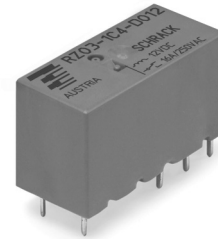


Power PCB Relay RZ

- 1 pole 12/16 A, 1 form C (CO) or 1 form A (NO) contact
- DC coil 400 mW
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C
- Product in accordance to IEC 60335-1
- Reflow version for THR mounting process



Typical applications
Household appliances, boiler control, timers, garage door control, POS automation



F0305-A

Approvals

VDE Cert. No. 40023970, UL E214025, CQC 12002066685
Technical data of approved types on request

| Contact Data | 12A | 16A |
|---|----------------------------------|--------|
| Contact arrangement | 1 form C (CO) or 1 form A (NO) | |
| Rated voltage | 250VAC | |
| Max. switching voltage | 400VAC | |
| Rated current | 12A | 16A |
| Limiting making current (form A contact) | | |
| max. 4s, duty factor 10% | 30A | |
| max. 20ms (incandescent lamp); AgSnO ₂ | 80A | |
| Breaking capacity max. | 3000VA | 4000VA |
| Contact material | AgNi 90/10 or AgSnO ₂ | |
| Frequency of operation, with/without load | 360/72000h ⁻¹ | |
| Operate/release time max. | 8/6ms | |
| Bounce time max., form A/form B | 4/10ms | |

Contact ratings for standard version

| Type | Contact | Load | Cycles |
|------------------|---------|---------------------|---------------------|
| IEC 61810 | | | |
| RZ03-1A4 | A (NO) | 16A, 250VAC, 85°C | 50x10 ³ |
| RZ03-1C4 | C (CO) | 16A, 250VAC, 85°C | 10x10 ³ |
| RZ01-1A3 | A (NO) | 12A, 250VAC, 85°C | 100x10 ³ |
| RZ01-1A4 | A (NO) | 12A, 250VAC, 85°C | 50x10 ³ |
| RZ01-1C4 | C (CO) | 12A, 250VAC, 85°C | 30x10 ³ |
| RZ01/3-1A4 | A (NO) | 10A, 250VAC, 85°C | 150x10 ³ |
| RZ0H-1A4 | A (NO) | 12A, 250VAC, 85°C | 150x10 ³ |
| RZ0H-1A4 | A (NO) | 16A, 250VAC, 85°C | 50x10 ³ |
| RZ0H-1A4 | A (NO) | 18A, 250VAC, 85°C | 30x10 ³ |
| UL 508 | | | |
| RZ03-1A. | A (NO) | 16A, 250VAC, 85°C | 50x10 ³ |
| RZ03-1A4 | A (NO) | 12A, 250VAC, 85°C | 150x10 ³ |
| RZ01-1A3 | A (NO) | 12A, 250VAC, 85°C | 50x10 ³ |
| RZ03-1.4 | A (NO) | B300, R300, 85°C | 6x10 ³ |
| RZ03-1.4 | A (NO) | 12A, 250VAC, 85°C | 100x10 ³ |
| RZ03-1.4 | A (NO) | 1/2HP, 125VAC, 85°C | 6x10 ³ |
| RZ03-1A. | A (NO) | 1HP, 277VAC, 85°C | 30x10 ³ |

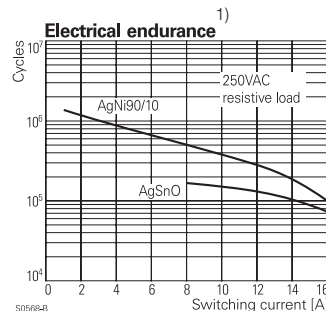
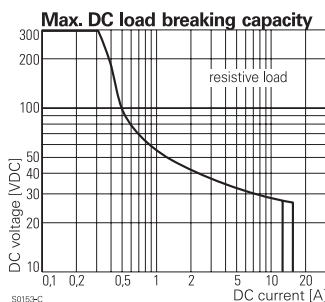
Contact ratings for RZ reinforced flux proof version

| Type | Contact | Load | Cycles |
|-------------------|---------|-------------------|--------------------|
| IEC 61810 | | | |
| RZ03-1C3-D...-R | A (NO) | 16A, 250VAC, 85°C | 30x10 ³ |
| RZ03-1C3-D...-R | C (CO) | 16A, 250VAC, 85°C | 6x10 ³ |
| RZ01-1C3-D...-R | A (NO) | 12A, 250VAC, 85°C | 30x10 ³ |
| RZ01-1C3-D...-R | C (CO) | 12A, 250VAC, 85°C | 6x10 ³ |
| RZ03-1C4-D...-R | A (NO) | 16A, 250VAC, 85°C | 30x10 ³ |
| RZ03-1C4-D...-R | C (CO) | 16A, 250VAC, 85°C | 6x10 ³ |
| RZ02/3-1C4-D...-R | A (NO) | 12A, 250VAC, 85°C | 50x10 ³ |
| RZ02/3-1C4-D...-R | C (CO) | 12A, 250VAC, 85°C | 20x10 ³ |
| UL 508 | | | |
| RZ03-1C3-D...-R | A (NO) | 16A, 277VAC, 85°C | 30x10 ³ |
| RZ03-1C3-D...-R | C (CO) | 16A, 277VAC, 85°C | 6x10 ³ |
| RZ01-1C3-D...-R | A (NO) | 12A, 277VAC, 85°C | 30x10 ³ |
| RZ01-1C3-D...-R | C (CO) | 12A, 277VAC, 85°C | 6x10 ³ |
| RZ03-1C4-D...-R | A (NO) | 16A, 277VAC, 85°C | 30x10 ³ |
| RZ03-1C4-D...-R | C (CO) | 16A, 277VAC, 85°C | 6x10 ³ |
| RZ02/3-1C4-D...-R | A (NO) | 12A, 277VAC, 85°C | 50x10 ³ |
| RZ02/3-1C4-D...-R | C (CO) | 12A, 277VAC, 85°C | 20x10 ³ |

Contact ratings for RZ reflow version

| Type | Contact | Load | Cycles |
|------------------|---------|----------------------|---------------------|
| IEC 61810 | | | |
| RZR3-1C4-D...-R | A (NO) | 16A, 250Vac, 85°C | 30x10 ³ |
| RZR1-1C4-D...-R | C (CO) | 12A, 250Vac, 85°C | 20x10 ³ |
| RZR1-1C4-D...-R | A (NO) | 12.5A, 400Vac, 85°C | 50x10 ³ |
| UL 508 | | | |
| RZR3-1C4-D...-R | A (NO) | 16A, 277Vac, 85°C | 30x10 ³ |
| RZR1-1C4-D...-R | C (CO) | 12A, 277Vac, 85°C | 30x10 ³ |
| RZR1-1C4-D...-R | A (NO) | 1HP, 277Vac, 85°C | 30x10 ³ |
| RZR3-1C4-D...-R | A (NO) | 1/8 HP, 120Vac, 85°C | 100x10 ³ |

Mechanical endurance >10x10⁶ operations



1) valid for standard cover version

Power PCB Relay RZ (Continued)

Coil Data

| | |
|---|------------|
| Coil voltage range | 3 to 48VDC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL1446 | class F |

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------------------|---------------------|
| D003 | 3 | 2.1 | 0.3 | 22 | 410 |
| D005 | 5 | 3.5 | 0.5 | 60 | 420 |
| D006 | 6 | 4.2 | 0.6 | 90 | 400 |
| D009 | 9 | 6.3 | 0.9 | 200 | 400 |
| D012 | 12 | 8.4 | 1.2 | 360 | 400 |
| D015 | 15 | 10.5 | 1.5 | 562 | 410 |
| D024 | 24 | 16.8 | 2.4 | 1440 | 400 |
| D048 | 48 | 33.6 | 4.8 | 5730 | 400 |

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

Insulation Data

| | |
|------------------------------------|-----------------------|
| Initial dielectric strength | |
| between open contacts | 1000V _{rms} |
| between contact and coil | 5000V _{rms} |
| Clearance/creepage | |
| between contact and coil | $\geq 10/10\text{mm}$ |
| Material group of insulation parts | IIIa |
| Tracking index of relay base | PTI250V |

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

| | |
|--|------------------------------|
| Resistance to heat and fire | |
| standard and reflow cover version | according EN 60335-1, par.30 |
| Ambient temperature | |
| standard version | -40 to 85°C |
| Category of environmental protection | |
| IEC 61810 | RTII - flux proof |
| Vibration resistance (functional), 30 to 500Hz | |
| closing form A contact | >15g |
| opening form A contact | >20g |
| opening form B contact | >5g |
| Shock resistance (destructive) | 100g |

Other Data

| | |
|------------------------------|---|
| Terminal type | |
| standard version | PCB -THT ²⁾ |
| reinforced sealed version | PCB -THT, plug-in |
| reflow version | PCB -THR |
| Mounting distance | $\geq 0\text{mm}$ |
| Weight | 10g |
| Resistance to soldering heat | |
| THT, IEC 60068-2-20 | RTII 270°C/10s |
| THR: reflow version forced | gas convection ³⁾ or vapour phase ⁴⁾ |
| temperature profile | according EN61730 |
| Packaging/unit | tube/20 pcs., box/500 pcs. |

2) The use of foaming flux is not permitted.

3) Infrared heating not allowed

4) Recommended fluid LS-230

5) only for reflow version 2,5mm

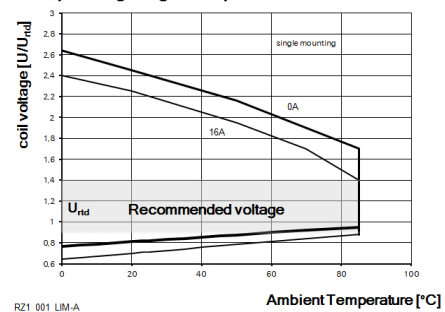
6) only for reflow version 15,7 +0,3/-0mm

Accessories

For details see datasheet [Accessories Industrial Power Relay RT](#)

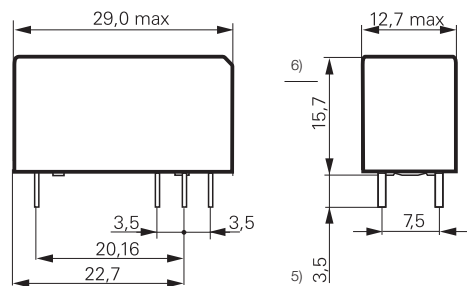
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Coil operating range RZ 1pol DC-coil



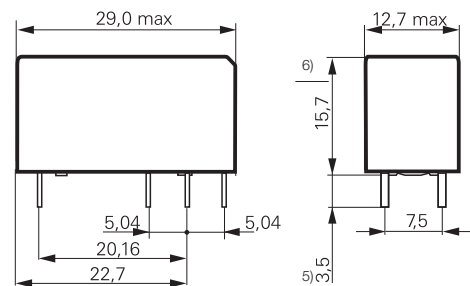
Dimensions

12A, pinning 3.5mm



S0557-AB

12A, 16A, pinning 5mm



S0557-AA

5) only for reflow version 2,5mm

6) only for reflow version 15,7 +0,3/-0mm

5) only for reflow version 2,5mm

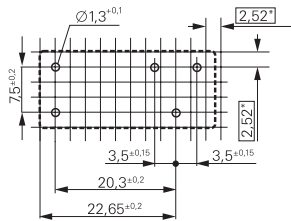
6) only for reflow version 15,7 +0,3/-0mm

Power PCB Relay RZ (Continued)

PCB layout / terminal assignment

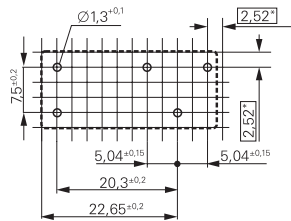
Bottom view on solder pins

12A, pinning 3.5mm



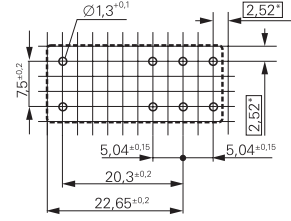
S0418-CB

12A, pinning 5mm



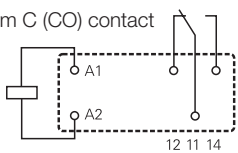
S0418-CN

16A, pinning 5mm



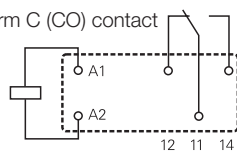
S0418-CA

1 form C (CO) contact



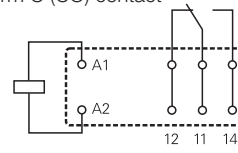
S0163-BG

1 form C (CO) contact



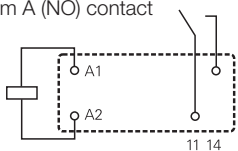
S0163-BC

1 form C (CO) contact



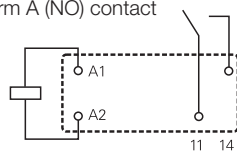
S0163-BE

1 form A (NO) contact



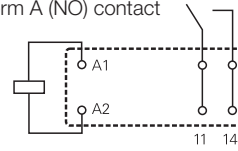
S0163-BH

1 form A (NO) contact



S0163-BD

1 form A (NO) contact

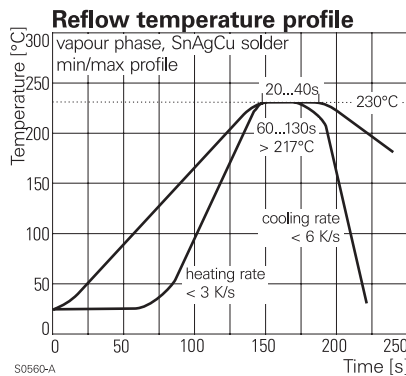


S0163-BF

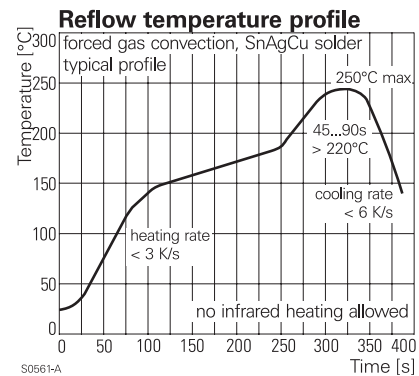
Process conditions for Reflow soldering
according to EN61760-1

Recommended pcb hole for manual mounting:
Ø1.3mm

For automated mounting please ask for
detailed drawing.



S0560-A



S0561-A

Product code structure

Typical product code

RZ 0 3 -1C 4 -D012

Type

RZ Power PCB Relay RZ

Version

0 standard version

R reflow version (only with AgNi contacts and reinforced cover)

Version

1 3.5mm pinning, 12 A

2 5mm pinning, 12 A

3 5mm double pinning, 16 A

H High Performance 5mm double pinning, 16 A

Contact configuration

1A 1 form A (1 NO) contact

1C 1 form C (1 CO) contact

Contact material

4 AgNi 90/10

3 AgSnO₂

Coil version

Coil code: please refer to coil versions table

Cover version

blank standard (hot-stamped)

R reinforced flux proof (epoxy) and Plug-In capable (only AgNi contact versions)

Power PCB Relay RZ (Continued)

| Product code | Version | Contacts | Contact material | Coil | Part number |
|-----------------|---|---------------|--------------------|-------|-------------|
| RZ01-1A3-D005 | 12A | 1 form A (NO) | AgSnO ₂ | 5VDC | 3-1415899-7 |
| RZ01-1A3-D006 | pinning 3.5mm | | | 6VDC | 3-1415899-8 |
| RZ01-1A3-D012 | | | | 12VDC | 3-1415899-9 |
| RZ01-1A3-D024 | | | | 24VDC | 4-1415899-0 |
| RZ01-1A3-D048 | | | | 48VDC | 4-1415899-1 |
| RZ01-1A4-D005 | | | AgNi 90/10 | 5VDC | 1415899-1 |
| RZ01-1A4-D006 | | | | 6VDC | 1415899-2 |
| RZ01-1A4-D009 | | | | 9VDC | 1415899-3 |
| RZ01-1A4-D012 | | | | 12VDC | 1415899-4 |
| RZ01-1A4-D024 | | | | 24VDC | 1415899-5 |
| RZ01-1A4-D048 | | | | 48VDC | 1415899-6 |
| RZ01-1C3-D005 | | 1 form C (CO) | AgSnO ₂ | 5VDC | 4-1415899-2 |
| RZ01-1C3-D006 | | | | 6VDC | 4-1415899-3 |
| RZ01-1C3-D012 | | | | 12VDC | 4-1415899-4 |
| RZ01-1C3-D024 | | | | 24VDC | 4-1415899-5 |
| RZ01-1C3-D048 | | | | 48VDC | 4-1415899-6 |
| RZ01-1C4-D005 | | | AgNi 90/10 | 5VDC | 1415899-7 |
| RZ01-1C4-D006 | | | | 6VDC | 1415899-8 |
| RZ01-1C4-D009 | | | | 9VDC | 1415899-9 |
| RZ01-1C4-D012 | | | | 12VDC | 1-1415899-0 |
| RZ01-1C4-D024 | | | | 24VDC | 1-1415899-1 |
| RZ01-1C4-D048 | | | | 48VDC | 1-1415899-2 |
| RZ03-1A3-D005 | 16A | 1 form A (NO) | AgSnO ₂ | 5VDC | 4-1415899-7 |
| RZ03-1A3-D006 | pinning 5mm | | | 6VDC | 4-1415899-8 |
| RZ03-1A3-D012 | | | | 12VDC | 4-1415899-9 |
| RZ03-1A3-D024 | | | | 24VDC | 5-1415899-0 |
| RZ03-1A3-D048 | | | | 48VDC | 5-1415899-1 |
| RZ03-1A4-D005 | | | AgNi 90/10 | 5VDC | 1-1415899-3 |
| RZ03-1A4-D006 | | | | 6VDC | 1-1415899-4 |
| RZ03-1A4-D009 | | | | 9VDC | 1-1415899-5 |
| RZ03-1A4-D012 | | | | 12VDC | 1-1415899-6 |
| RZ03-1A4-D024 | | | | 24VDC | 1-1415899-7 |
| RZ03-1A4-D048 | | | | 48VDC | 1-1415899-8 |
| RZ03-1C3-D005 | | 1 form C (CO) | AgSnO ₂ | 5VDC | 5-1415899-2 |
| RZ03-1C3-D006 | | | | 6VDC | 5-1415899-3 |
| RZ03-1C3-D012 | | | | 12VDC | 5-1415899-4 |
| RZ03-1C3-D024 | | | | 24VDC | 5-1415899-5 |
| RZ03-1C3-D048 | | | | 48VDC | 5-1415899-6 |
| RZ03-1C4-D005 | | | AgNi 90/10 | 5VDC | 1-1415899-9 |
| RZ03-1C4-D006 | | | | 6VDC | 2-1415899-0 |
| RZ03-1C4-D009 | | | | 9VDC | 2-1415899-1 |
| RZ03-1C4-D012 | | | | 12VDC | 2-1415899-2 |
| RZ03-1C4-D015 | | | | 15VDC | 8-1415899-2 |
| RZ03-1C4-D024 | | | | 24VDC | 2-1415899-3 |
| RZ03-1C4-D048 | | | | 48VDC | 2-1415899-4 |
| RZ03-1C4-D012-R | 16A, pinning 5mm | 1 form C (CO) | AgNi 90/10 | 12VDC | 7-1415899-7 |
| RZ03-1C4-D024-R | reinforced flux proof | | | 24VDC | 7-1415899-9 |
| RZ0H-1A4-D012 | 16A, pinning 5mm, High Performance | 1 form A (NO) | AgNi 90/10 | 12VDC | 9-1415899-4 |
| RZ03-1A3-D012-R | 16A, pinning 5mm, reinforced flux proof | 1 form A (NO) | AgSnO ₂ | 12VDC | 4-215800-2 |
| RZR3-1A4-D012 | 16A, pinning 5mm, reinforced flux proof and reflow solderable | 1 form A (NO) | AgNi90/10 | 12VDC | tbd |
| RZR3-1C4-D012 | 16A, pinning 5mm, reinforced flux proof and reflow solderable | 1 form C (CO) | AgNi90/10 | 12VDC | tbd |

This list represents the most common types and does not show all variants covered by this datasheet.
Other types on request

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[RZ01-1A4-D006](#)