



**THE DATASHEET OF
RY210012**



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

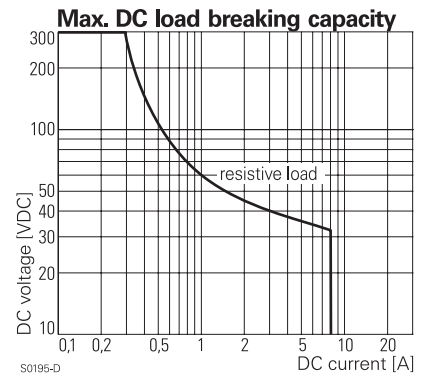
Coil data

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

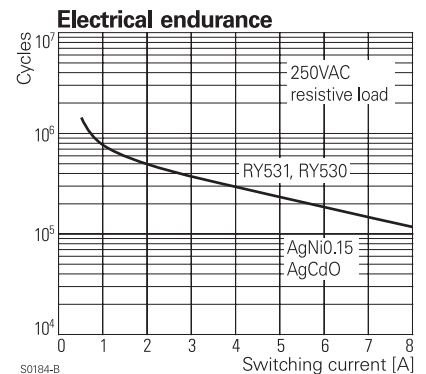
Coil versions, DC-coil

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

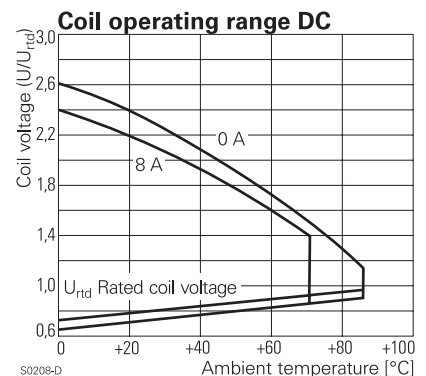
All figures are given for coil without preenergization, at ambient temperature +23°C
 Other coil voltages on request



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

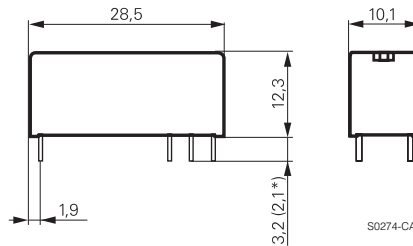
Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0403
Flammability class according to UL94	V-0
GWFI to IEC 60335-1	> 850 °C**
GWT to IEC 60335-1	> 750 °C**
Ambient temperature range	-40...+70°C
Ambient temperature max.	85°C at 6A
Operate- / release time	typ. 7 / 3 ms
Bounce 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

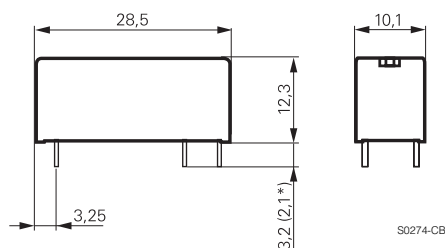
* reflow-solderable version
 ** not as reflow-solderable version

Dimensions

Pinning 3.2 mm



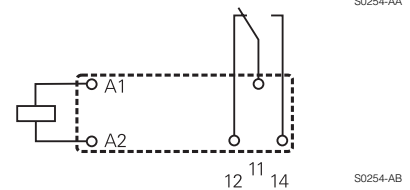
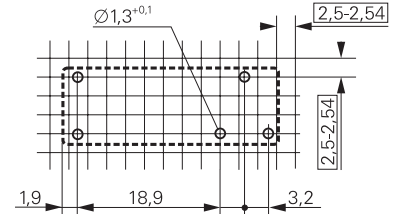
Pinning 5 mm



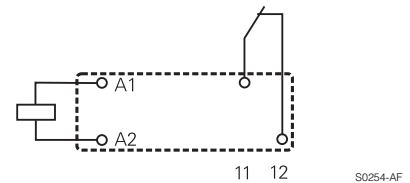
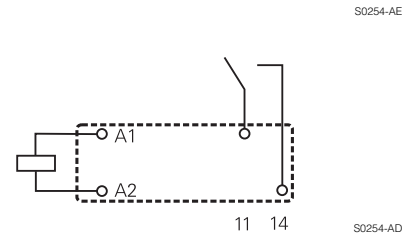
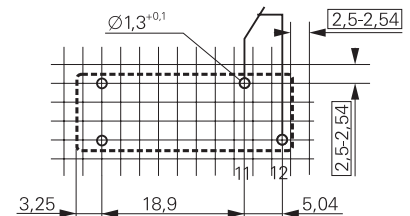
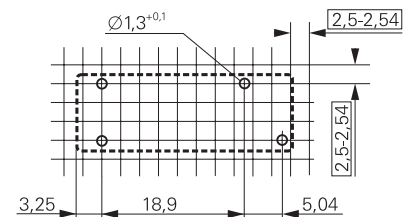
PCB layout / terminal assignment

Bottom view on solder pins

1 CO contact, 3.2 mm

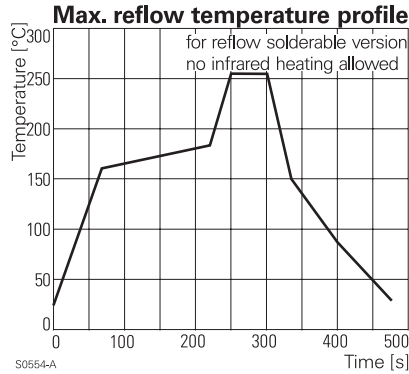


1 NO, 1 NC contact 5 mm

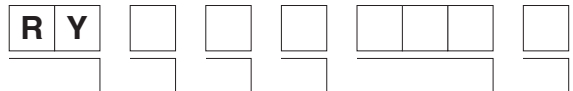


Miniature Power PCB RY II & RY II reflow-solderable (Continued)

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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