



SERIES: HSE-B20X | **DESCRIPTION:** HEAT SINK

FEATURES

- TO-220 package
- placement pins for secure PCB attachment
- round hole for component attachment
- multiple available cut lengths



MODEL

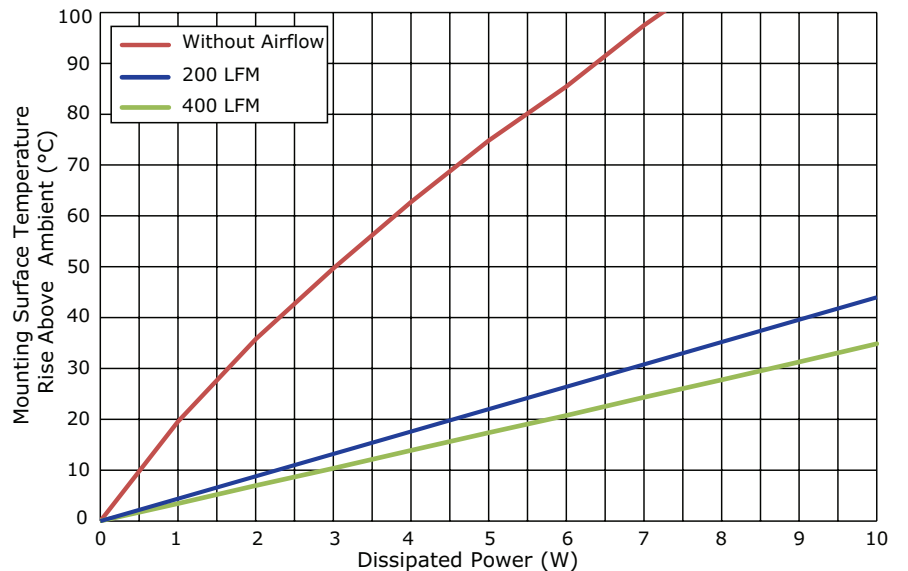
| | length [mm] | thermal resistance ¹ | | | | power dissipation ¹ @ 75°C ΔT, nat conv [W] |
|-----------------|----------------|---------------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------------|
| | | @ 75°C ΔT, nat conv [°C/W] | @ 1 W, nat conv [°C/W] | @ 1 W, 200 LFM [°C/W] | @ 1 W, 400 LFM [°C/W] | |
| HSE-B20250-040H | 25 | 15.00 | 19.57 | 4.28 | 3.44 | 5.00 |
| HSE-B20270-040H | 27 | 12.50 | 17.29 | 3.64 | 2.82 | 6.00 |
| HSE-B20380-040H | 38 | 10.14 | 13.19 | 3.94 | 2.44 | 7.40 |
| HSE-B20500-040H | 50 | 8.43 | 11.17 | 4.85 | 3.17 | 8.90 |
| HSE-B20630-040H | 63 | 7.81 | 11.54 | 3.73 | 2.31 | 9.60 |

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

| Power [W] | Heatsink Temperature Rise Above Ambient [ΔT = T _{hs} - T _a] [°C] | | |
|-----------|---------------------------------------------------------------------------------------|---------|---------|
| | Natural Conv. | 200 LFM | 400 LFM |
| 0 | 0 | 0 | 0 |
| 1 | 19.57 | 4.28 | 3.44 |
| 2 | 35.77 | 8.76 | 6.98 |
| 3 | 49.68 | 13.06 | 10.36 |
| 4 | 62.71 | 17.44 | 13.88 |
| 5 | 74.79 | 21.93 | 17.35 |
| 6 | 85.46 | 26.39 | 20.74 |
| 7 | 97.48 | 30.77 | 24.33 |
| 8 | 108.09 | 35.20 | 27.77 |
| 9 | 117.16 | 39.64 | 31.31 |
| 10 | 127.50 | 43.98 | 34.86 |



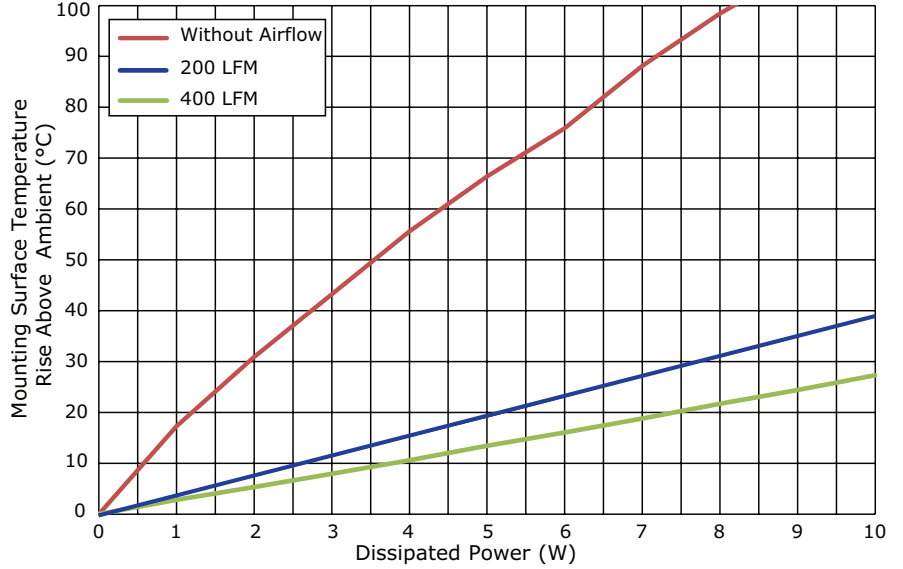
T_{hs}: "hot spot" temperature measured on the heatsink
T_a: ambient temperature

PERFORMANCE CURVES (CONTINUED)

HSE-B20270-040H

| 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 | 17.29 | 3.64 | 2.82 |
| 2 | 30.91 | 7.46 | 5.30 |
| 3 | 43.23 | 11.24 | 7.93 |
| 4 | 55.60 | 15.12 | 10.61 |
| 5 | 66.37 | 18.95 | 13.43 |
| 6 | 75.86 | 22.92 | 16.06 |
| 7 | 88.12 | 27.03 | 18.81 |
| 8 | 98.44 | 30.78 | 21.69 |
| 9 | 107.17 | 34.75 | 24.44 |
| 10 | 114.29 | 38.96 | 27.31 |

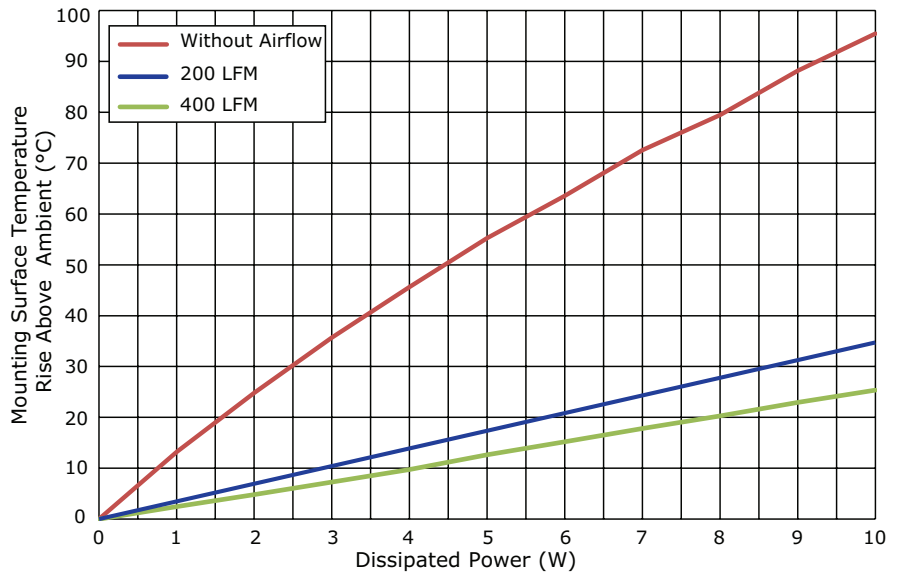
T_{hs}: "hot spot" temperature measured on the heatsink
 T_a: ambient temperature



HSE-B20380-040H

| 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 | 13.19 | 3.94 | 2.44 |
| 2 | 24.78 | 7.39 | 4.83 |
| 3 | 35.70 | 10.40 | 7.28 |
| 4 | 45.65 | 13.83 | 9.74 |
| 5 | 55.23 | 17.18 | 12.65 |
| 6 | 63.54 | 20.84 | 15.21 |
| 7 | 72.54 | 24.44 | 17.81 |
| 8 | 79.48 | 27.50 | 20.30 |
| 9 | 88.15 | 31.14 | 22.93 |
| 10 | 95.46 | 34.74 | 25.35 |

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

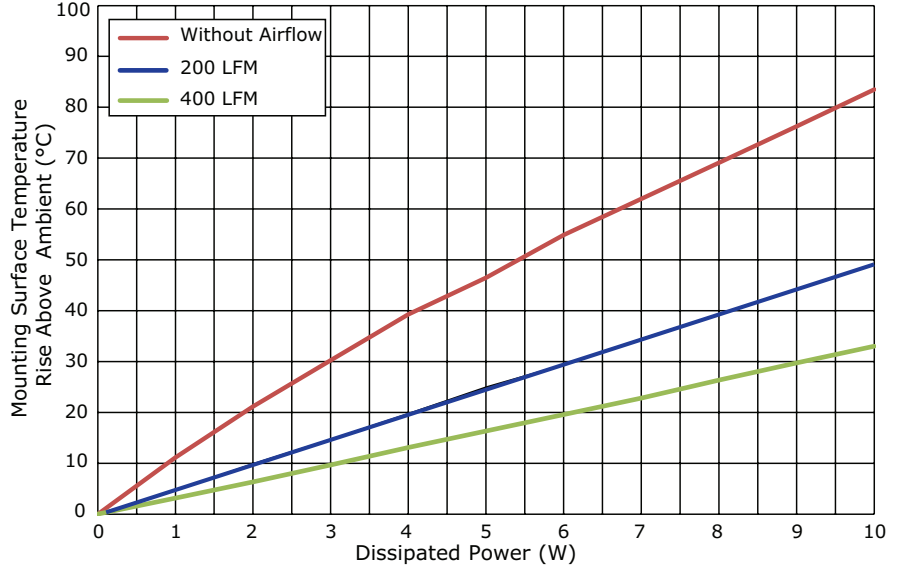


PERFORMANCE CURVES (CONTINUED)

HSE-B20500-040H

| 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 | 11.17 | 4.85 | 3.17 |
| 2 | 21.14 | 10.05 | 6.33 |
| 3 | 30.25 | 14.84 | 9.65 |
| 4 | 39.30 | 19.90 | 13.13 |
| 5 | 46.48 | 25.12 | 16.36 |
| 6 | 54.89 | 29.54 | 19.59 |
| 7 | 62.00 | 34.62 | 22.84 |
| 8 | 69.07 | 39.48 | 26.34 |
| 9 | 76.23 | 44.22 | 29.71 |
| 10 | 83.48 | 49.11 | 33.00 |

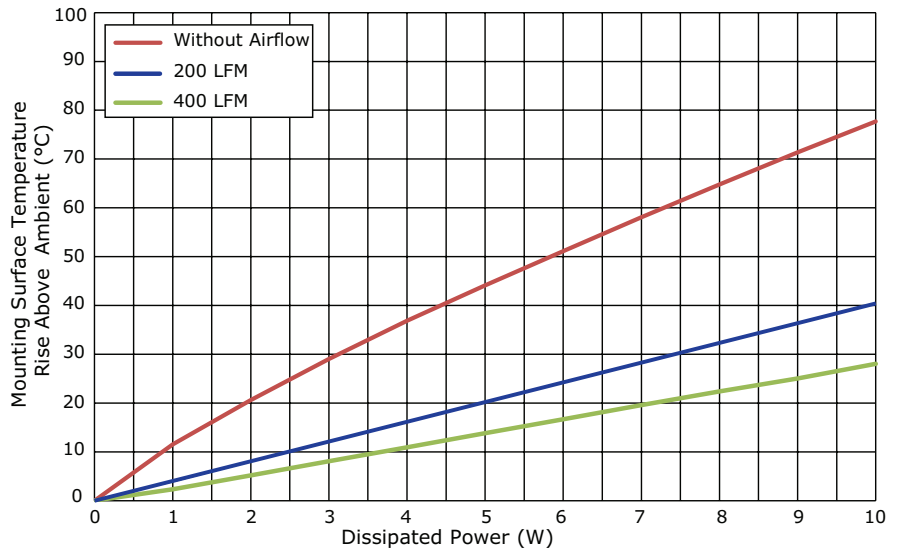
T_{hs}: "hot spot" temperature measured on the heatsink
 T_a: ambient temperature



HSE-B20630-040H

| 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 | 11.54 | 3.73 | 2.31 |
| 2 | 20.64 | 7.85 | 5.18 |
| 3 | 29.05 | 11.97 | 8.07 |
| 4 | 36.88 | 15.99 | 10.94 |
| 5 | 44.10 | 20.26 | 13.85 |
| 6 | 51.10 | 24.12 | 16.67 |
| 7 | 58.10 | 28.27 | 19.57 |
| 8 | 64.79 | 32.25 | 22.39 |
| 9 | 71.36 | 36.28 | 25.03 |
| 10 | 77.70 | 40.39 | 28.03 |

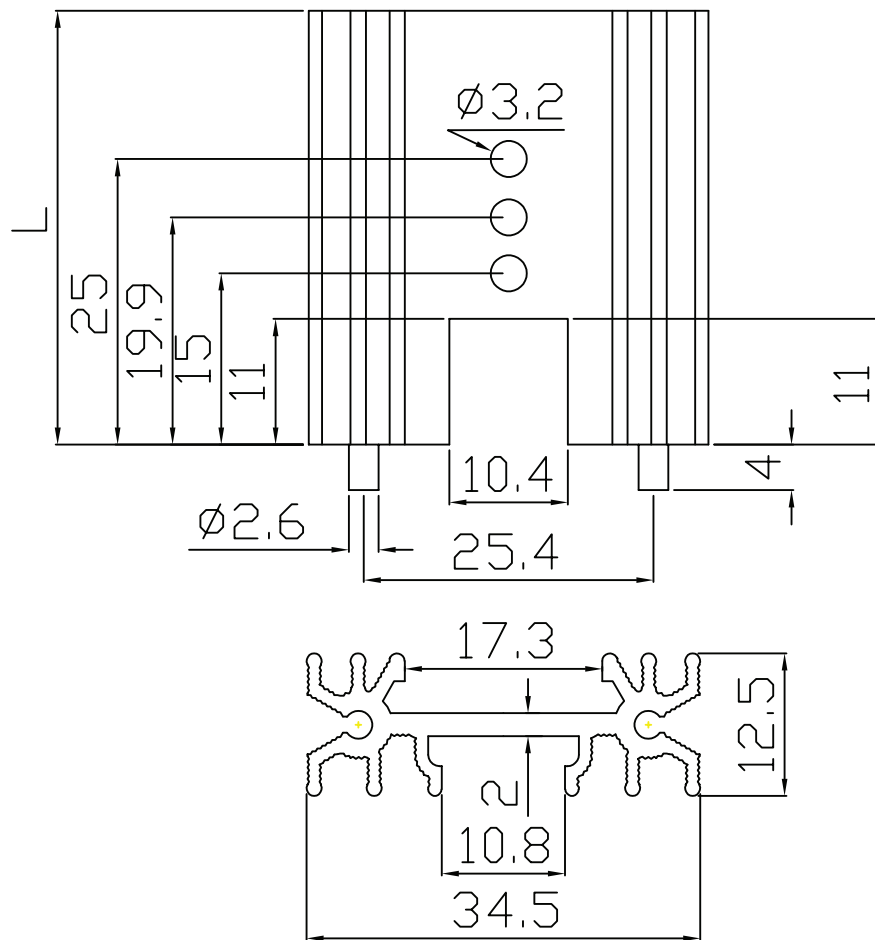
T_{hs}: "hot spot" temperature measured on the heatsink
 T_a: ambient temperature



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* | 25 | 12 |
| HSE-B20270-040H* | 27 | 13 |
| HSE-B20380-040H | 38 | 15 |
| HSE-B20500-040H | 50 | 22 |
| HSE-B20630-040H | 63 | 24 |

Note: * Mounting hole not present on 25 & 27 mm length models.

REVISION HISTORY

| rev. | description | date |
|------|-----------------------------------|------------|
| 1.0 | initial release | 05/11/2017 |
| 1.01 | updated datasheet | 09/07/2017 |
| 1.02 | brand update | 02/10/2020 |
| 1.03 | updated datasheet | 04/22/2022 |
| 1.04 | logo, datasheet style update | 08/05/2022 |
| 1.05 | 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.

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

[sameskydevices.com](https://www.sameskydevices.com)