

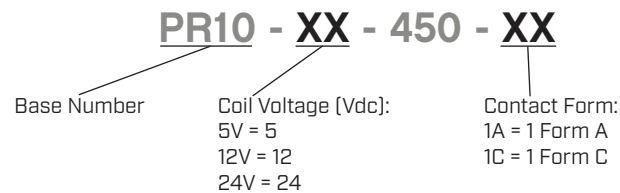
**SERIES:** PR10 | **DESCRIPTION:** POWER RELAY**FEATURES**

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

**MODEL**

|                 | <b>coil voltage</b> | <b>coil resistance</b>                | <b>operating voltage</b> | <b>release voltage</b> | <b>coil power</b>  |
|-----------------|---------------------|---------------------------------------|--------------------------|------------------------|--------------------|
|                 | <b>typ</b><br>(Vdc) | <b>(<math>\Omega \pm 10\%</math>)</b> | <b>min</b><br>(Vdc)      | <b>max</b><br>(Vdc)    | <b>max</b><br>(mW) |
| PR10-5V-450-1A  | 5                   | 55                                    | 3.75                     | 0.5                    | 450                |
| PR10-12V-450-1A | 12                  | 320                                   | 9.00                     | 1.2                    | 450                |
| PR10-24V-450-1A | 24                  | 1,280                                 | 18.00                    | 2.4                    | 450                |
| PR10-5V-450-1C  | 5                   | 55                                    | 3.75                     | 0.5                    | 450                |
| PR10-12V-450-1C | 12                  | 320                                   | 9.00                     | 1.2                    | 450                |
| PR10-24V-450-1C | 24                  | 1,280                                 | 18.00                    | 2.4                    | 450                |

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

**PART NUMBER KEY**

## CONTACT SPECIFICATIONS

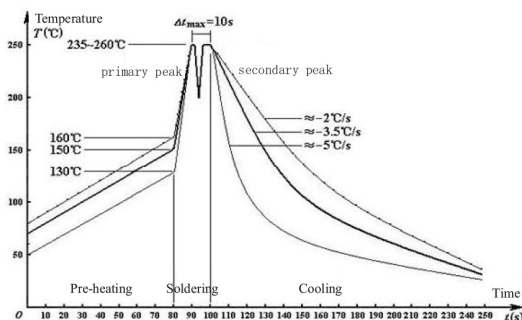
| parameter             | conditions/description  | min | typ                   | max          | units                    |
|-----------------------|---|-----|-----------------------|--------------|--------------------------|
| contact form          | 1 Form A, 1 Form C  |     |                       |              |                          |
| contact material      | Ag alloy  |     |                       |              |                          |
| contact rating        | 1 Form A: 5 A @ 250 Vac, 5 A @ 28 Vdc<br>1 Form C: NO/NC: 5 A / 3 A @ 250 Vac, 5 A / 3 A @ 28 Vdc |     |                       |              |                          |
| contact resistance    | at 6 Vdc, 1.0 A   |     |                       | 100          | mΩ                       |
| max switching voltage |   |     |                       | 250<br>28    | Vac<br>Vdc               |
| max switching current |   |     |                       | 10           | A                        |
| max switching power   |   |     |                       | 1,250<br>280 | VA<br>W                  |
| min switching load    | 5 Vdc, 100 mA   |     |                       |              |                          |
| life                  | electrical<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>1A= between coil and contacts for 1 minute<br>1C= between coil and contacts for 1 minute |       | 1,000<br>3,500<br>2,500 |     | Vac<br>Vac<br>Vac                    |
| operate time          |  |       |                         | 8   | 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                |  |       | 7.0                     |     | g                                    |
| safety approvals      | UL/cUL 508   |       |                         |     |                                      |
| flammability rating   | UL94V-0  |       |                         |     |                                      |
| RoHS                  | yes  |       |                         |     |                                      |
| packaging             | tube: 25 pcs per tube<br>carton size: 324 x 292 x 160 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    |

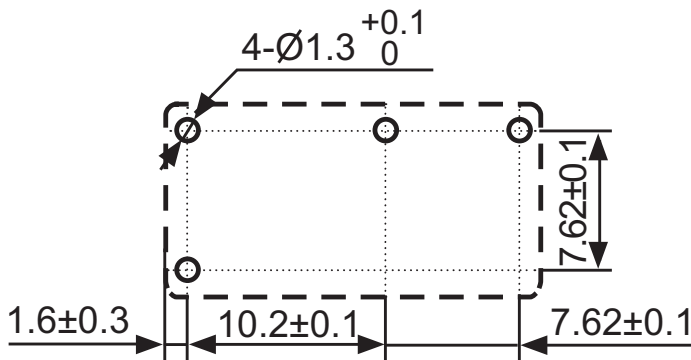
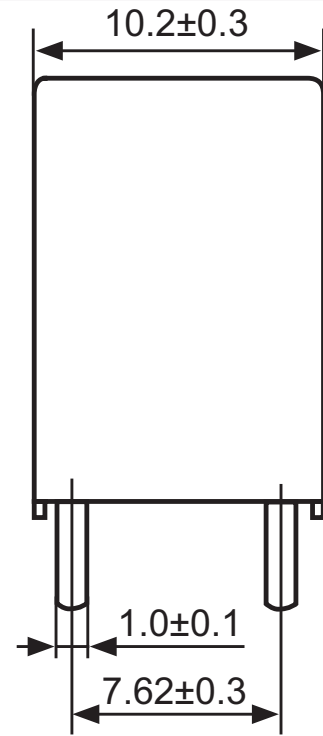
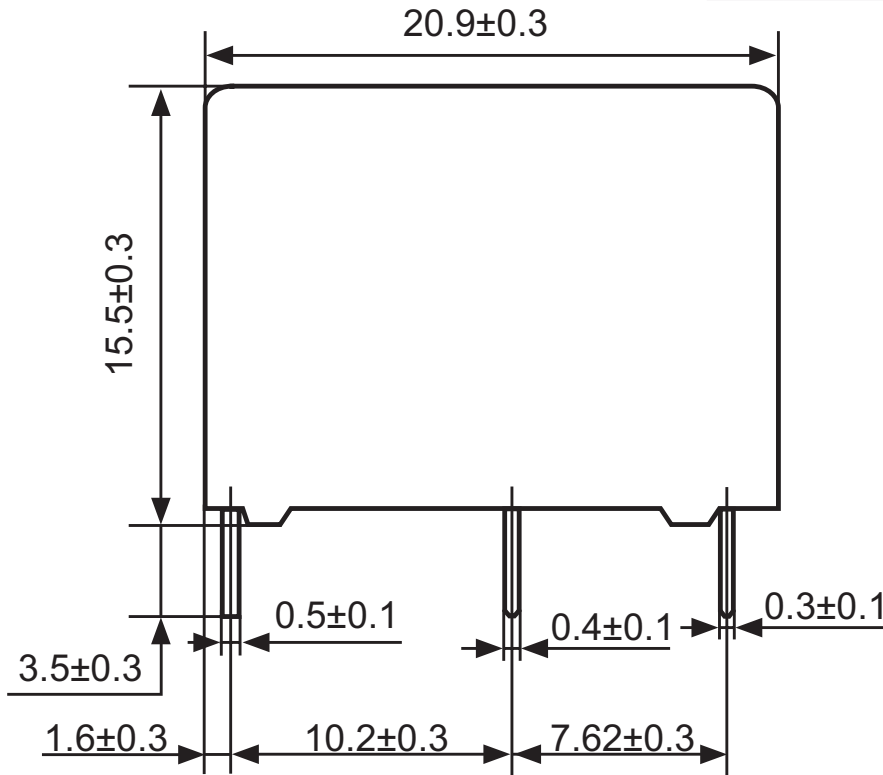


Double-wave Soldering Curve

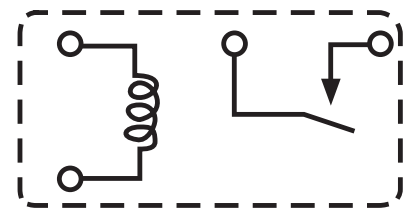
## MECHANICAL DRAWING (1A = 1 FORM A)

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

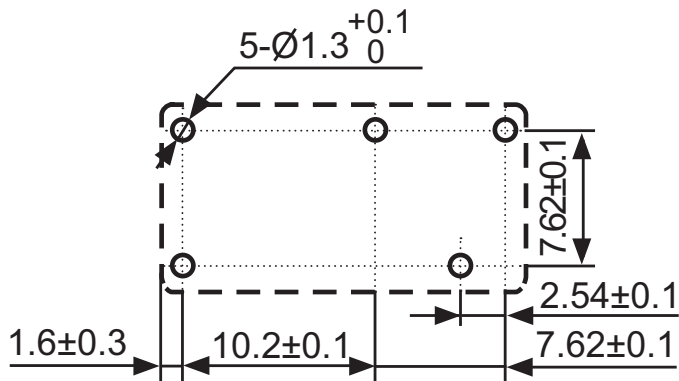
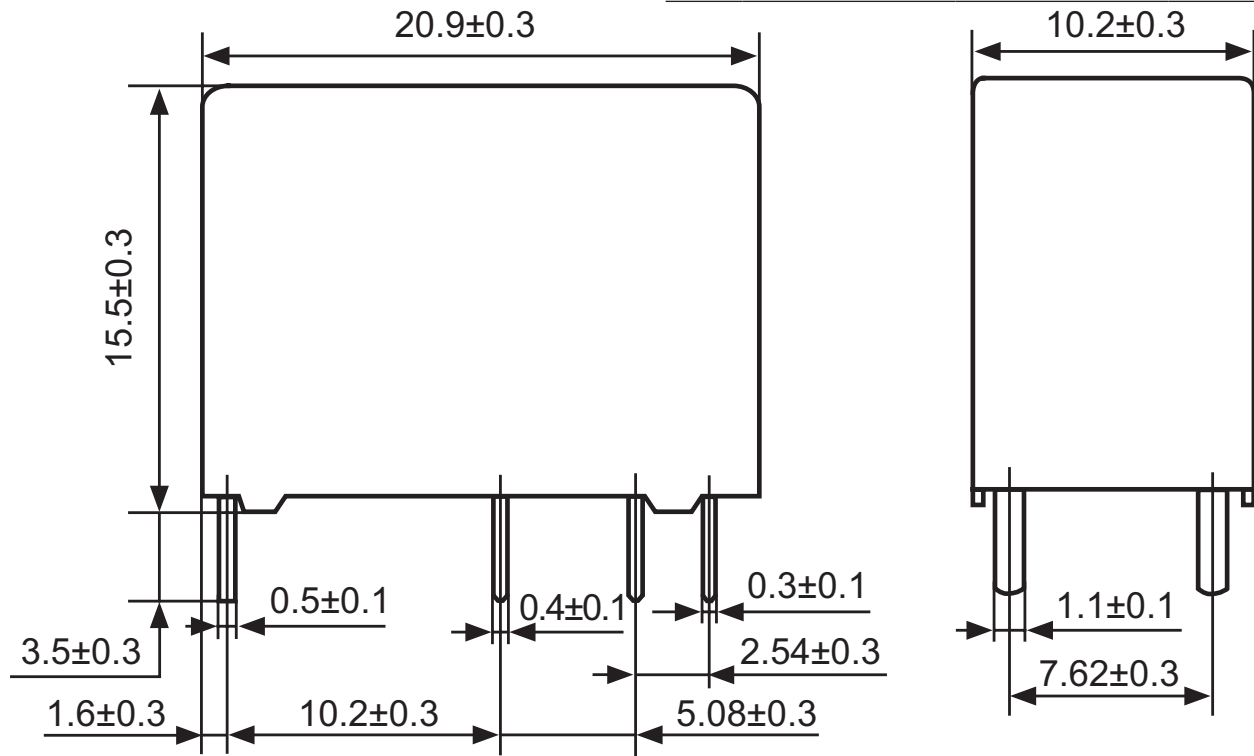


Wiring Diagram  
Bottom View

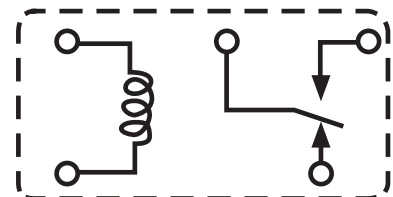
## MECHANICAL DRAWING (1C = 1 FORM C)

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           |



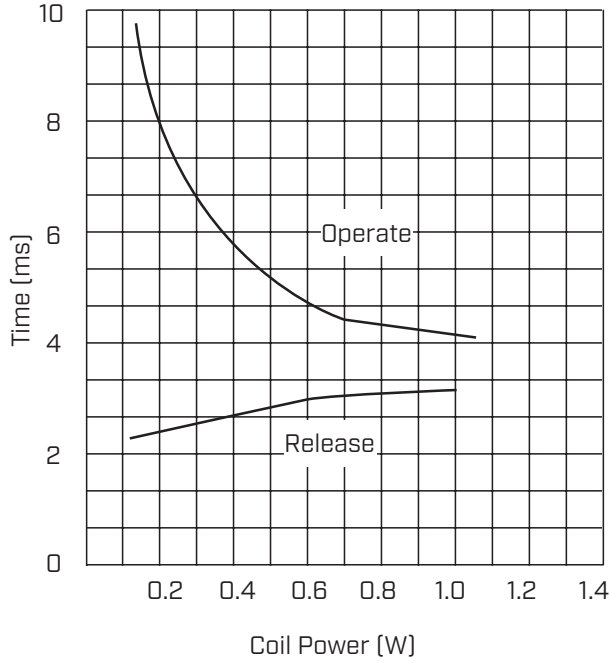
Recommended PCB Layout  
 Bottom View



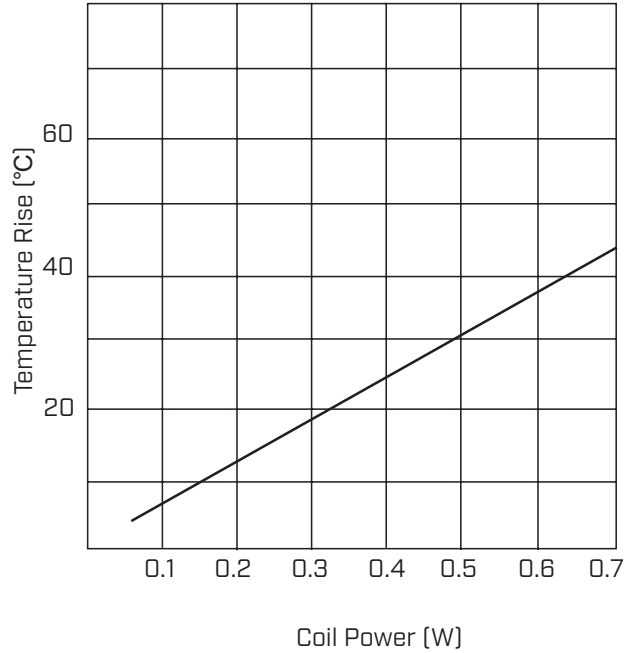
Wiring Diagram  
 Bottom View

## CHARACTERISTIC CURVES

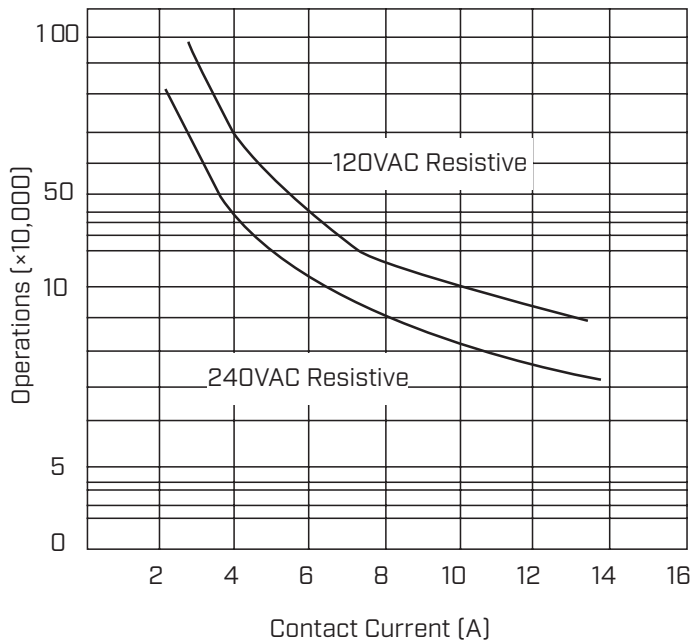
Time Curve



Coil Temperature Rise



Life Curve



## REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 08/09/2022 |

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



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