

# RHS540, RHS540D



## Accessories: Heatsinks



### Main features

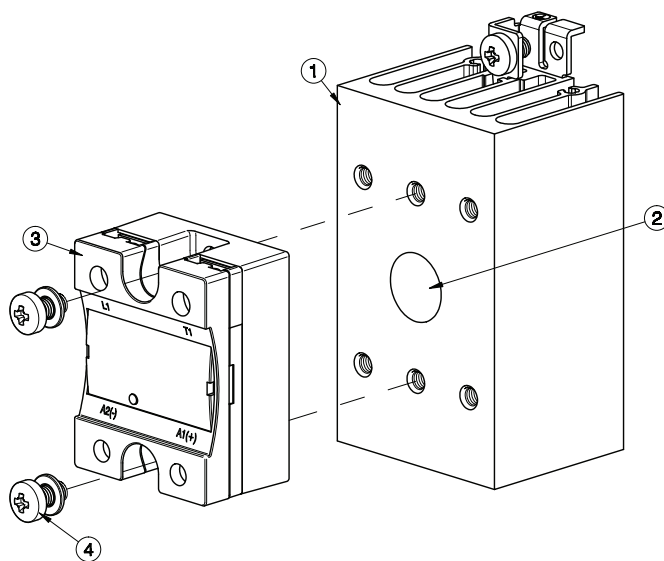
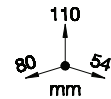
- 1.85°C/W thermal resistance
- Suitable for mounting of 3x 1-phase SSRs
- DIN rail mounting
- Suitable for panel mounting
- Dimensions W x H x D: 54 x 110 x 51 mm
- RoHS compliant

### Description

Heatsink assembly suitable for mounting of maximum 3x 1- phase solid state relay (SSRs). Suffix H65 added to SSR part no. refers to factory mounted heatsink. Conditions apply. Please ask your sales representative for further details.

# Structure

## 1-phase SSR



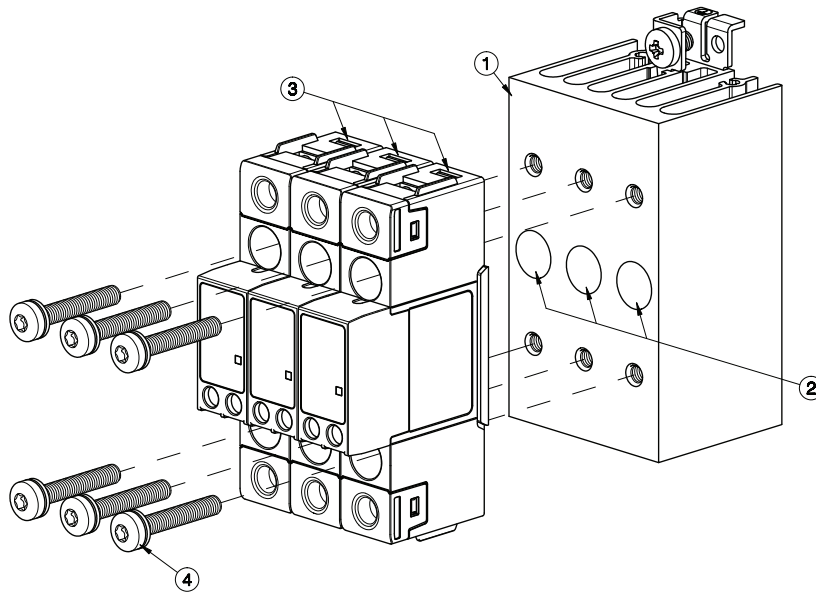
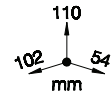
| Element | Component                | Qty | RHS540       | RHS540D      |
|---------|--------------------------|-----|--------------|--------------|
| 1       | RHS540 heatsink assembly | 1   | Provided     | Provided     |
| 2       | Thermal Compound HTS02S  | 1   | Provided     | Not provided |
| 3       | 1-phase SSR 45x59mm      | 1   | Not provided | Not provided |
| 4       | M5x10mm PZ2 + Washer     | 2   | Provided     | Provided     |

Note:

\* 84mm for RK..C, 95mm for RK..P (including plug).

Dimensions including the SSR.

## RGS1 18mm Module



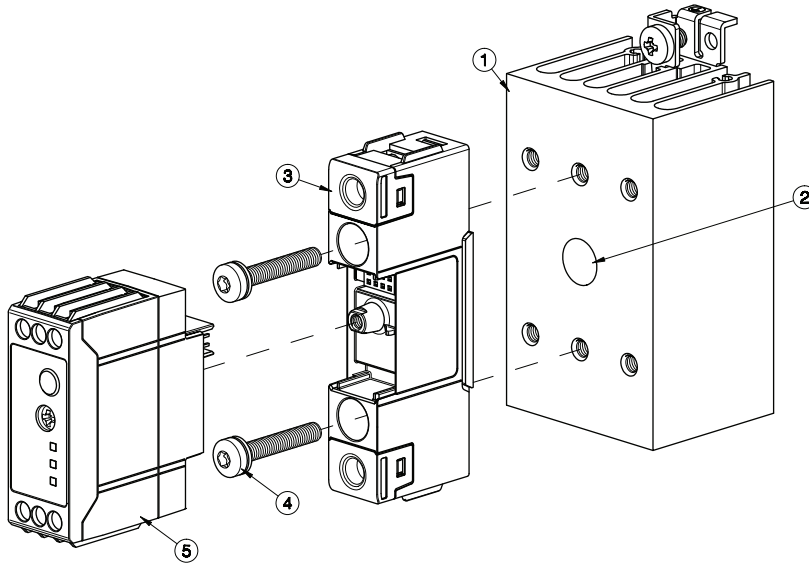
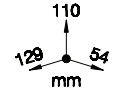
| Element | Component                           | Qty | RHS540        | RHS540D       |
|---------|-------------------------------------|-----|---------------|---------------|
| 1       | RHS540 heatsink assembly            | 1   | Provided      | Provided      |
| 2       | Thermal Compound HTS02S             | 1   | Provided      | Not provided  |
| 3       | RGS1 SSR 18x90mm (max.)             | 3   | Not provided  | Not provided  |
| 4       | M5x30mm Torx T20 + Washer (per SSR) | 2   | Provided (x6) | Provided (x6) |

## Note:

Dimensions including the SSR.

When only 1 SSR is utilized it shall be mounted at the centre of the heatsink.

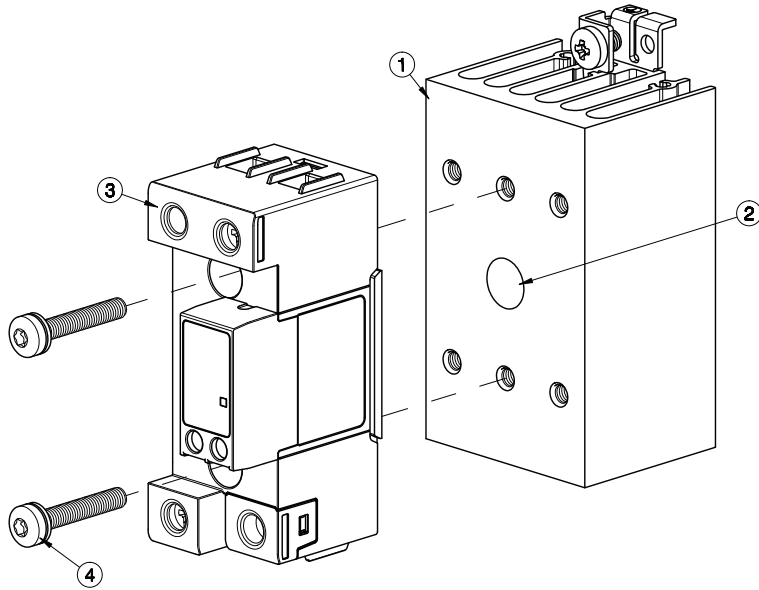
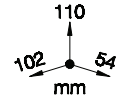
RGS1 22.5mm Module



| Element | Component                           | Qty | RHS540        | RHS540D       |
|---------|-------------------------------------|-----|---------------|---------------|
| 1       | RHS540 heatsink assembly            | 1   | Provided      | Provided      |
| 2       | Thermal Compound HTS02S             | 1   | Provided      | Not provided  |
| 3       | RGS1 Power Module 18x90mm           | 1   | Not provided  | Not provided  |
| 4       | M5x30mm Torx T20 + Washer (per SSR) | 2   | Provided (x6) | Provided (x6) |
| 5       | RGS1S Control Module 22.5x65mm      | 1   | Not provided  | Not provided  |

Note:  
Dimensions including the SSR.

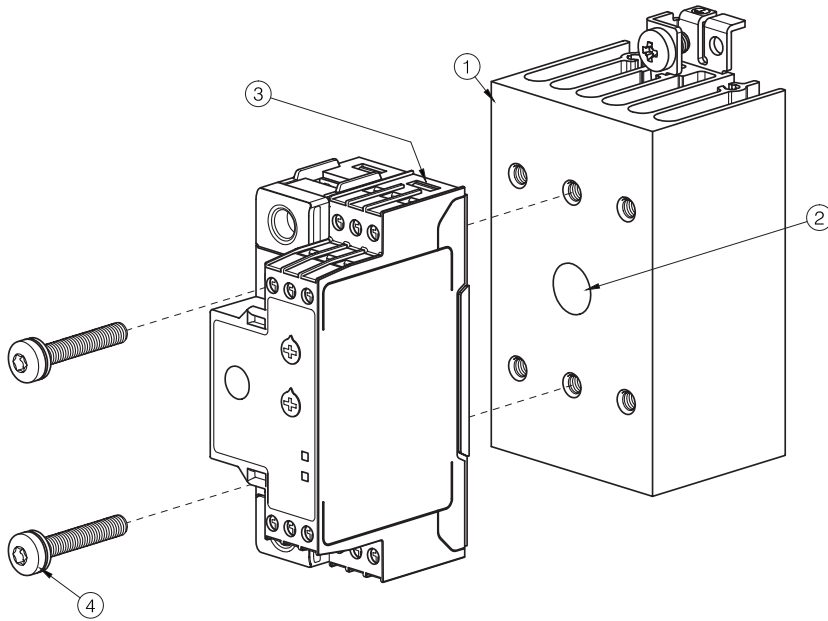
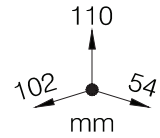
RGS1 35mm Module



| Element | Component                 | Qty | RHS540        | RHS540D       |
|---------|---------------------------|-----|---------------|---------------|
| 1       | RHS540 heatsink assembly  | 1   | Provided      | Provided      |
| 2       | Thermal Compound HTS02S   | 1   | Provided      | Not provided  |
| 3       | RGS1 or RGS1S SSR 36x90mm | 1   | Not provided  | Not provided  |
| 4       | M5x30mm Torx T20 + Washer | 2   | Provided (x6) | Provided (x6) |

Note:  
Dimensions including the SSR.

RGS1P 35mm Module



| Element | Component                 | Qty | RHS540        | RHS540D       |
|---------|---------------------------|-----|---------------|---------------|
| 1       | RHS540 heatsink assembly  | 1   | Provided      | Provided      |
| 2       | Thermal Compound HTS02S   | 1   | Provided      | Not provided  |
| 3       | RGS1P SSR 35x90mm         | 1   | Not provided  | Not provided  |
| 4       | M5x30mm Torx T20 + Washer | 2   | Provided (x6) | Provided (x6) |

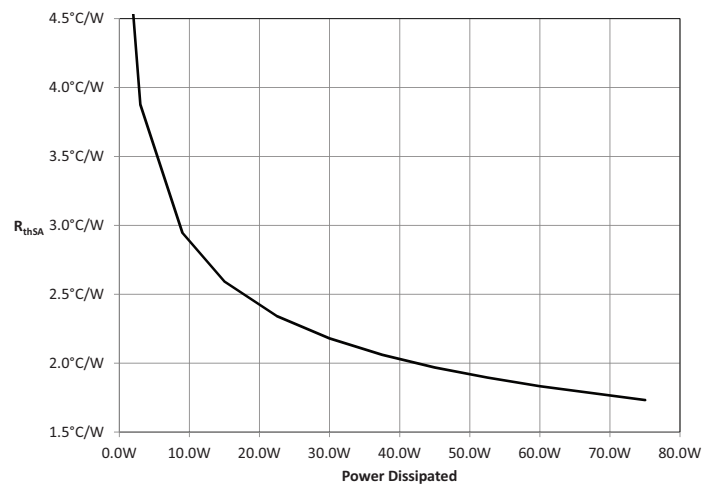
Note:  
Dimensions including the SSR.

## Features

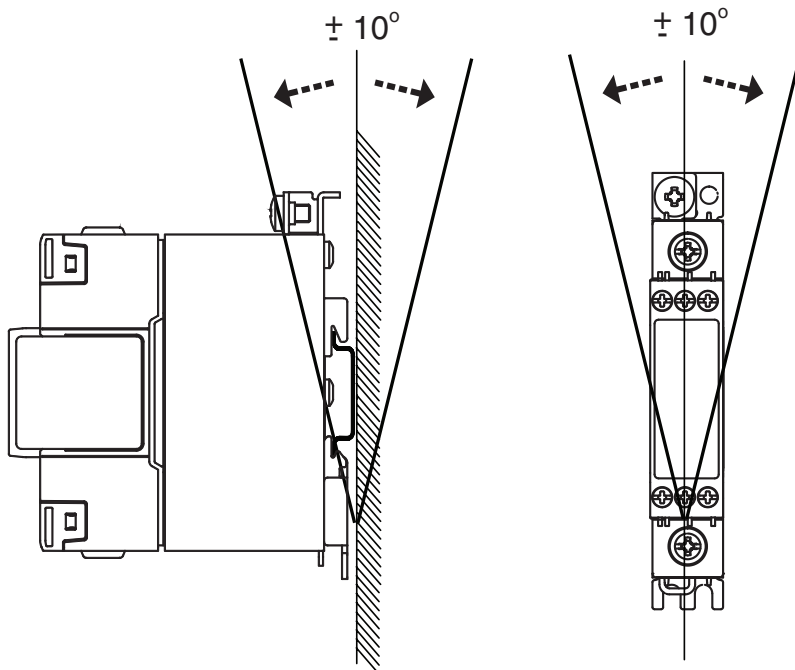
### General

|  |                                   |
|--|-----------------------------------|
| <b>SSR max. mounting torque</b>                  | 1.5Nm (13.3 lb-in)                |
| <b>PE screw<br/>(Not provided with assembly)</b> | M5, max. 1.5Nm (13.3 lb-in)       |
| <b>Weight (excl. SSR)</b>                        | approx. 325g                      |
| <b>Material</b>                                  | Aluminium                         |
| <b>Finish</b>                                    | Black anodization                 |
| <b>Fan mounting</b>                              | Possible<br>Refer to RHS540F40-24 |

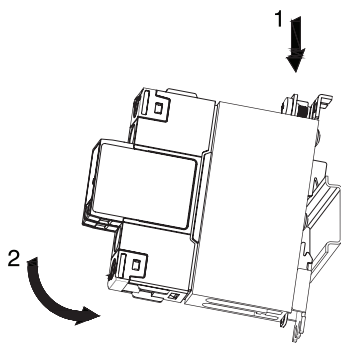
### Thermal resistance curve



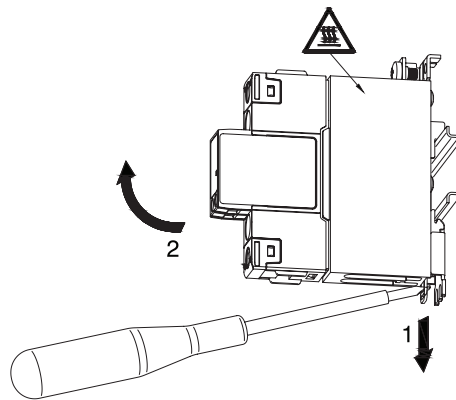
**Mounting position**



**Installation**



**Fig. 1** Mounting on DIN rail



**Fig. 2** Dismounting from DIN rail

Illustrations are for example only.



## Recommended maximum current rating (per SSR)

1. The below recommendations are only valid when the assembly (SSR + heatsink) is mounted as shown in the mounting instructions unless otherwise indicated.
2. The indicated ratings are applicable to one SSR, one pole. Please refer to the online selector tool at [www.productselection.net](http://www.productselection.net) for different load currents, surrounding temperatures or multiple units on one heatsink.
3. These recommendations are applicable only with the indicated Carlo Gavazzi thermal interface material between SSR and heatsink. In case a different thermal interface is utilised these recommendations may no longer be valid.

### Pre-attached phase change paste

| 1x<br>2-pole<br>SSR | Surrounding temperature |          |          |           |           |           |           |           |
|---------------------|-------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|                     | °C<br>°F                | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 | 60<br>140 | 70<br>158 | 80<br>176 |
| RK 2.. (per pole)   | 50                      | 27       | 24       | 21        | 17.5      | 14.5      | 11.5      | 8.5       |
|                     | 51                      | 29       | 25.5     | 22        | 19        | 15.5      | 12.5      | 9         |
|                     | 75                      | 32       | 28.5     | 24.5      | 20.5      | 17        | 13        | 9.5       |

 Thermal compound, HTS02S

| 1x<br>1-phase<br>SSR                         | Surrounding temperature |          |          |           |           |           |           |           |
|--|-------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|  | °C<br>°F                | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 | 60<br>140 | 70<br>158 | 80<br>176 |
| RA..L<br>RA..T                               | 10                      | 10       | 10       | 10        | 10        | 10        | 8         | -         |
|  | 25                      | 21       | 20       | 17.5      | 15        | 12.5      | 8         | -         |
| RA..   | 25                      | 25       | 24.5     | 21        | 17.5      | 14        | 10.5      | -         |
|  | 50                      | 33       | 31       | 26.5      | 22        | 17.5      | 13        | -         |
|  | 90                      | 41       | 38       | 32.5      | 26.5      | 21        | 15.5      | -         |
|  | 110                     | 45       | 42       | 35.5      | 29        | 23        | 17        | -         |
| RA60..                                       | 50                      | 33       | 31       | 26.5      | 22.5      | 18        | 13.5      | -         |
| RA2A.. (per pole)                            | 25                      | 20.5     | 19       | 16        | 12.5      | 9.5       | 6         | -         |
|  | 40                      | 23       | 21       | 17.5      | 13.5      | 10        | 6.5       | -         |
|  | 25M                     | 20.5     | 19       | 16        | 12.5      | 9.5       | 6         | -         |
|  | 40M                     | 23       | 21       | 17.5      | 13.5      | 10        | 6.5       | -         |
| RS1A..                                       | 10                      | 10       | 10       | 9.5       | 8         | 6         | 4.5       | -         |
|  | 25                      | 25       | 25       | 25        | 20.5      | 15.5      | 10.5      | -         |
|  | 40                      | 23.5     | 21.5     | 17.5      | 14        | 10.5      | 7         | -         |
| RS1A..E                                      | 25                      | 17.5     | 16.5     | 14.5      | 12.5      | 10        | 8         | -         |
|  | 40                      | 20       | 19       | 16.5      | 14        | 11.5      | 9         | -         |
| RM1A..<br>RM1B..<br>RM1C..                   | 25                      | 25       | 25       | 25        | 20.5      | 15.5      | 10.5      | -         |
|  | 50                      | 36.5     | 33.5     | 28        | 22.5      | 16.5      | 11.5      | -         |
|  | 75                      | 43       | 39.5     | 32.5      | 26        | 19.5      | 13        | -         |
|  | 100                     | 46.5     | 43       | 35.5      | 28        | 21        | 14        | -         |
| RM1A60..<br>RM1B60..<br>RM1C60..<br>RM1E60.. | 50                      | 36.5     | 34       | 28.5      | 23        | 17.5      | 12        | -         |
| RAM1A..<br>RAM1B..<br>RM1E..                 | 25                      | 25       | 25       | 25        | 20.5      | 15.5      | 10.5      | 6         |
|  | 50                      | 36.5     | 33.5     | 28        | 22.5      | 16.5      | 11.5      | 6         |
|  | 75                      | 43       | 39.5     | 32.5      | 26        | 19.5      | 13        | 7         |
|  | 100                     | 43       | 39.5     | 32.5      | 26        | 19.5      | 13        | 7         |
|  | 125                     | 46.5     | 43       | 35.5      | 28        | 21        | 14        | 7.5       |
| RM1D060                                      | 10                      | 10       | 10       | 10        | 10        | 10        | 10        | 7.5       |
|  | 20                      | 20       | 20       | 20        | 20        | 20        | 15.5      | 7.5       |
|  | 50                      | 50       | 50       | 48.5      | 41.5      | 34        | 24.5      | 12.5      |
|  | 100                     | 87       | 82.5     | 73        | 62.5      | 50.5      | 36.5      | 18        |
| RM1D200                                      | 20                      | 20       | 20       | 19.5      | 17.5      | 15.5      | 13        | 10.5      |
|  | 50                      | 39.5     | 38       | 35        | 31.5      | 27.5      | 23        | 18        |
| RM1D500                                      | 10                      | 10       | 10       | 10        | 10        | 10        | 9         | 7         |


 Thermal compound, HTS02S

| 1x<br>1-phase<br>SSR | Surrounding temperature |          |          |           |           |           |           |           |
|----------------------|-------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|                      | °C<br>°F                | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 | 60<br>140 | 70<br>158 | 80<br>176 |

|                      |                |      |      |      |      |      |      |      |
|----------------------|----------------|------|------|------|------|------|------|------|
| RGS1..E<br>RGS1P..E* | 25             | 25   | 25   | 25   | 25   | 22   | 18.5 | 14.5 |
|                      | 50             | 41.5 | 39   | 34.5 | 30   | 25.5 | 21   | 16.5 |
|                      | 51             | 40.5 | 38.5 | 34.5 | 30   | 25.5 | 21.5 | 17   |
|                      | 75             | 46   | 43.5 | 38.5 | 33   | 28   | 23   | 18   |
|                      | 90<br>91<br>92 | 48.5 | 46   | 40.5 | 35.5 | 30   | 24.5 | 19   |
| RGS1..U              | 20             | 20   | 20   | 20   | 20   | 20   | 18.5 | 14.5 |
|                      | 30             | 30   | 30   | 30   | 30   | 25.5 | 21   | 16.5 |
| RGS1S..E             | 20             | 23   | 23   | 23   | 23   | 22   | 18.5 | -    |
|                      | 30             | 30   | 30   | 30   | 30   | 25.5 | 21   | -    |
|                      | 31             | 30   | 30   | 30   | 30   | 30   | 24.5 | -    |
|                      | 92             | 48.5 | 46   | 40.5 | 35.5 | 30   | 24.5 | -    |
| RGS1S..U             | 61             | 48.5 | 46   | 40.5 | 35.5 | 30   | 24.5 | -    |
| RGS1D..              | 15             | 15   | 15   | 15   | 15   | 15   | 12.5 | 10   |
|                      | 25             | 23   | 22   | 19.5 | 17.5 | 15   | 12.5 | 10   |

\* max. 70 °C / 158 °F for RGS1P..E


 Thermal pad KK071CUT for 1-phase SSRs, RGHT for RG SSRs

| 1x<br>1-phase<br>SSR                         | Surrounding temperature |          |          |           |           |           |           |           |
|--|-------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|  | °C<br>°F                | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 | 60<br>140 | 70<br>158 | 80<br>176 |
| RA..L<br>RA..T                               | 10                      | 10       | 10       | 10        | 10        | 10        | 8         | -         |
|  | 25                      | 19.5     | 18.5     | 16        | 14        | 11.5      | 8         | -         |
| RA..   | 25                      | 24.5     | 23       | 20        | 16.5      | 13.5      | 10        | -         |
|  | 50                      | 30.5     | 28.5     | 24.5      | 20.5      | 16        | 12        | -         |
|  | 90                      | 36.5     | 34       | 29        | 24        | 19        | 14        | -         |
|  | 110                     | 40.5     | 37.5     | 32.0      | 26.5      | 21        | 15.5      | -         |
| RA60..                                       | 50                      | 30.5     | 29       | 25        | 21        | 16.5      | 12.5      | -         |
| RA2A.. (per pole)                            | 25                      | 20.5     | 19       | 16        | 13        | 9.5       | 6.5       | -         |
|  | 40                      | 22.5     | 21.5     | 17.5      | 14        | 10.5      | 7         | -         |
|  | 25M                     | 20.5     | 19       | 16        | 13        | 9.5       | 6.5       | -         |
|  | 40M                     | 23.0     | 21.5     | 17.5      | 14        | 10        | 7         | -         |
| RS1A..                                       | 10                      | 10       | 10       | 9         | 7.5       | 6         | 4         | -         |
|  | 25                      | 25       | 25       | 23        | 18.5      | 14        | 9.5       | -         |
|  | 40                      | 22       | 20       | 16.5      | 13.5      | 10        | 6.5       | -         |
| RS1A..E                                      | 25                      | 16       | 15       | 13        | 11        | 9.5       | 7.5       | -         |
|  | 40                      | 18       | 17       | 14.5      | 12.5      | 10.5      | 8.5       | -         |
| RM1A..<br>RM1B..<br>RM1C..                   | 25                      | 25       | 25       | 23        | 18.5      | 14        | 9.5       | -         |
|  | 50                      | 32.5     | 30       | 25        | 20        | 15        | 10        | -         |
|  | 75                      | 37       | 34.5     | 28.5      | 23        | 17.5      | 11.5      | -         |
|  | 100                     | 40.5     | 37       | 31        | 24.5      | 18.5      | 12.5      | -         |
| RM1A60..<br>RM1B60..<br>RM1C60..<br>RM1E60.. | 50                      | 32.5     | 30       | 25.5      | 20.5      | 15.5      | 10.5      | -         |
| RAM1A..<br>RAM1B..<br>RM1E..                 | 25                      | 25       | 25       | 23        | 18.5      | 14        | 9.5       | 5.5       |
|  | 50                      | 32.5     | 30       | 25        | 20        | 15        | 10        | 5.5       |
|  | 75                      | 37       | 34.5     | 28.5      | 23        | 17.5      | 11.5      | 6.5       |
|  | 100                     | 37       | 34.5     | 28.5      | 23        | 17.5      | 11.5      | 6.5       |
|  | 125                     | 40.5     | 37       | 31        | 24.5      | 18.5      | 12.5      | 7         |
| RM1D060                                      | 10                      | 10       | 10       | 10        | 10        | 10        | 10        | 7.5       |
|  | 20                      | 20       | 20       | 20        | 20        | 20        | 14.5      | 7.5       |
|  | 50                      | 50       | 50       | 46        | 40        | 32.5      | 24        | 12        |
|  | 100                     | 81.5     | 77.5     | 69        | 59        | 48        | 35        | 17.5      |
| RM1D200                                      | 20                      | 20       | 20       | 18.5      | 16.5      | 14.5      | 12.5      | 10        |
|  | 50                      | 37       | 35.5     | 32.5      | 29.5      | 26        | 22.5      | 18        |
| RM1D500                                      | 10                      | 10       | 10       | 10        | 10        | 10        | 8.5       | 7         |


 Thermal pad KK071CUT for 1-phase SSRs, RGHT for RG SSRs

| 1x<br>1-phase<br>SSR | Surrounding temperature |          |          |           |           |           |           |           |
|----------------------|-------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|                      | °C<br>°F                | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 | 60<br>140 | 70<br>158 | 80<br>176 |
| RGS1..E<br>RGS1P..E* | 25                      | 25       | 25       | 25        | 22        | 19        | 16        | 12.5      |
|                      | 50                      | 35       | 33       | 29.5      | 25.5      | 22        | 18        | 14        |
|                      | 51                      | 34.5     | 33       | 29.5      | 25.5      | 22        | 18.5      | 14.5      |
|                      | 75                      | 39       | 37       | 33        | 28.5      | 24        | 20        | 15.5      |
|                      | 90<br>91<br>92          | 41.5     | 39       | 34.5      | 30        | 25.5      | 21        | 16.5      |
| RGS1..U              | 20                      | 20       | 20       | 20        | 20        | 19        | 16        | 12.5      |
|                      | 30                      | 30       | 30       | 29.5      | 25.5      | 22        | 18        | 14        |
| RGS1S..E             | 20                      | 23       | 23       | 23        | 22        | 19        | 16        | -         |
|                      | 30                      | 30       | 30       | 30        | 25.5      | 22        | 18        | -         |
|                      | 31                      | 30       | 30       | 30        | 30        | 25.5      | 21        | -         |
|                      | 92                      | 41.5     | 39       | 34.5      | 30        | 25.5      | 21        | -         |
| RGS1S..U             | 61                      | 42       | 39       | 34.5      | 30        | 25.5      | 21        | -         |
| RGS1D..              | 15                      | 15       | 15       | 15        | 14        | 12        | 10        | 8         |
|                      | 25                      | 18.5     | 17.5     | 16        | 14        | 12        | 10        | 8         |

\* max. 70 °C / 158 °F for RGS1P..E



## References

### CARLO GAVAZZI compatible components

| Purpose          | Component name/code | Notes  |
|------------------|---------------------|--|
| Thermal pads     | KK071CUT            | Packing qty. 50 pcs, suitable for 1-phase SSRs   |
|                  | RGHT                | Packing qty. 10 pcs, suitable for RG SSRs        |
| Thermal compound | HTS02S              | 2.38 ml sachet of silicon based thermal compound |
| Fans             | RHSF40-24           | 24 VDC, 40x40mm                                  |
| Screw Kits       | SRWKITM5X10MM       | Packing qty. 20 pcs.                             |
|                  | SRWKITM5X30MM       | Packing qty. 20 pcs.                             |

### Further reading

| Information                   | Where to find it  |
|-------------------------------|---|
| Online heatsink selector tool | <a href="http://www.gavazzi-automation.com/nsc/GB/EN/solid_state_relays">http://www.gavazzi-automation.com/nsc/GB/EN/solid_state_relays</a>                       |
| Accessories                   | <a href="http://gavazziautomation.com/images/PIM/DATASHEET/ENG/SSR_Accessories.pdf">http://gavazziautomation.com/images/PIM/DATASHEET/ENG/SSR_Accessories.pdf</a> |

### Order code



RHS540



Enter the code entering the corresponding option instead of

| Code                     | Option | Description                   |
|--------------------------|--------|-------------------------------|
| R                        | -      |                               |
| H                        | -      |                               |
| S                        | -      |                               |
| 5                        | -      |                               |
| 4                        | -      |                               |
| 0                        | -      |                               |
| <input type="checkbox"/> |        | With thermal compound         |
|                          | D      | Thermal compound not included |



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