

# RSR30

## Slimline Interface Relays



- Optically isolated
- Low on-state resistance
- Low input power consumption
- TTL and CMOS compatible
- RC networks (V AC)
- MOSFET output thyristor (V DC)

- Applications: household appliances, temperature control system, industrial automatic control, light system, office appliances, factory appliances
- Mounting: relays RSR30 are designed for direct PCB mounting, single in line package



### AC Load - 2 A / 240 V

#### Input circuit

| Part Number             | Nominal voltage<br>V DC | Control voltage range<br>V DC | Max. control current<br>mA | Release voltage<br>V DC | Input resistance<br>kΩ |
|-------------------------|-------------------------|-------------------------------|----------------------------|-------------------------|------------------------|
| ▶ RSR30-D05-A1-24-020-1 | 5                       | 3...10                        | 12                         | 1.0                     | 0.32                   |
| ▶ RSR30-D12-A1-24-020-1 | 12                      | 7...20                        | 10                         | 1.0                     | 1.07                   |
| ▶ RSR30-D24-A1-24-020-1 | 24                      | 18...32                       | 7.7                        | 1.0                     | 3.0                    |

#### Output circuit

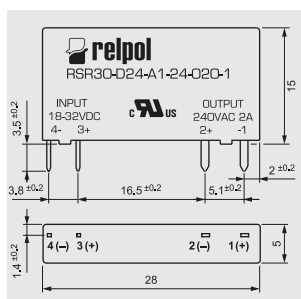
### AC Load - 2 A / 240V

|                                     |   |
|-------------------------------------|---|
| Nominal load current                | 1 A AC see Figure below                       |
| Max. load current                   | 2 A AC see Figure below                       |
| Nominal load voltage                | rest condition: 240 V AC                      |
| Load voltage range                  | 12...280 V AC                                 |
| Non-repetitive peak voltage         | rest condition: 600 V AC                      |
| Non-repetitive surge current        | operating state: 80 A                         |
| Max. off-state leakage current      | rest condition: 1.5 mA                        |
| Max. on-state voltage drop          | operating state: 1.2 V                        |
| Min. load current                   | operating state: 50 mA                        |
| Off-state dV/dt                     | max. allowable rate of voltage rise: 500 V/μs |
| Operating frequency range           | 47...400 Hz                                   |
| RC snubber                          | 10 nF, 100 Ω                                  |
| Operation resistance                | -   |
| Peak power dissipation              | -   |
| Operating switching frequency       | -   |
| Transient voltage suppressor        | -   |
| Max voltage of suppressor operation | -   |

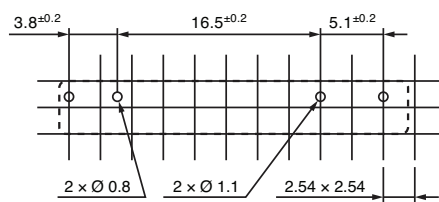
#### General data

|                                 |   |
|---------------------------------|---|
| Output circuit switching moment | R - instantaneous switching of the output circuit |
| Max. turn-on time               | 100 μs at rated voltage                           |
| Max. turn-off time              | 1/2 cycle + 1 ms at rated voltage                 |
| Insulation dielectric strength  | between input and output: 4 000 V AC 1 minute     |
| Dimensions (L x W x H)          | 28 x 5 x 15 mm                                    |
| Weight                          | 4 g   |
| Storage temperature             | -40...+100°C                                      |
| Operating temperature           | -20...+80 °C rated value: +55 °C see Figure below |
| Max. solder bath temperature    | 220 °C 10 s                                       |

### DIMENSIONS



### PIN OUTS



### Load current in the function of the ambient temperature and distances between relays



▶ **BOLD** - Regular stocked items.

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### DC Load - 2,5 A / 48 V

#### Input circuit

| Part Number             | Nominal voltage<br>V DC | Control voltage range<br>V DC | Max. control current<br>mA | Release voltage<br>V DC | Input resistance<br>kΩ |
|-------------------------|-------------------------|-------------------------------|----------------------------|-------------------------|------------------------|
| ▶ RSR30-D05-D1-04-025-1 | 5                       | 3...10                        | 12                         | 1.8                     | 0.32                   |
| ▶ RSR30-D12-D1-04-025-1 | 12                      | 7...20                        | 10                         | 3.6                     | 1.07                   |
| ▶ RSR30-D24-D1-04-025-1 | 24                      | 18...32                       | 7.7                        | 8.3                     | 3.0                    |
| ▶ RSR30-D48-D1-04-025-1 | 48                      | 38...58                       | 4.4                        | 8.3                     | 10.8                   |

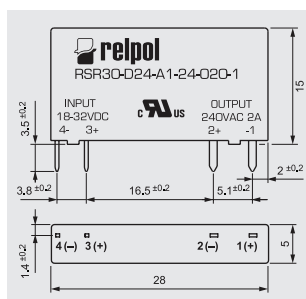
#### Output circuit

|                                     |  |
|-------------------------------------|--|
| Nominal load current                | 1 A DC see Figure below                  |
| Max. load current                   | 2.5 A DC see Figure below                |
| Nominal load voltage                | rest condition: 48 V DC                  |
| Load voltage range                  | 0...60 V DC                              |
| Non-repetitive peak voltage         | rest condition: 100 V DC                 |
| Non-repetitive surge current        | operating state: 6 A                     |
| Max. off-state leakage current      | rest condition: 1 mA                     |
| Max. on-state voltage drop          | operating state: 0.4 V                   |
| Min. load current                   | operating state: 1 mA                    |
| Off-state dV/dt                     | -  |
| Operating frequency range           | -  |
| RC snubber                          | -  |
| Operation resistance                | operating state: 160 mΩ at rated current |
| Peak power dissipation              | 600 W                                    |
| Operating switching frequency       | 10 Hz                                    |
| Transient voltage suppressor        | Yes                                      |
| Max voltage of suppressor operation | 60 V DC                                  |

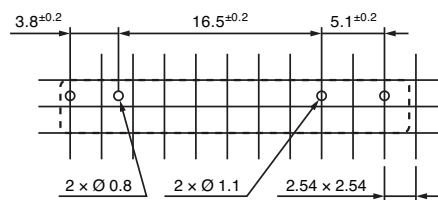
#### General data

|                                 |   |
|---------------------------------|---|
| Output circuit switching moment | R - instantaneous switching of the output circuit |
| Max. turn-on time               | 50 μs at rated voltage                            |
| Max. turn-off time              | 600 μs at rated voltage                           |
| Insulation dielectric strength  | between input and output: 3 750 V AC 1 minute     |
| Dimensions (L x W x H)          | 28 x 5 x 15 mm                                    |
| Weight                          | 4 g   |
| Storage temperature             | -25...+100°C                                      |
| Operating temperature           | -20...+80 °C rated value: +55 °C see Figure below |
| Max. solder bath temperature    | 220 °C 10 s                                       |

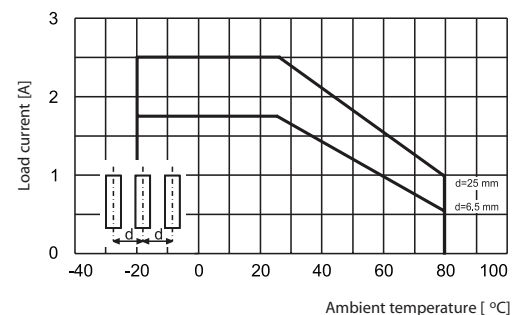
### DIMENSIONS



### PIN OUTS



### Load current in the function of the ambient temperature and distances between relays



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## Slimline Interface Relays



### PIR6W-1PS

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### DC Load - 4 A / 24V Version

#### Input circuit

| Part Number             | Nominal voltage<br>V DC | Control voltage range<br>V DC | Max. control current<br>mA | Release voltage<br>V DC | Input resistance<br>kΩ |
|-------------------------|-------------------------|-------------------------------|----------------------------|-------------------------|------------------------|
| ▶ RSR30-D05-D1-02-040-1 | 5                       | 3...10                        | 12                         | 1.8                     | 0.32                   |
| ▶ RSR30-D12-D1-02-040-1 | 12                      | 7...20                        | 10                         | 3.6                     | 1.07                   |
| ▶ RSR30-D24-D1-02-040-1 | 24                      | 18...32                       | 7.7                        | 8.3                     | 3.0                    |
| ▶ RSR30-D48-D1-02-040-1 | 48                      | 38...58                       | 4.4                        | 8.3                     | 10.8                   |

#### Output circuit

### DC Load - 4 A / 24V

|                                     |                         |
|-------------------------------------|-------------------------|
| Nominal load current                | 2 A DC see Figure below |
| Max. load current                   | 4 A DC see Figure below |
| Nominal load voltage                | rest condition: 24 V DC |
| Load voltage range                  | 0...32 V DC             |
| Non-repetitive peak voltage         | rest condition: 60 V DC |
| Non-repetitive surge current        | operating state: 6 A    |
| Max. off-state leakage current      | rest condition: 1 mA    |
| Max. on-state voltage drop          | operating state: 0.24 V |
| Min. load current                   | operating state: 1 mA   |
| Off-state dV/dt                     | -                       |
| Operating frequency range           | -                       |
| RC snubber                          | -                       |
| Operation resistance                | operating state: 120 mΩ |
| Peak power dissipation              | 600 W                   |
| Operating switching frequency       | 10 Hz                   |
| Transient voltage suppressor        | Yes                     |
| Max voltage of suppressor operation | 36 V DC                 |

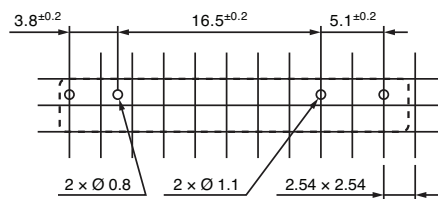
#### General data

|                                 |   |
|---------------------------------|---|
| Output circuit switching moment | R - instantaneous switching of the output circuit |
| Max. turn-on time               | 50 μs at rated voltage                            |
| Max. turn-off time              | 600 μs at rated voltage                           |
| Insulation dielectric strength  | between input and output: 3 750 V AC 1 minute     |
| Dimensions (L x W x H)          | 28 x 5 x 15 mm                                    |
| Weight                          | 4 g   |
| Storage temperature             | -25...+100 °C                                     |
| Operating temperature           | -20...+80 °C rated value: +55 °C see Figure below |
| Max. solder bath temperature    | 220 °C 10 s                                       |

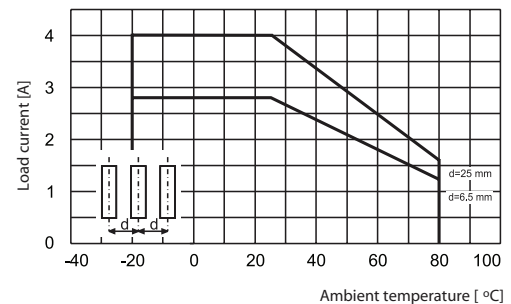
### DIMENSIONS



### PIN OUTS



### Load current in the function of the ambient temperature and distances between relays



▶ **BOLD** - Regular stocked items.

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### DC Load - 1 A / 100V Version

#### Input circuit

| Part Number             | Nominal voltage<br>V DC | Control voltage range<br>V DC | Max. control current<br>mA | Release voltage<br>V DC | Input resistance<br>kΩ |
|-------------------------|-------------------------|-------------------------------|----------------------------|-------------------------|------------------------|
| ▶ RSR30-D05-D1-24-010-1 | 5                       | 3...10                        | 12                         | 1.8                     | 0.32                   |
| ▶ RSR30-D12-D1-24-010-1 | 12                      | 7...20                        | 10                         | 3.6                     | 1.07                   |
| ▶ RSR30-D24-D1-24-010-1 | 24                      | 18...32                       | 7.7                        | 8.3                     | 3.0                    |
| ▶ RSR30-D48-D1-24-010-1 | 48                      | 38...58                       | 4.4                        | 8.3                     | 10.8                   |

#### Output circuit

### DC Load - 1 A / 100V

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Nominal load current                | 0.4 A DC see Figure below            |
| Max. load current                   | 1 A DC see Figure below              |
| Nominal load voltage                | rest condition: 100 V DC             |
| Load voltage range                  | 0...180 V DC                         |
| Non-repetitive peak voltage         | rest condition: 180 V DC             |
| Non-repetitive surge current        | operating state: 6 A                 |
| Max. off-state leakage current      | rest condition: 1 mA                 |
| Max. on-state voltage drop          | operating state: 0.6 V               |
| Min. load current                   | operating state: 1 mA                |
| Off-state dV/dt                     | -                                    |
| Operating frequency range           | -                                    |
| RC snubber                          | -                                    |
| Operation resistance                | operating state: 1.5 Ω maximum value |
| Peak power dissipation              | 600 W                                |
| Operating switching frequency       | 10 Hz                                |
| Transient voltage suppressor        | Yes                                  |
| Max voltage of suppressor operation | 180 V DC                             |

#### General data

|                                 |   |
|---------------------------------|---|
| Output circuit switching moment | R - instantaneous switching of the output circuit |
| Max. turn-on time               | 50 μs at rated voltage                            |
| Max. turn-off time              | 600 μs at rated voltage                           |
| Insulation dielectric strength  | between input and output: 2 500 V AC 1 minute     |
| Dimensions (L x W x H)          | 28 x 5 x 15 mm                                    |
| Weight                          | 4 g   |
| Storage temperature             | -25...+100 °C                                     |
| Operating temperature           | -20...+80 °C rated value; +55 °C see Figure below |
| Max. solder bath temperature    | 220 °C 10 s                                       |

### DIMENSIONS



### PIN OUTS



### Load current in the function of the ambient temperature and distances between relays



▶ **BOLD** - Regular stocked items.