

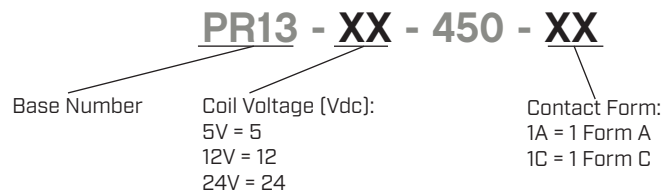
**SERIES:** PR13 | **DESCRIPTION:** POWER RELAY**FEATURES**

- 5V/12V/24V
- SPST & SPDT
- 450 mW

**MODEL**

|                 | coil<br>voltage<br>typ<br>(Vdc) | coil<br>resistance<br>( $\Omega \pm 10\%$ ) | operating voltage<br>min<br>(Vdc) | release<br>voltage<br>max<br>(Vdc) | coil<br>power<br>max<br>(mW) |
|-----------------|---------------------------------|---------------------------------------------|-----------------------------------|------------------------------------|------------------------------|
|                 |                                 |                                             |                                   |                                    |                              |
| PR13-5V-450-1A  | 5                               | 55                                          | 3.5                               | 0.5                                | 450                          |
| PR13-12V-450-1A | 12                              | 320                                         | 8.4                               | 1.2                                | 450                          |
| PR13-24V-450-1A | 24                              | 1,280                                       | 16.8                              | 2.4                                | 450                          |
| PR13-5V-450-1C  | 5                               | 55                                          | 3.5                               | 0.5                                | 450                          |
| PR13-12V-450-1C | 12                              | 320                                         | 8.4                               | 1.2                                | 450                          |
| PR13-24V-450-1C | 24                              | 1,280                                       | 16.8                              | 2.4                                | 450                          |

Notes: 1. All specifications are measured at 23°C unless otherwise specified.

**PART NUMBER KEY**

## CONTACT SPECIFICATIONS

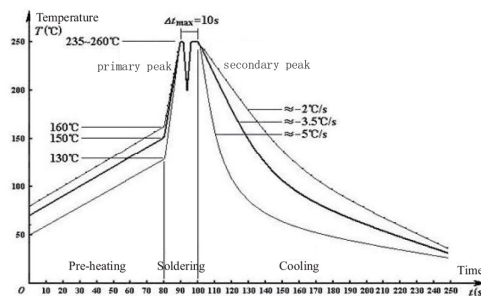
| parameter             | conditions/description                               | min | typ                   | max          | units                    |
|-----------------------|------------------------------------------------------|-----|-----------------------|--------------|--------------------------|
| contact form          | 1 Form A, 1 Form C                                   |     |                       |              |                          |
| contact material      | Ag alloy                                             |     |                       |              |                          |
| contact rating        | 10 A @ 250 Vac<br>10 A @ 30 Vdc                      |     |                       |              |                          |
| contact resistance    | at 24 Vdc, 1.0 A                                     |     |                       | 100          | mΩ                       |
| max switching voltage |                                                      |     |                       | 250<br>30    | Vac<br>Vdc               |
| max switching current |                                                      |     |                       | 10           | A                        |
| max switching power   |                                                      |     |                       | 2,500<br>300 | VA<br>W                  |
| min switching load    | 5 Vdc, 100 mA                                        |     |                       |              |                          |
| life                  | electrical: NO Contact, 10 A @ 250 Vac<br>mechanical |     | 100,000<br>10,000,000 |              | operations<br>operations |

## GENERAL SPECIFICATIONS

| parameter             | conditions/description                                                                          | min   | typ            | max | units                                |
|-----------------------|-------------------------------------------------------------------------------------------------|-------|----------------|-----|--------------------------------------|
| insulation resistance | at 500 Vdc                                                                                      | 1,000 |                |     | MΩ                                   |
| dielectric strength   | between open contacts for 1 minute<br>between coil and contacts for 1 minute                    |       | 1,000<br>2,500 |     | Vac<br>Vac                           |
| operate time          |                                                                                                 |       |                | 10  | ms                                   |
| release time          |                                                                                                 |       |                | 5   | ms                                   |
| shock resistance      | endurance<br>misoperation                                                                       |       | 1,000<br>100   |     | m/s <sup>2</sup><br>m/s <sup>2</sup> |
| vibration resistance  | endurance: 10~55 Hz, 1.5 mm double amplitude<br>misoperation: 10~55 Hz, 1.5 mm double amplitude |       |                |     |                                      |
| operating temperature |                                                                                                 | -40   |                | 85  | °C                                   |
| humidity              | at 40°C                                                                                         | 35    |                | 95  | %RH                                  |
| weight                |                                                                                                 |       | 11.0           |     | g                                    |
| safety approvals      | UL/cUL 508                                                                                      |       |                |     |                                      |
| flammability rating   | UL94V-0                                                                                         |       |                |     |                                      |
| RoHS                  | yes                                                                                             |       |                |     |                                      |
| packaging             | tube: 25 pcs per tube<br>carton size: 456 x 266 x 161 mm<br>carton QTY: 1,000 pcs per carton    |       |                |     |                                      |

## SOLDERABILITY

| parameter      | conditions/description | min | typ | max | units |
|----------------|------------------------|-----|-----|-----|-------|
| hand soldering | for 3.5±0.5 seconds    | 340 | 350 | 360 | °C    |
| wave soldering | for 10±1 seconds       | 255 | 260 | 265 | °C    |



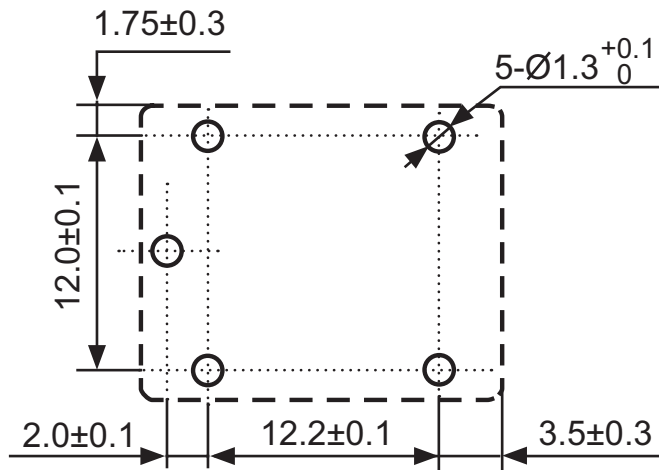
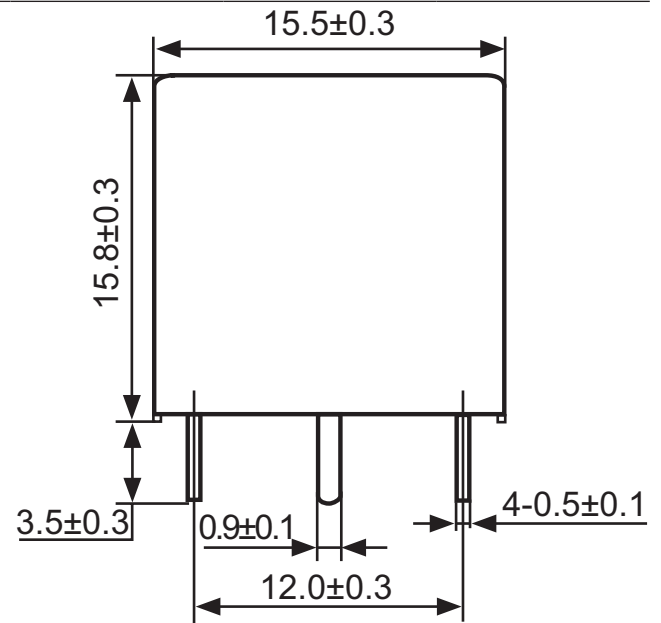
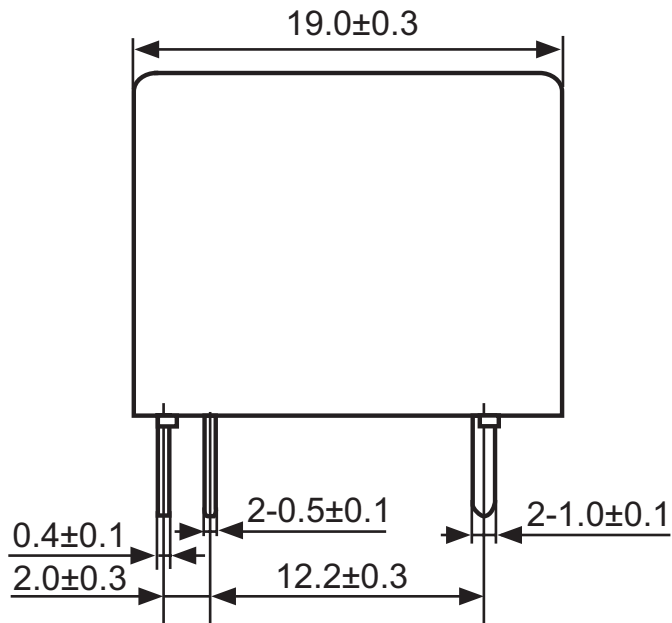
Double-wave Soldering Curve



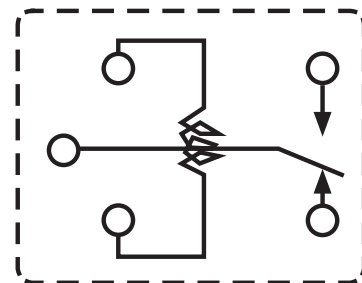
## MECHANICAL DRAWING (1C = 1 FORM C)

units: mm  
tolerance:  $\pm 0.3$  mm  
unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL             | PLATING/COLOR |
|------|-------------|----------------------|---------------|
| A    | housing     | PBT [UL94V-0]        | black         |
| B    | terminals   | copper covered steel | tin           |



Recommended PCB Layout  
Bottom View



Wiring Diagram  
Bottom View

## REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 08/15/2022 |

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



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