

Power PCB Relay RT2

- 2 pole 8A, 2 form C (CO) or 2 form A (NO) contacts
- DC or AC coil
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature up to 85°C
- WG version: product in accordance to IEC60335-1
- Reflow version: for THR (Through-Hole Reflow) soldering process



F0149-C



Typical applications

Boiler control, timers, garage door control, POS automation, interface modules

Approvals

VDE REG.-Nr. 6106, cULus E214025, cCSAus 14385, BEAB C0786
Technical data of approved types on request

Contact Data

| | |
|---|--|
| Contact arrangement | 2 form C (CO) or 2 form A (NO) |
| Rated voltage | 250VAC |
| Max. switching voltage | 400VAC |
| Rated current | 8A, UL: 10A |
| Limiting continuous current | 8A, UL: 10A |
| Limiting making current, max. 4s, duty factor 10% | 15A |
| Breaking capacity max. | 2000VA |
| Contact material | AgNi 90/10, AgNi 90/10 gold plated, AgSnO ₂ |
| Frequency of operation, with/without load | |
| DC coil | 360/72000h ⁻¹ |
| AC coil | 360/36000h ⁻¹ |
| Operate/release time max., DC coil | 8/6ms |
| Bounce time max., DC coil, form A/form B | 4/10ms |
| Electrical endurance | see electrical endurance graph ¹⁾ |

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------|--------------------------|--------------------|
| IEC 61810 | | | |
| RT424 DC coil | C (CO) | 8A, 250VAC, cosφ=1, 85°C | 10x10 ³ |
| RT444 AC coil | A (NO) | 8A, 250VAC, cosφ=1, 70°C | 50x10 ³ |
| RT424 AC coil | C (CO) | 8A, 250VAC, cosφ=1, 70°C | 30x10 ³ |

UL 508

| | | | |
|---------------|-------------|---------------------------------|--------------------|
| RT424 DC coil | A/B (NO/NC) | 10A, 250VAC, gen. purpose, 85°C | 20x10 ³ |
| RT424 DC coil | A/B (NO/NC) | 1/2hp, 240VAC, 85°C | 1x10 ³ |
| RT424 DC coil | A/B (NO/NC) | Pilot duty, B300, R300, 85°C | 6x10 ³ |

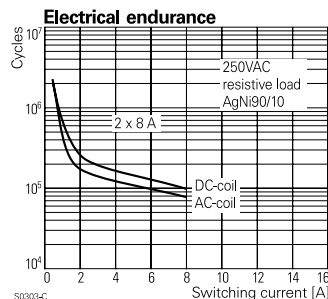
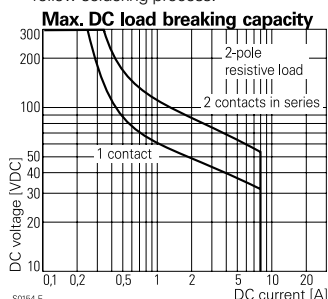
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| | | | |
|---------------|-------------|--------------------|-------|
| RTE24 DC coil | A/B (NO/NC) | AC15, 250VAC, 3A | 6.050 |
| RTE24 DC coil | A/B (NO/NC) | DC13, 24VDC, 2A | 6.050 |
| RTE24 DC coil | A/B (NO/NC) | DC13, 250VDC, 0.2A | 6.050 |

EN60730-1

| | | | |
|---------------|-------------|---------------------|---------------------|
| RT424 DC coil | A/B (NO/NC) | 6(2)A, 250VAC, 85°C | 100x10 ³ |
|---------------|-------------|---------------------|---------------------|

1) For reflow solderable versions: actual contact performance may be influenced by the reflow soldering process.



Contact Data (continued)

| | |
|-------------------------|--------------------------------|
| Mechanical endurance | |
| DC coil | >30x10 ⁶ operations |
| DC coil, reflow version | >10x10 ⁶ operations |
| AC coil | >5x10 ⁶ operations |
| AC coil, reflow version | >2x10 ⁶ operations |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range, DC coil/AC coil | 5 to 110VDC / 24 to 230VAC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL | class F |

Coil versions, DC coil

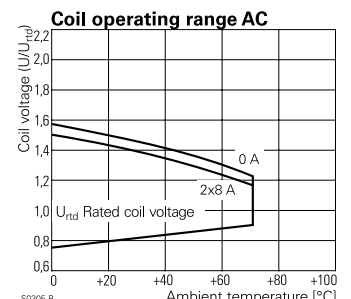
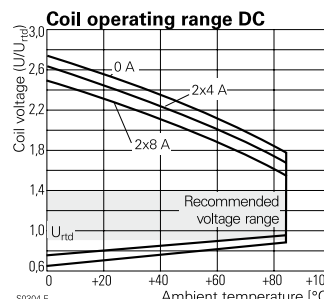
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% ²⁾ | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 005 | 5 | 3.5 | 0.5 | 62 | 403 |
| 006 | 6 | 4.2 | 0.6 | 90 | 400 |
| 009 | 9 | 6.3 | 0.9 | 200 | 400 |
| 012 | 12 | 8.4 | 1.2 | 360 | 400 |
| 024 | 24 | 16.8 | 2.4 | 1440 | 400 |
| 048 | 48 | 33.6 | 4.8 | 5520 | 417 |
| 060 | 60 | 42.0 | 6.0 | 8570 ²⁾ | 420 |
| 110 | 110 | 77.0 | 11.0 | 28800 ²⁾ | 420 |

2) Coil resistance ±12%. All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coil voltages on request.

Coil versions, AC coil 50Hz

| Coil code | Rated voltage VAC | Operate voltage VAC | Release voltage VAC | Coil resistance Ω±15% ³⁾ | Rated coil power VA |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 524 | 24 | 18.0 | 3.6 | 350 ³⁾ | 0.76 |
| 615 | 115 | 86.3 | 17.3 | 8100 | 0.76 |
| 620 | 120 | 90.0 | 18.0 | 8800 | 0.75 |
| 700 | 200 | 150.0 | 30.0 | 24350 | 0.76 |
| 730 | 230 | 172.5 | 34.5 | 32500 | 0.74 |

3) Coil resistance ±10%. All figures are given for coil without pre-energization, at ambient temperature +23°C, 50Hz. Other coil voltages on request.



Power PCB Relay RT2 (Continued)

Insulation Data

| | |
|------------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1000V _{rms} |
| between contact and coil | 5000V _{rms} |
| between adjacent contacts | 2500V _{rms} |
| Clearance/creepage | |
| between contact and coil | ≥10/10mm |
| between adjacent contacts | ≥3/4mm |
| Material group of insulation parts | |
| Tracking index of relay base | PTI 250V |
| reflow version | PTI 175V |

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.com/customersupport/rohssupportcenter

| | |
|---|---------------------------------------|
| Resistance to heat and fire | |
| WG version or reflow version | according EN60335, par30 |
| Ambient temperature | |
| DC coil | -40 to 85°C |
| AC coil | -40 to 70°C |
| AgSnO ₂ contacts | -40 to 70°C |
| Category of environmental protection, IEC 61810 | |
| standard version | RTII - flux proof, RTIII - wash tight |
| reflow version | RTII - flux proof |
| Vibration resistance (functional), form A/form B contact, 30 to 300Hz | |
| | 20g/5g |
| Shock resistance (destructive) | |
| | 100g |

Other Data (continued)

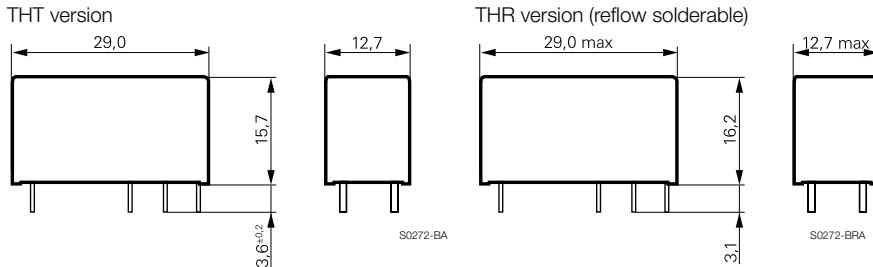
| | |
|--|---|
| Terminal type | PCB-THT, plug-in |
| reflow version | PCB-THR |
| Mounting distance, AC coil | ≥2.5mm |
| Weight | 13g |
| Resistance to soldering heat THT, IEC 60068-2-20 | |
| RTII | 270°C/10s |
| RTIII | 260°C/5s |
| Resistance to soldering heat THR | |
| reflow soldering (for reflow version) | forced gas convection ⁴⁾ or vapour phase ⁵⁾ |
| temperature profile | according EN61730 |
| Packaging/unit | tube/20pcs., box/500pcs. |

4) infrared heating not allowed
5) recommended fluid LS/230

Accessories

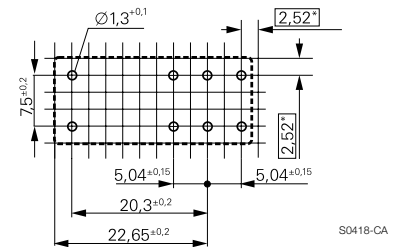
For details see datasheet [Accessories Industrial Power Relay RT](#)
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Dimensions



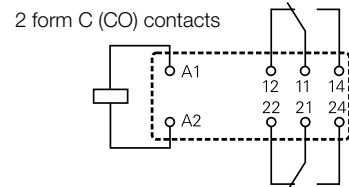
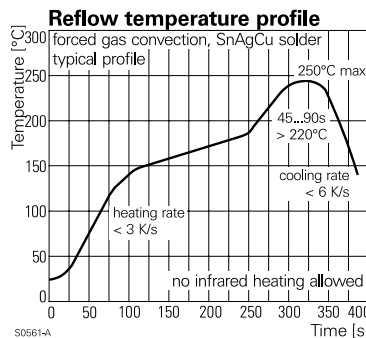
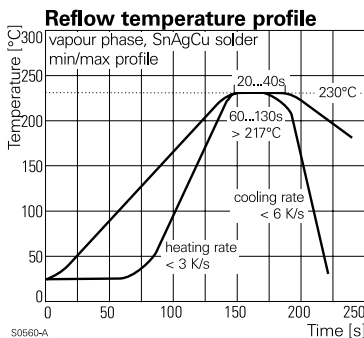
PCB layout / terminal assignment

Bottom view on solder pins

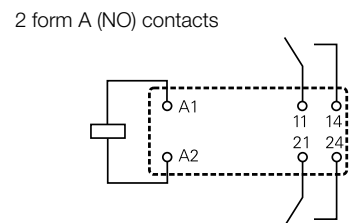


*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

Process conditions for Reflow soldering
according to EN61760-1



S0163-BJ



S0163-BK

Power PCB Relay RT2 (Continued)

| | | | | | | | |
|-------------------------------|--|---|-----------|----------|----------|----------|------------|
| Product code structure | | Typical product code | RT | 4 | 2 | 4 | 024 |
| Type | | RT Power PCB Relay RT2 | | | | | |
| Version | | 4 8A, pinning 5mm, flux proof E 8A, pinning 5mm, wash tight (not for Reflow version) | | | | | |
| Contact arrangement | | 2 2 form C (CO) contacts 4 2 form A (NO) contacts | | | | | |
| Contact material | | 3 AgSnO 4 AgNi 90/10 5 AgNi 90/10 gold plated | | | | | |
| Coil | | Coil code: please refer to coil versions table | | | | | |
| Version | | Blank Standard version WG Product in accordance with IEC 60335-1 (domestic appliances) R Reflow solderable | | | | | |

| Product code | Version | Contacts | Contact material | Coil | Version | Part number |
|--------------|--------------|------------------------|------------------|--------|----------------------|-------------|
| RT423730 | 8A, | 2 form C (CO) contacts | AgSnO | 230VAC | Standard | 4-1393243-3 |
| RT424005 | pinning 5mm, | | AgNi 90/10 | 5VDC | | 5-1393243-9 |
| RT424006 | flux proof | | | 6VDC | | 6-1393243-1 |
| RT424012 | | | | 12VDC | | 6-1393243-3 |
| RT424012WG | | | | | IEC60335-1 compliant | 7-1415538-8 |
| RT424024 | | | | 24VDC | Standard | 6-1393243-8 |
| RT424024WG | | | | | IEC60335-1 compliant | 7-1415538-7 |
| RT424048 | | | | 48VDC | Standard | 7-1393243-0 |
| RT424060 | | | | 60VDC | | 7-1393243-3 |
| RT424110 | | | | 110VDC | | 7-1393243-5 |
| RT424524 | | | | 24VAC | | 7-1393243-6 |
| RT424615 | | | | 115VAC | | 7-1393243-8 |
| RT424730 | | | | 230VAC | | 7-1393243-9 |
| RT425003 | | | AgNi 90/10 | 3VDC | | 7-1415525-1 |
| RT425005 | | | gold plated | 5VDC | | 8-1393243-0 |
| RT425012 | | | | 12VDC | | 8-1393243-2 |
| RT425024 | | | | 24VDC | | 8-1393243-5 |
| RT444012 | | 2 form A (NO) contacts | AgNi 90/10 | 12VDC | | 9-1393243-7 |
| RT444024 | | | | 24VDC | | 9-1393243-9 |
| RTE24005 | 8A, | 2 form C (CO) contacts | | 5VDC | | 1393243-1 |
| RTE24006 | pinning 5mm, | | | 6VDC | | 1393243-2 |
| RTE24012 | wash tight | | | 12VDC | | 1393243-4 |
| RTE24024 | | | | 24VDC | | 1-1393243-0 |
| RTE24048 | | | | 48VDC | | 1-1393243-1 |
| RTE24110 | | | | 110VDC | | 1-1393243-4 |
| RTE24524 | | | | 24VAC | | 1-1393243-5 |
| RTE24615 | | | | 115VAC | | 1-1393243-7 |
| RTE24730 | | | | 230VAC | | 1-1393243-8 |
| RTE25005 | | | AgNi 90/10 | 5VDC | | 1-1393243-9 |
| RTE25012 | | | gold plated | 12VDC | | 2-1393243-0 |
| RTE25024 | | | | 24VDC | | 2-1393243-1 |
| RTE25524 | | | | | | 2-1393243-4 |
| RTE43009 | | 2 form A (NO) contacts | AgSnO | 9VDC | | 4-1415535-1 |
| RTE44009 | | | AgNi 90/10 | | | 3-1393243-1 |
| RTE44730 | | | | 230VAC | | 3-1393243-5 |

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