

SCHRACK MINIATURE POWER PCB RYII & RYII REFLOW SOLDERABLE

GENERAL PURPOSE RELAYS PCB RELAYS

INTRODUCTION

TE Connectivity (TE)'s Miniature Power PCB Relays RYII & RYII reflow is general purpose relay designed for various types of loads (e.g., resistive, inductive) with low component height. The relay is designed as 1 pole 8A with different contact variants: 1 form C (CO) or 1 form A (NO) or 1 form B (NC) contact.

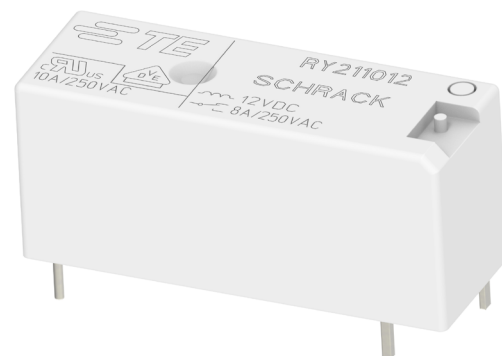
Other advantages include: high initial dielectric strength, reinforced insulation (protection class II) and the possibility of the relay to use for the reflow-solderable process.

FEATURES

- 1 pole 8A, 1 form C (CO) or 1 form A (NO) or 1 form B (NC) contact
- Low component height 12.3mm
- 5kV/8mm coil-contact
- Reinforced insulation (protection class II)
- Pinnings: 3.2mm and 5mm
- Reflow-solderable version
- Especially suitable for resistive and inductive loads on form A (NO) and form B (NC) contacts
- Plastic materials according to IEC 60335-1 (domestic appliances)

APPLICATIONS

- Heating control
- Interface technology
- Domestic appliances
- Timers
- Temperature control



APPROVALS

- VDE Cert. No. 40009639
- UL E214025

Technical data of approved types on request



Miniature Power PCB RYII & RYII Reflow Solderable

General Purpose Relays

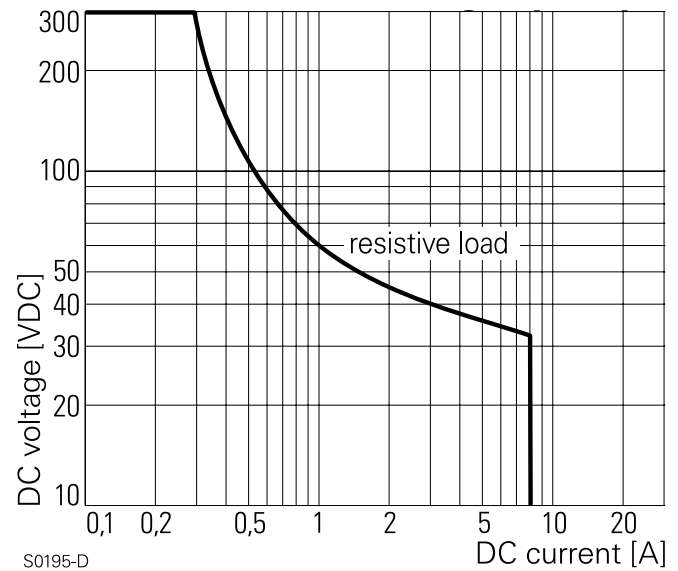
CONTACT DATA

| | |
|--|---|
| Contact arrangement | 1 form C (CO) or 1 form A (NO) or 1 form B (NC) |
| Rated voltage | 250VAC |
| Max. switching voltage | 400VAC |
| Rated current | 8A |
| Breaking capacity max. | 2000VA |
| Contact material | AgNi0.15, AgSnO ₂ |
| Frequency of operation, with/without load | 6/1200min-1 |
| Operate/release time max. | 9/5ms |
| Bounce time max., form A/form B | 6/10ms |

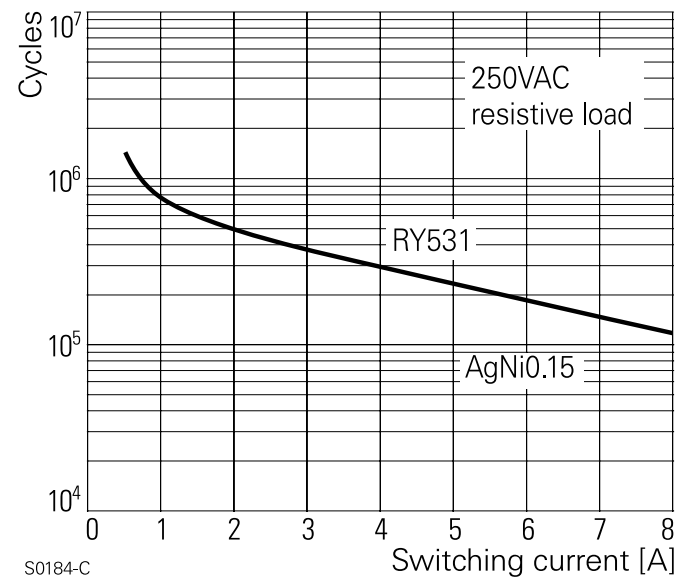
CONTACT RATINGS

| Type | Contact | Load | Cycles |
|----------------------------------|----------------|---------------------------------------|---------------------|
| IEC61810 | | | |
| RY531 | A (NO) | 8A, 250VAC, 70°C | 100x10 ³ |
| RY211 | A (NO) | 8A, 250VAC, 75°C | 100x10 ³ |
| RY211 | A (NO) | 8A, 250VAC, 85°C | 50x10 ³ |
| RY211 | B (NC) | 8A, 250VAC, 70°C | 50x10 ³ |
| UL61810-1 (UL508) | | | |
| RY211 | A/B (NO/NC) | 10A, 250VAC, general purpose, 70°C | 30x10 ³ |
| RY211 | A (NO) | 1/2hp, 240VAC, 85°C | 30x10 ³ |
| RY211 | B (NC) | B300, 70°C | 6x10 ³ |
| RY211 | A (NO) | 8A, 250VAC, 85°C | 100x10 ³ |
| RY211 | A (NO) | 8A, 24VDC, 85°C | 30x10 ³ |
| RY211 | A (NO) | B300, 85°C | 30x10 ³ |
| RY211 | A (NO) | C300, 105°C | 30x10 ³ |
| RY211 | A (NO) | 1/3 hp, 250VAC, 85°C | 30x10 ³ |
| RY211 | A (NO) | 1/4 hp, 120VAC, 70°C | 30x10 ³ |
| EN60730-1 | | | |
| RY211 | A/B (NO/NC) | 6(4)A, 250VAC, 85°C | 100x10 ³ |
| RY211 | A (NO) | 8(4)A, 250VAC, 75°C | 50x10 ³ |
| RY211 | A (NO) | 8(4)A, 250VAC, 85°C | 30x10 ³ |
| RY211 | A (NO) | 2(2)A, 250VAC, -40 / +105°C | 100x10 ³ |
| RY211 | C (CO) | 2(2)A, 250VAC, -40 / +105°C | 30x10 ³ |
| Mechanical endurance, DC coil | | 30x10 ⁶ operations | |

MAX. DC LOAD BREAKING CAPACITY



ELECTRICAL ENDURANCE



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General Purpose Relays

COIL DATA

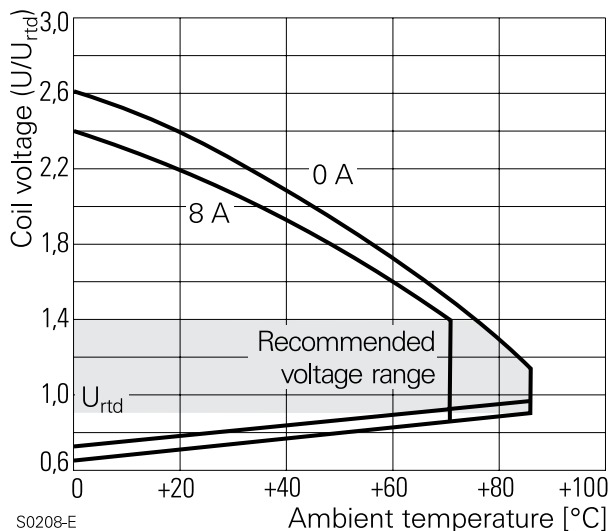
| | |
|----------------------------|------------|
| Coil voltage range | 5 to 60VDC |
| Operative range, IEC 61810 | 2 |

COIL VERSIONS, DC COIL

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------------------|---------------------|
| 005 | 5 | 3.5 | 0.5 | 112 | 223 |
| 006 | 6 | 4.2 | 0.6 | 162 | 222 |
| 009 | 9 | 6.3 | 0.9 | 320 | 253 |
| 012 | 12 | 8.4 | 1.2 | 627 | 230 |
| 024 | 24 | 16.8 | 2.4 | 2350 | 245 |
| 048 | 48 | 33.6 | 4.8 | 9391 | 245 |
| 060 | 60 | 42.0 | 6.0 | 14000 | 257 |

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

COIL OPERATING RANGE DC



INSULATION DATA

| | |
|------------------------------------|----------------------|
| Initial dielectric strength | |
| Between open contacts | 1000V _{rms} |
| Between contact and coil | 5000V _{rms} |
| Clearance/creepage | |
| Between contact and coil | ≥8/8mm |
| Material group of insulation parts | IIIa |
| Tracking index of relay base | PTI250 |
| Reflow-solderable version | PTI175 |

OTHER DATA

| | |
|--------------------------------------|--|
| Material compliance | EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter |
| Ambient temperature | -40 to +70°C +85°C at 6A |
| Category of environmental protection | |
| IEC 61810 | RTII - flux proof RTIII - wash tight ¹⁾ |
| Vibration resistance (functional) | |
| Form A (NO) / form B (NC) | 20/5g |
| Shock resistance (functional) | |
| Form A (NO) / form B (NC) | 20/5g |
| Shock resistance (destructive) | 100g |
| Terminal type | PCB-THT, PCB-THR |
| Weight | 8 g |
| Resistance to soldering heat THT | |
| IEC 60068-2-20 | RTII: 270°C/10s RTIII: 260°C/5s |
| Resistance to soldering heat THR | |
| IEC 60068-2-58 | 250°C, no infrared heating allowed |
| Packaging/unit | |
| standard version | tube/20 pcs., box/500 pcs. |
| reflow version | reel/280 pcs. box/1120 pcs. (4 reels) |

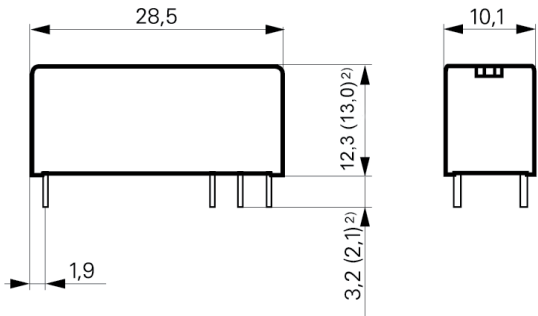
¹⁾ not available as reflow-solderable version

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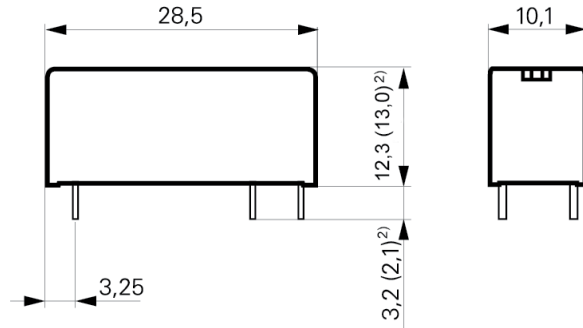
General Purpose Relays

DIMENSIONS

Pinning 3.2 mm



Pinning 5 mm

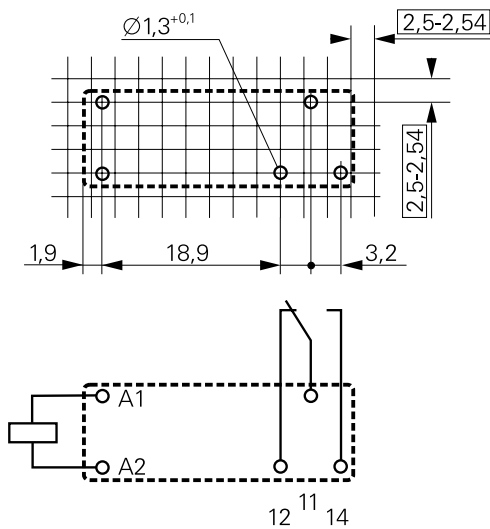


2) Values in brackets are valid for reflow-solderable version

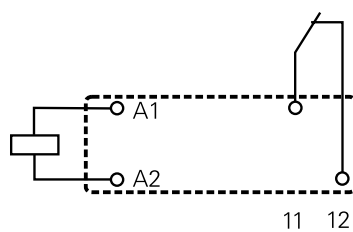
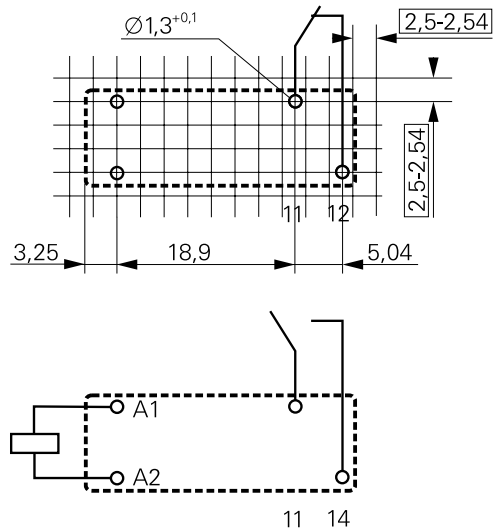
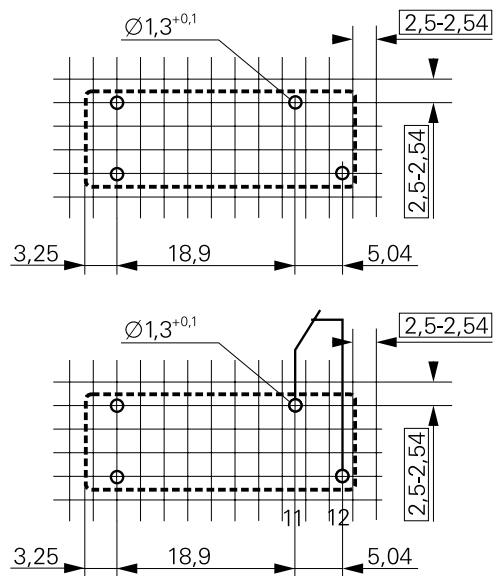
PCB LAYOUT / TERMINAL ASSIGNMENT

Bottom view on solder pins

1 form C (CO) contact, 3.2 mm



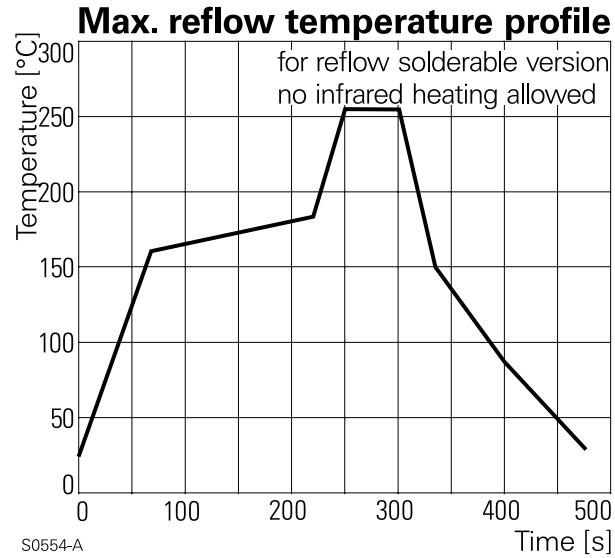
1 form A (NO), 1 form B (NC) contact 5 mm



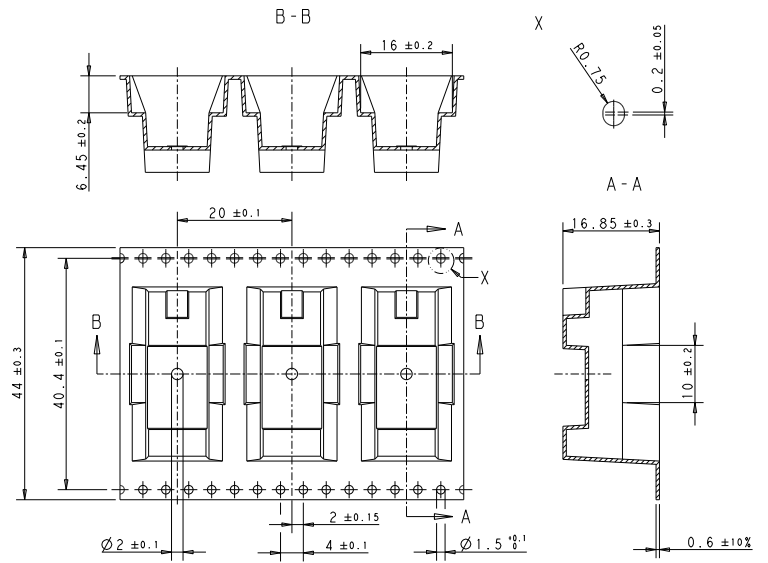
Miniature Power PCB RYII & RYII Reflow Solderable

General Purpose Relays

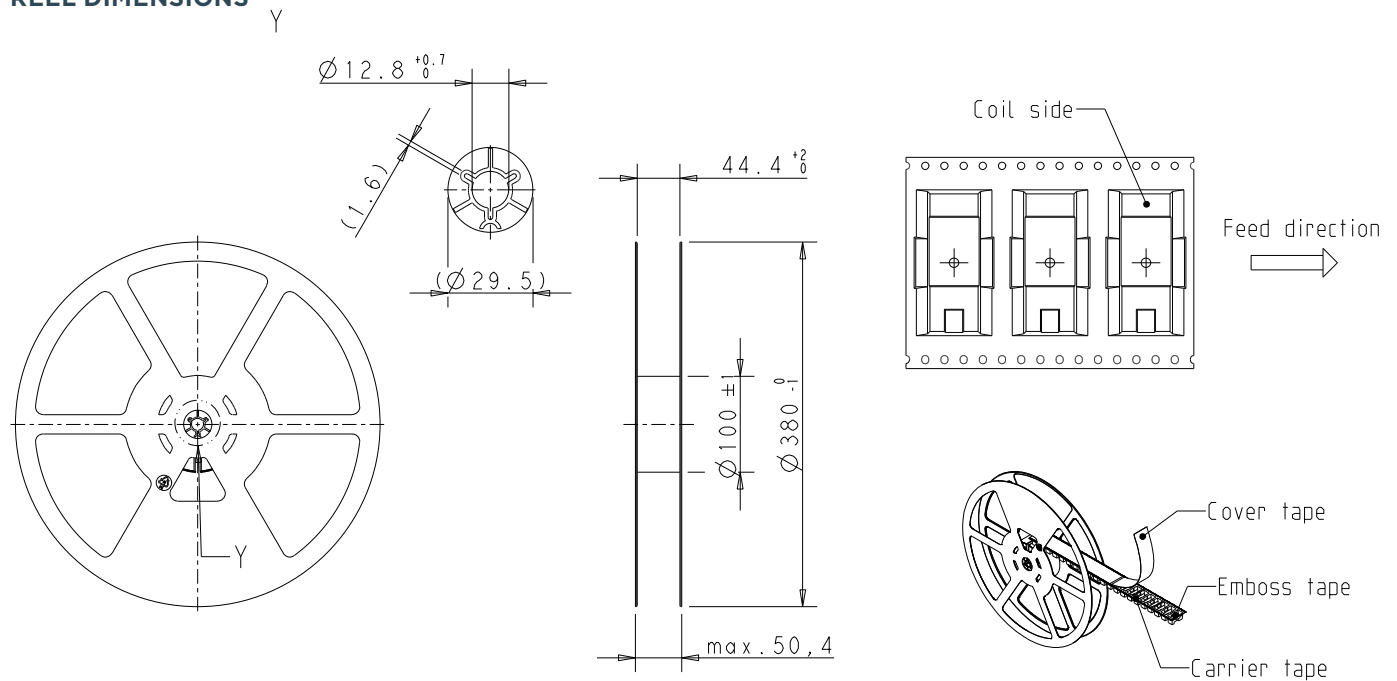
SOLDERING PROFILE FOR REFLOW-SOLDERABLE VERSION



TAPE DIMENSIONS



REEL DIMENSIONS



Miniature Power PCB RYII & RYII Reflow Solderable

General Purpose Relays

PRODUCT INFORMATION

| Product code | Version | Contacts | Contact material | Coil | TE Part Number |
|--------------|------------------------------|---------------------------|--------------------------|-------|----------------|
| RY211005 | Pinning 3.2 mm flux proof | 1 form C, 1 CO contact | AgNi 0.15 | 5VDC | 4-1393224-2 |
| RY211006 | | | | 6VDC | 4-1393224-3 |
| RY211012 | | | | 12VDC | 4-1393224-6 |
| RY211024 | | | | 24VDC | 4-1393224-9 |
| RY211048 | | | | 48VDC | 5-1393224-1 |
| RY212005 | | | AgNi 0.15 gold plated | 5VDC | 5-1393224-2 |
| RY212006 | | | | 6VDC | 5-1393224-3 |
| RY212012 | | | | 12VDC | 5-1393224-5 |
| RY212024 | | | | 24VDC | 5-1393224-8 |
| RY212048 | | | | 48VDC | 5-1393224-9 |
| RY213005 | | | AgSnO ₂ | 5VDC | 6-1393224-0 |
| RY213006 | | | | 6VDC | 9-1393224-0 |
| RY213012 | | | | 12VDC | 6-1393224-1 |
| RY213024 | | | | 24VDC | 6-1393224-2 |
| RY213048 | | | | 48VDC | 6-1393224-3 |
| RY531005 | Pinning 5 mm flux proof | 1 form A, 1 NO contact | AgNi 0.15 | 5VDC | 7-1393224-6 |
| RY531006 | | | | 6VDC | 7-1393224-7 |
| RY531012 | | | | 12VDC | 7-1393224-9 |
| RY531024 | | | | 24VDC | 8-1393224-2 |
| RY531048 | | | | 48VDC | 8-1393224-3 |
| RY532012 | | | AgNi 0.15 gold plated | 12VDC | 8-1393224-4 |
| RY532024 | | | | 24VDC | 8-1393224-5 |
| RY533006 | | | AgSnO ₂ | 6VDC | 8-1393224-6 |
| RY533012 | | | | 12VDC | 8-1393224-8 |
| RY533024 | | | | 24VDC | 8-1393224-9 |
| RY533048 | | | | 48VDC | 9-1393224-0 |
| | | | | | |
| RY611005 | Pinning 3.2 mm wash tight | 1 form C, 1 CO contact | AgNi 0.15 | 5VDC | 1-1393225-7 |
| RY611006 | | | | 6VDC | 1-1393225-8 |
| RY611012 | | | | 12VDC | 1-1393225-9 |
| RY611024 | | | | 24VDC | 2-1393225-1 |
| RY611048 | | | | 48VDC | 2-1393225-2 |
| RY612005 | | | AgNi 0.15 gold plated | 5VDC | 2-1393225-3 |
| RY612006 | | | | 6VDC | 2-1393225-4 |
| RY612012 | | | | 12VDC | 2-1393225-6 |
| RY612024 | | | | 24VDC | 2-1393225-9 |
| RY612048 | | | | 48VDC | 3-1393225-0 |
| RY613005 | | | AgSnO ₂ | 5VDC | 5-1419136-2 |
| RY613012 | | | | 12VDC | 3-1393225-1 |
| RY613024 | | | | 24VDC | 3-1393225-3 |
| RY613048 | | | | 48VDC | 3-1393225-4 |

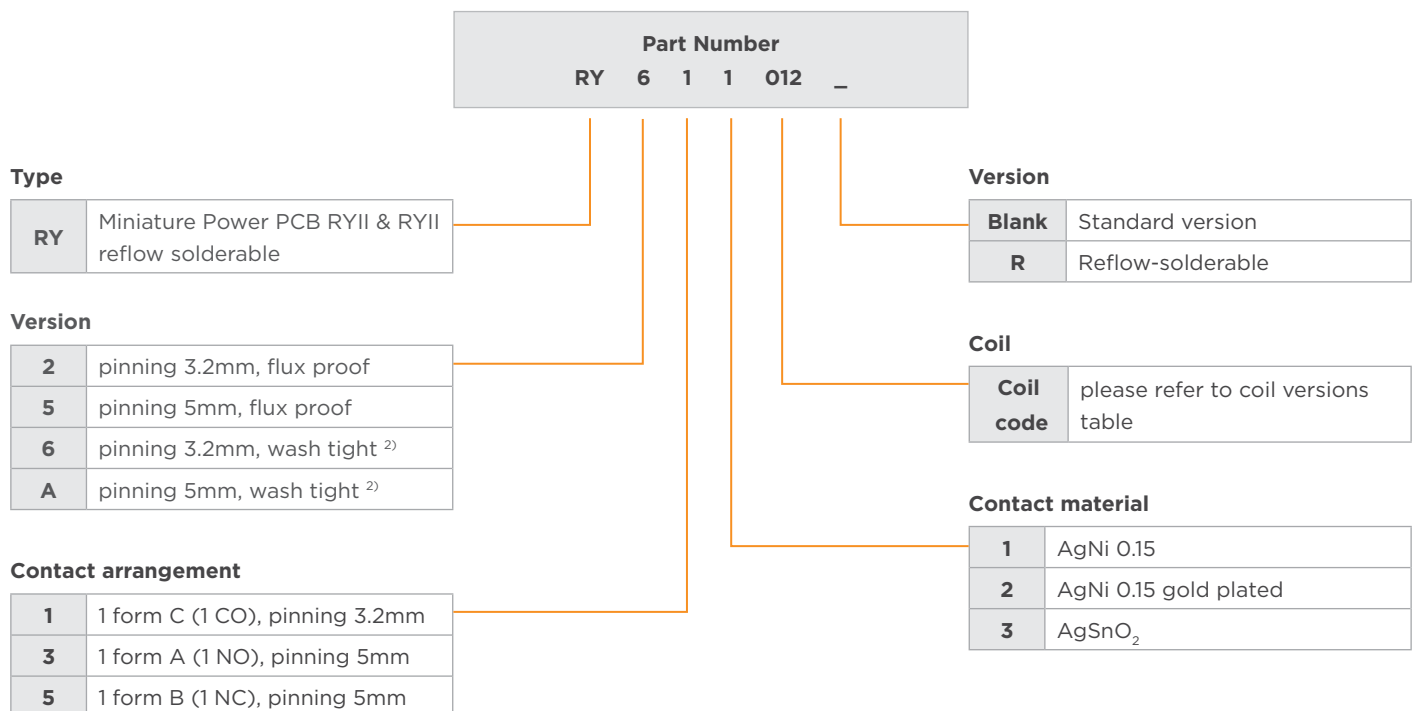
Miniature Power PCB RYII & RYII Reflow Solderable

General Purpose Relays

| Product code | Version | Contacts | Contact material | Coil | Part Number |
|--------------|---------------------------|---------------------------|--------------------------|--------------------|-------------|
| RY631024 | Pinning 3.2 mm wash tight | 1 form A, 1 NO contact | AgNi 0.15 | 24VDC | 4-1415400-1 |
| RYA31005 | Pinning 5 mm wash tight | | | 5VDC | 1393224-7 |
| RYA31006 | | | | 6VDC | 1393224-8 |
| RYA31012 | | | | 12VDC | 1393224-9 |
| RYA31024 | | | | 24VDC | 1-1393224-2 |
| RYA31048 | | | 48VDC | 1-1393224-3 | |
| RYA32005 | | | AgNi 0.15 gold plated | 5VDC | 1-1393224-4 |
| RYA32006 | | | | 6VDC | 8-1393224-8 |
| RYA32012 | | | | 12VDC | 1-1393224-6 |
| RYA32024 | | | | 24VDC | 1-1393224-8 |
| RYA33005 | | | | AgSnO ₂ | 5VDC |
| RYA33024 | 24VDC | | 2-1393224-1 | | |

| Product code | Version | Contacts | Contact material | Coil | Part Number |
|--------------|--|------------------------|------------------|-------|-------------|
| RY211005R | pinning 3.2mm flux proof reflow solderable | 1 form C, 1 CO contact | AgNi 0.15 | 5VDC | 1-1956170-2 |
| RY211012R | | | | 12VDC | 1-1956170-6 |
| RY211024R | | | | 24VDC | 1956164-1 |
| RY531005R | pinning 5.0mm flux proof reflow solderable | 1 form A, 1 NO contact | | 5VDC | 1-1956171-1 |
| RY531012R | | | | 12VDC | 1-1956171-4 |
| RY531024R | | | | 24VDC | 1-1956171-7 |

PRODUCT CODE STRUCTURE



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