

Miniature Power PCB RY II & RY II reflow-solderable

- 1 pole 8 A, 1 CO or 1 NO or 1 NC contact
- Low component height 12.3 mm
- 5 kV / 8 mm coil-contact
- Reinforced insulation (protection class II)
- Pinnings: 3.2 and 5 mm
- reflow-solderable version
- Sockets with PCB-type terminals
- Especially suitable for resistive and inductive loads on NO and NC contacts
- Plastic materials according to IEC60335-1 (domestic appliances) (not at reflow-solderable version)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0403



F0142-F

Applications: heating control, interface technology, domestic appliances, timers, temperature control

Approvals

VDE REG.-Nr. 5358, **CE** us E214025
 Technical data of approved types on request

Contact data

| | |
|--|--------------------------------------|
| Contact configuration | 1 CO or 1NO or 1NC |
| Contact set | single contact |
| Type of interruption | micro disconnection |
| Rated current | 8 A |
| Rated voltage / max. switching voltage AC | 250/400 VAC |
| Maximum breaking capacity AC | 2000 VA |
| Contact material | AgNi0,15, AgSnO ₂ , AgCdO |
| Mechanical endurance | 30x10 ⁶ cycles |
| Rated frequency of operation with / without load | 6 / 1200 min ⁻¹ |

Contact ratings

| Type | Load | Cycles |
|----------------|-----------------------------------|--------------------|
| RY**1*** | NO, 8 A, 250 VAC, resistive, 70°C | 1x10 ⁵ |
| RY**1*** | NC, 8 A, 250 VAC, resistive, 70°C | 5x10 ⁴ |
| RY**(0,1,2)*** | 8 A, 30 VDC, UL 508 | 3 x10 ⁴ |
| RY**(0,1,2)*** | 0,28 A, 250 VDC, UL 508 | 3 x10 ⁴ |
| RY**(0,1,2)*** | 1/2 HP, 240 VDC, UL 508 | |
| RY**(0,1,2)*** | 1/4 HP, 120 VDC, UL 508 | |
| RY**(0)*** | 8 A, 415 VAC, resistive, UL 508 | 6 x10 ³ |
| RY**(0,1,2)*** | Pilot duty - B300, UL 508 | 6000 |
| RY*** | CO, 8 A, 250 VAC, resistive, 70°C | 5x10 ³ |
| RY**1 *** | 6(4)A, 250 VAC, 85°C, EN60730 | 1x10 ⁵ |

Coil data

| | |
|----------------------------------|-------------|
| Rated coil voltage range DC coil | 5...60 VDC |
| Coil power DC coil | typ. 220 mW |
| Operative range | 2 |

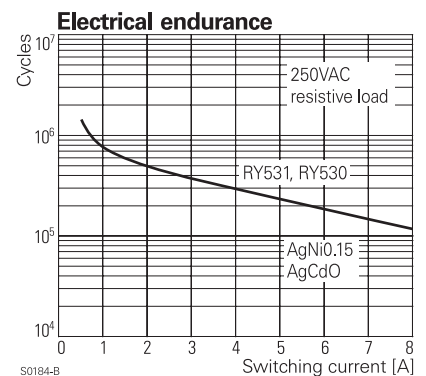
Coil versions, DC-coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ohm | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|---------------------|---------------------|
| 005 | 5 | 3,5 | 0,5 | 112±10% | 223 |
| 006 | 6 | 4,2 | 0,6 | 162±10% | 222 |
| 009 | 9 | 6,3 | 0,9 | 320±10% | 253 |
| 012 | 12 | 8,4 | 1,2 | 627±10% | 230 |
| 024 | 24 | 16,8 | 2,4 | 2350±10% | 245 |
| 048 | 48 | 33,6 | 4,8 | 9391±10% | 245 |
| 060 | 60 | 42,0 | 6,0 | 14000±10% | 257 |

All figures are given for coil without preenergization, at ambient temperature +23°C
 Other coil voltages on request



S0195-D



S0184-B



S0208-D

Miniature Power PCB RY II & RY II reflow-solderable (Continued)

| Insulation | CO contact | NO contact |
|---|------------|-----------------------|
| Dielectric strength coil-contact circuit | | 5000 V _{eff} |
| open contact circuit | | 1000 V _{eff} |
| Clearance / creepage coil-contact circuit | | ≥ 8 / 8 mm |
| Material group of insulation parts | | IIIa |
| Tracking index of relay base | | PTI250, PTI 175* |
| Insulation to IEC 60664-1 | | |
| Type of insulation coil-contact circuit | | reinforced |
| open contact circuit | | functional |
| Rated insulation voltage | 250 V | 250 V |
| Pollution degree | 3 | 2 |
| Rated voltage system | 230 V | 400 V |
| Overvoltage category | III | III |

| Other data | |
|---|---|
| RoHS - Directive 2002/95/EC | compliant as per product date code 0403 |
| Flammability class according to UL94 | V-0 |
| GWFI to IEC 60335-1 | > 850 °C** |
| GWT to IEC 60335-1 | > 750 °C** |
| Ambient temperature range | -40...+70°C |
| Ambient temperature max. | 85°C at 6A |
| Operate- / release time | typ. 7 / 3 ms |
| Bounce time NO / NC contact | typ. 2.5 / 4.5 ms |
| Vibration resistance (function) NO / NC contact | 20 / 5 g |
| Shock resistance (function) NO / NC contact | 20 / 5 g |
| Shock resistance (destruction) | 100 g |
| Category of protection | RTII-flux proof, RTIII- wash tight** |
| Mounting | pcb |
| Mounting position | any |
| Minimum mounting distance | ≥ 0 mm |
| Soldering heat resistance flux proof version | 270°C / 10 s |
| wash tight version | 260°C / 5 s |
| Relay weight | 8 g |
| Packaging unit | 20 / 500 pcs |

| Accessoires | |
|-------------------------------------|------------------|
| For technical details see datasheet | Accessoires RYII |

* reflow-solderable version
 ** not as reflow-solderable version

Dimensions

Pinning 3.2 mm

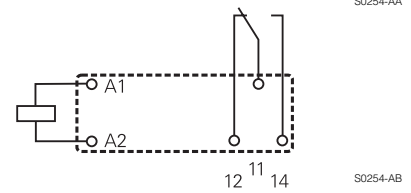
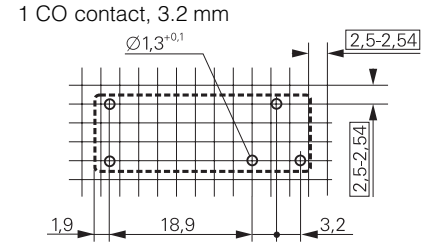


Pinning 5 mm

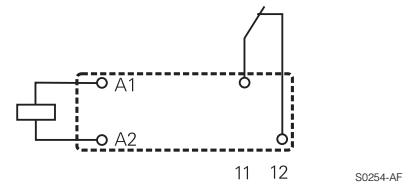
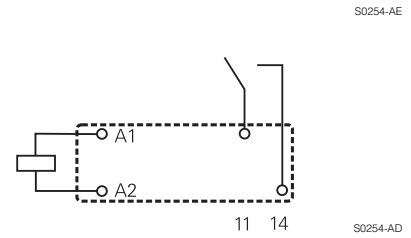
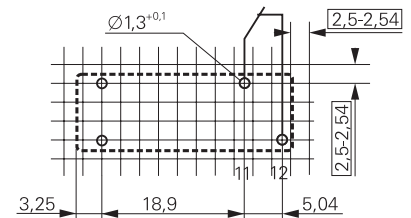
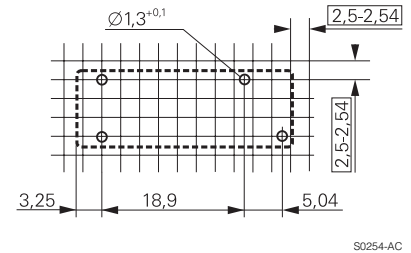


PCB layout / terminal assignment

Bottom view on solder pins

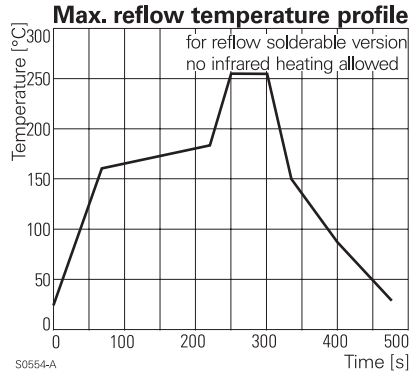


1 NO, 1 NC contact 5 mm



Miniature Power PCB RY II & RY II reflow-solderable (Continued)

Soldering profile for reflow-solderable version



Product key

Type

Version

- | | |
|-------------------------------------|---|
| 2 pinning 3.2 mm, flux proof | 6 pinning 3.2 mm, wash tight **) |
| 5 pinning 5 mm, flux proof | A pinning 5 mm, wash tight **) |

Contact configuration

- | | |
|---------------------------------------|-------------------------------------|
| 1 1 CO contact, pinning 3.2 mm | 3 1 NO contact, pinning 5 mm |
|---------------------------------------|-------------------------------------|

Contact material

- | | |
|--------------------|--------------------------------|
| 0 AgCdO | 2 AgNi 0.15 gold plated |
| 1 AgNi 0.15 | 3 AgSnO ₂ |

Coil

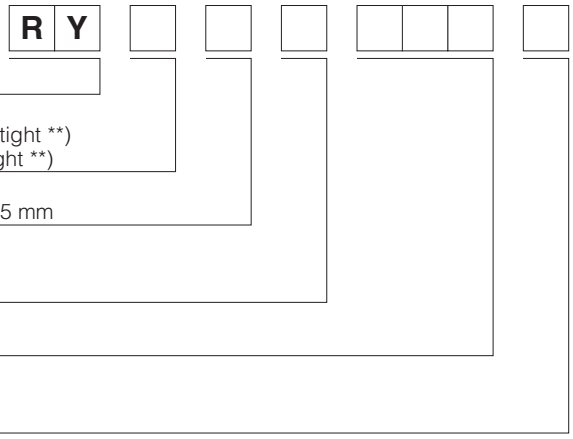
Coil code: please refer to coil versions table

Version

- | |
|-------------------------------|
| Blank standard version |
| R reflow-solderable |

**) not as reflow-solderable version

Other types on request



Miniature Power PCB RY II & RY II reflow-solderable (Continued)

| Product key | Version | Contacts | Contact material | Coil | Part number | | |
|-------------|------------------------------|--------------|------------------------------|--------------------|-------------|-------------|-------------|
| RY210005 | pinning 3.2 mm flux proof | 1 CO contact | AgCdO | 5 VDC | 3-1393224-1 | | |
| RY210012 | | | | 12 VDC | 3-1393224-5 | | |
| RY210024 | | | | 24 VDC | 3-1393224-8 | | |
| RY210048 | | | | 48 VDC | 4-1393224-1 | | |
| RY211005 | | | AgNi 0.15 | 5 VDC | 4-1393224-2 | | |
| RY211012 | | | | 12 VDC | 4-1393224-6 | | |
| RY211024 | | | | 24 VDC | 4-1393224-9 | | |
| RY211048 | | | | 48 VDC | 5-1393224-1 | | |
| RY212005 | | | AgNi 0.15 gold plated | 5 VDC | 5-1393224-2 | | |
| RY212012 | | | | 12 VDC | 5-1393224-5 | | |
| RY212024 | | | | 24 VDC | 5-1393224-8 | | |
| RY212048 | | | | 48 VDC | 5-1393224-9 | | |
| RY213005 | | | AgSnO ₂ | 5 VDC | 6-1393224-0 | | |
| RY213012 | | | | 12 VDC | 6-1393224-1 | | |
| RY213024 | | | | 24 VDC | 6-1393224-2 | | |
| RY213048 | | | | 48 VDC | 6-1393224-3 | | |
| RY530005 | pinning 5 mm flux proof | 1 NO contact | AgCdO | 5 VDC | 6-1393224-6 | | |
| RY530012 | | | | 12 VDC | 6-1393224-9 | | |
| RY530024 | | | | 24 VDC | 7-1393224-2 | | |
| RY530048 | | | | 48 VDC | 7-1393224-4 | | |
| RY531005 | | | AgNi 0.15 | 5 VDC | 7-1393224-6 | | |
| RY531012 | | | | 12 VDC | 7-1393224-9 | | |
| RY531024 | | | | 24 VDC | 8-1393224-2 | | |
| RY531048 | | | | 48 VDC | 8-1393224-3 | | |
| RY532012 | | | AgNi 0.15 gold plated | 12 VDC | 8-1393224-4 | | |
| RY532024 | | | | 24 VDC | 8-1393224-5 | | |
| RY533012 | | | | AgSnO ₂ | 12 VDC | 8-1393224-8 | |
| RY533024 | | | | | 24 VDC | 8-1393224-9 | |
| RY533048 | | | 48 VDC | 9-1393224-0 | | | |
| RY610005 | | | pinning 3.2 mm wash tight | 1 CO contact | AgCdO | 5 VDC | 0-1393225-7 |
| RY610012 | | | | | | 12 VDC | 1-1393225-0 |
| RY610024 | | | | | | 24 VDC | 1-1393225-4 |
| RY610048 | 48 VDC | 1-1393225-5 | | | | | |
| RY611005 | AgNi 0.15 | 5 VDC | | | 1-1393225-7 | | |
| RY611012 | | 12 VDC | | | 1-1393225-9 | | |
| RY611024 | | 24 VDC | | | 2-1393225-1 | | |
| RY611048 | | 48 VDC | | | 2-1393225-2 | | |
| RY612005 | AgNi 0.15 gold plated | 5 VDC | | | 2-1393225-3 | | |
| RY612012 | | 12 VDC | | | 2-1393225-6 | | |
| RY612024 | | 24 VDC | | | 2-1393225-9 | | |
| RY612048 | | 48 VDC | | | 3-1393225-0 | | |
| RY613005 | AgSnO ₂ | 5 VDC | | | 5-1419136-2 | | |
| RY613012 | | 12 VDC | | | 3-1393225-1 | | |
| RY613024 | | 24 VDC | | | 3-1393225-3 | | |
| RY613048 | | 48 VDC | | | 3-1393225-4 | | |
| RYA30005 | pinning 5 mm wash tight | 1 NO contact | AgCdO | 5 VDC | 0-1393224-1 | | |
| RYA30012 | | | | 12 VDC | 0-1393224-4 | | |
| RYA30024 | | | | 24 VDC | 0-1393224-6 | | |
| RYA30048 | | | | 48 VDC | 7-1393225-7 | | |
| RYA31005 | | | AgNi 0.15 | 5 VDC | 0-1393224-7 | | |
| RYA31012 | | | | 12 VDC | 0-1393224-9 | | |
| RYA31024 | | | | 24 VDC | 1-1393224-2 | | |
| RYA31048 | | | | 48 VDC | 1-1393224-3 | | |
| RYA32005 | | | AgNi 0.15 gold plated | 5 VDC | 1-1393224-4 | | |
| RYA32012 | | | | 12 VDC | 1-1393224-6 | | |
| RYA32024 | | | | 24 VDC | 1-1393224-8 | | |
| RYA33005 | | | | AgSnO ₂ | 5 VDC | 1-1393224-9 | |
| RYA33024 | | | 24 VDC | | 2-1393224-1 | | |

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