

**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 <sub>2</sub> | 80A                              |        |
| Breaking capacity max.                            | 3000VA                           | 4000VA |
| Contact material                                  | AgNi 90/10 or AgSnO <sub>2</sub> |        |
| Frequency of operation, with/without load         | 360/72000h <sup>-1</sup>         |        |
| Operate/release time max.                         | 8/6ms                            |        |
| Bounce time max., form A/form B                   | 4/10ms                           |        |

**Contact ratings for standard version**

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

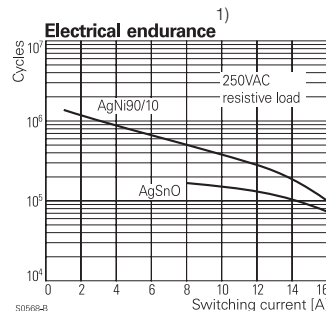
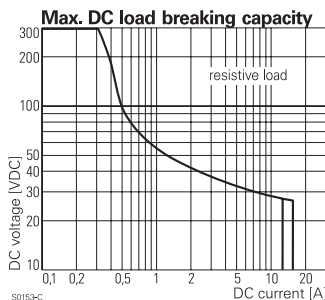
**Contact ratings for RZ reinforced flux proof version**

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

**Contact ratings for RZ reflow version**

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

Mechanical endurance >10x10<sup>6</sup> 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 <sub>rms</sub>  |
| between contact and coil           | 5000V <sub>rms</sub>  |
| 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/customersupport/rohssupportcenter](http://www.te.com/customersupport/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 <sup>2)</sup>  |
| 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 <sup>3)</sup><br>or vapour phase <sup>4)</sup> |
| temperature profile          | according EN61730   |
| Packaging/unit               | tube/20 pcs., box/500 pcs.                                    |

<sup>2)</sup> The use of foaming flux is not permitted.

<sup>3)</sup> Infrared heating not allowed

<sup>4)</sup> Recommended fluid LS-230

<sup>5)</sup> only for reflow version 2,5mm

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

**Accessories**

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

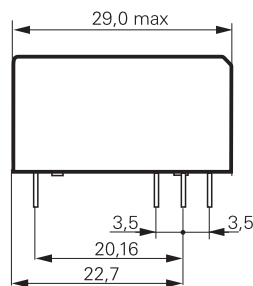
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**Coil operating range RZ 1pol DC-coil**



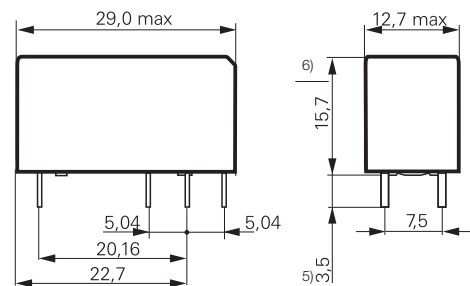
**Dimensions**

12A, pinning 3.5mm



S0557-AB

12A, 16A, pinning 5mm



S0557-AA

<sup>5)</sup> only for reflow version 2,5mm

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

<sup>5)</sup> only for reflow version 2,5mm

<sup>6)</sup> 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



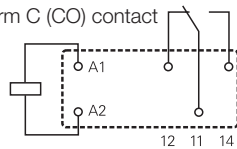
S0418-CA

1 form C (CO) contact



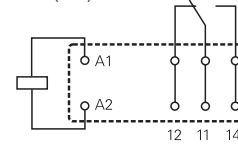
S0163-BG

1 form C (CO) contact



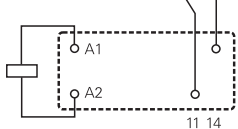
S0163-BC

1 form C (CO) contact



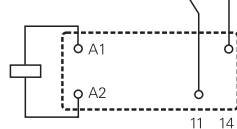
S0163-BE

1 form A (NO) contact



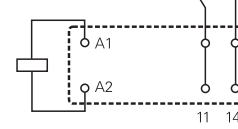
S0163-BH

1 form A (NO) contact



S0163-BD

1 form A (NO) contact

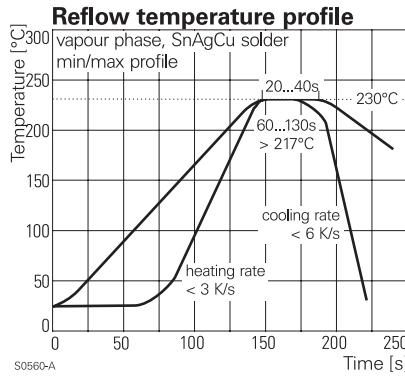


S0163-BF

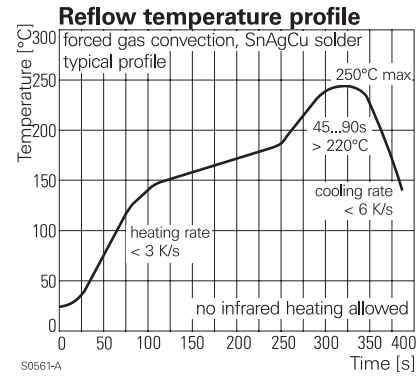
**Process conditions for Reflow soldering**  
according to EN61760-1

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** AgSnO<sub>2</sub>

**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 <sub>2</sub> | 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 <sub>2</sub> | 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 <sub>2</sub> | 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 <sub>2</sub> | 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,<br>High Performance                               | 1 form A (NO) | AgNi 90/10         | 12VDC | 9-1415899-4 |
| RZ03-1A3-D012-R | 16A, pinning 5mm,<br>reinforced flux proof                          | 1 form A (NO) | AgSnO <sub>2</sub> | 12VDC | 4-215800-2  |
| RZR3-1A4-D012   | 16A, pinning 5mm,<br>reinforced flux proof<br>and reflow solderable | 1 form A (NO) | AgNi90/10          | 12VDC | tbd         |
| RZR3-1C4-D012   | 16A, pinning 5mm,<br>reinforced flux proof<br>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

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