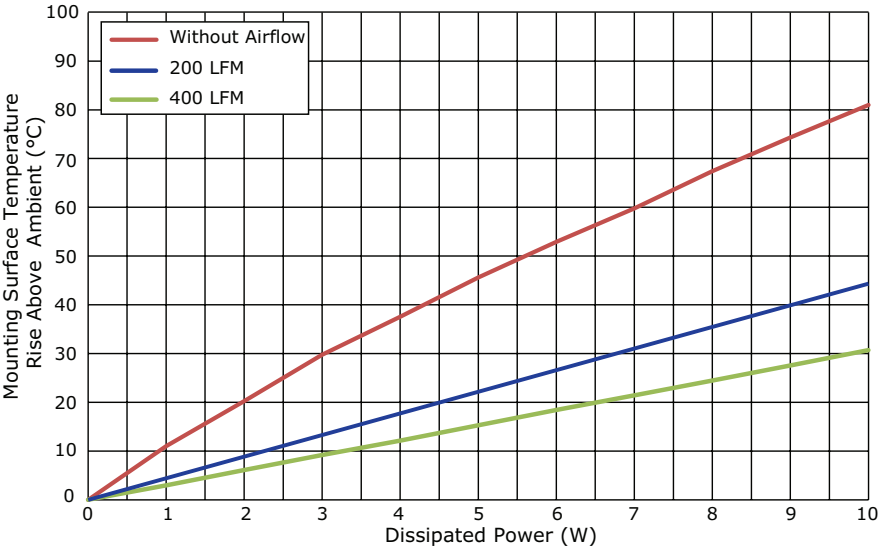


PERFORMANCE CURVES (CONTINUED)

HSE-B20630-040H-01

| 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            | 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   |

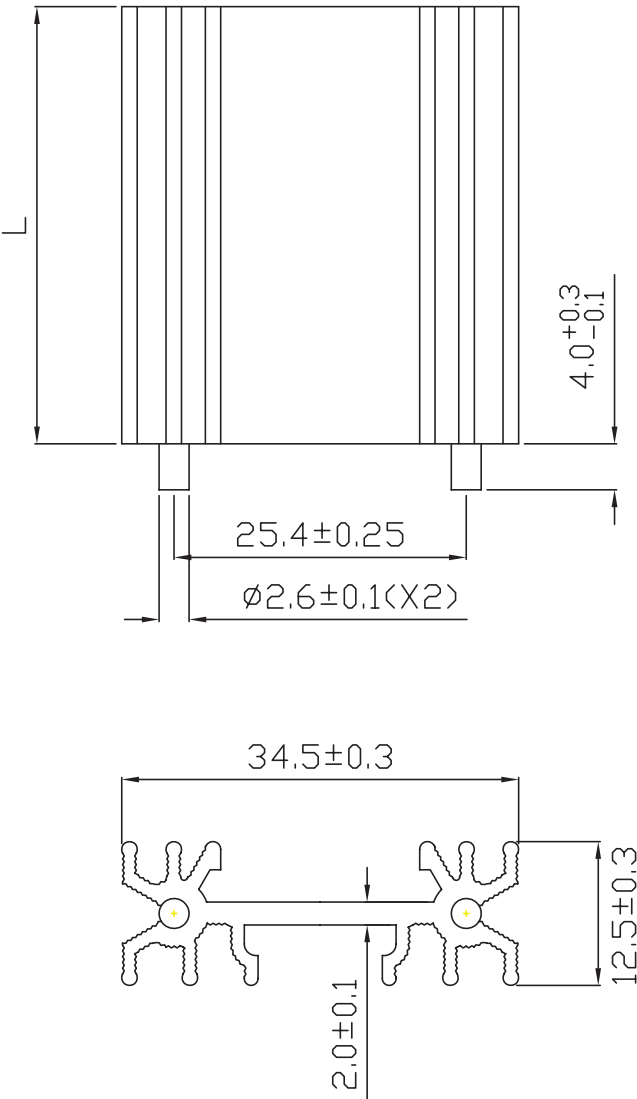
T<sub>hs</sub>: "hot spot" temperature measured on the heatsink  
T<sub>a</sub>: ambient temperature



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-Q40H-01 | 25             | 11.33      |
| HSE-B20380-Q40H-01 | 38             | 16.67      |
| HSE-B20500-Q40H-01 | 50             | 19.45      |
| HSE-B20630-Q40H-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 |
| 1.03 | 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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