Power PCB Relay RT1 Inrush Power

- **1 pole 16 A, 1 NO contact (W pre-make contact + $AgSnO_2$)**
- **10 A / 250 VAC making and breaking capacity acc. to IEC 60669-1**
- **165 A / 20 ms inrush peak current**
- **Mono- or bistable coil**
- **5 kV / 10 mm coil-contact**
- **Reinforced insulation**
- **Optional test tab (manual operator)**
- **RoHS compliant (Directive 2002/95/EC)**

Applications

Lighting systems, movement sensors, filament and incandescent lamp loads, motors

F0272-A

Approvals

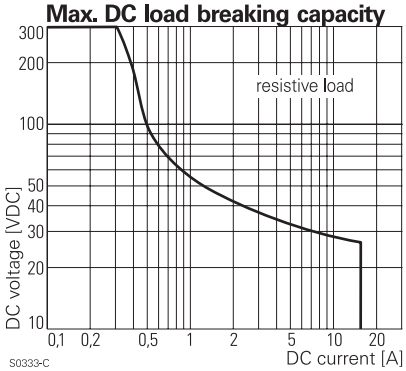
VDE REG.-Nr. 6106, cULus E214025, cSPus 14385
Technical data of approved types on request

Contact data	RT.3T	RTS3L
Contact configuration	1 NO	
Contact set	pre-make contact	single contact
Type of interruption	micro disconnection	
Rated current	16 A	
Rated voltage / max.switching voltage AC	250/400 VAC	
Limiting continuous current	16 A	
Maximum breaking capacity AC	4000 VA	
Limiting making capacity		
max 20 ms (incandescent lamps)	165 A	120 A
max 200 µs (fluorescent lamps)	800 A	-
Contact material	W (pre-make cont.)+$AgSnO_2$	$AgSnO_2$
Mechanical endurance DC	> $5x10^6$ cycles	> $10x10^6$ cycles
bistable	> $3x10^6$ cycles	> $5x10^6$ cycles
tab manually operated	> 10^3 cycles	-
Rated frequency of operation with / without load	6 / 60 min^{-1}	

Contact ratings

Type	Load	Cycles
RTS3T	3000 W, 230 VAC, DF 8,3%, 5 min^{-1}, incandescent lamp	typ. $12x10^3$
RT*3T	16 A, 250 VAC, capacitive load 140 µF, 7,5 min^{-1}, EN60669-1	> $20x10^3$
RT*3T	TV5, UL508, 40°C	$25x10^3$
RTS3L	16 A, 250 VAC, 85°C	> $100x10^3$
RTS3L	1.5 hp, 240 VAC	
RTS3L	TV8, UL508, 40°C	$25x10^3$
RTS3L	10/100 A / 250 VAC, simulated lamp load, acc. to IEC 61810-2	$20x10^3$

Max. DC load breaking capacity



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Coil data

Coil data, monostable coil

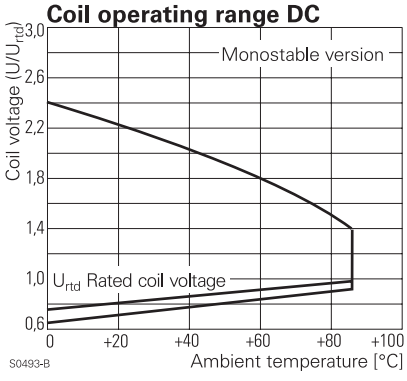
Rated coil voltage range	5...110 VDC
Coil power	typ 400 mW
Operative range	2
Coil insulation system according UL1446	class F

Coil versions, monostable DC-coil

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

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

Coil operating range DC



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Datasheet Rev. HG1
Issued 2008/07
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Specifications subject to change.

Power PCB Relay RT1 Inrush Power (Continued)

Coil data, bistable coils	1 coil	2 coils
Rated coil voltage range	3...24 VDC	
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

Coil versions, bistable 1 coil

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
A03	3	2.1	1.7	21±10%	429
A12	12	8.4	6.6	360±10%	400
A24	24	16.8	13.2	1440±10%	400
Coil versions, bistable 2 coils					
F03	3	2.1	1.7	15±10%	600
F12	12	8.4	6.6	240±10%	600
F24	24	16.8	13.2	886±10%	650

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

Coils - operation

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-		+	-
Reset	-	+	-	+	

Contact position not defined at delivery

Insulation		
Dielectric strength coil-contact circuit	5000 V_{rms}	
open contact circuit	1250 V_{rms}	
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm	
Material group of insulation parts	IIIa	
Tracking index of relay base	PTI 250 V	
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	reinforced	
open contact circuit	micro disconnection	
Rated insulation voltage	250 V	
Pollution degree	3	2
Rated voltage system	250 V	400 V
Overvoltage category	III	

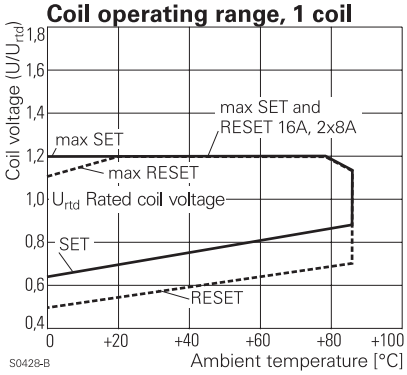
Other data		RT.3T	RTS3L
RoHS - Directive 2002/95/EC		compliant	
Ambient temperature range	monostable	-40...+70°C	-40...+85°C
	bistable: 1 coil	-10...+70°C	-10...+85°C
	bistable: 2 coils	-40...+70°C	-40...+85°C
Vibration resistance (function) monostable		10 g	20 g
Shock resistance (destruction)		100 g	
Category of protection		RTII - flux proof	
Mounting		pcb or on socket*)	
Mounting distance		0 mm	
Resistance to soldering heat		270 °C / 10 s	
Relay weight with / without test tab		16 / 14 g	- / 14 g
Packaging unit with / without test tab		100 / 500 pcs	- / 500 pcs

*) RTT3T or bistable 2 coil version, pcb mounting only; see Accessories

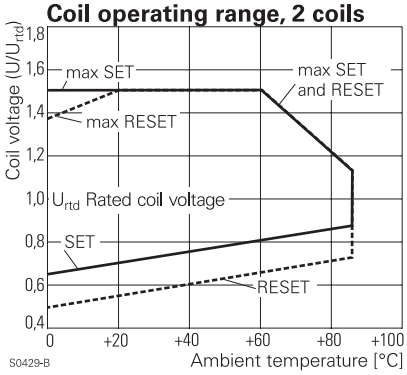
Accessories RTS3.

For details see datasheet — Accessories Power Relay RT

Coil operating range, 1 coil

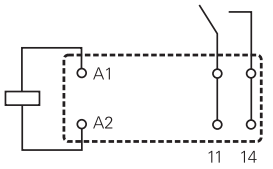


Coil operating range, 2 coils

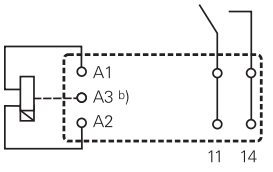


Terminal assignment
Bottom view on solder pins

monostable version



bistable version



a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

Datasheet Rev. HG1
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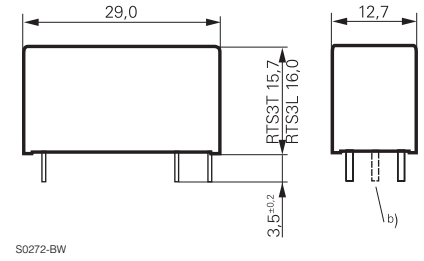
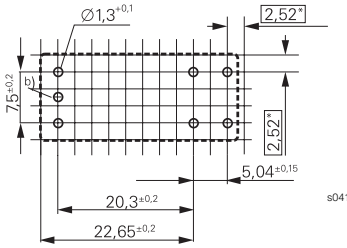
Dimensions / PCB layout

version without test tab

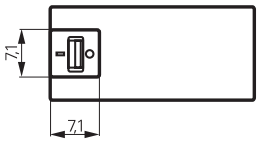


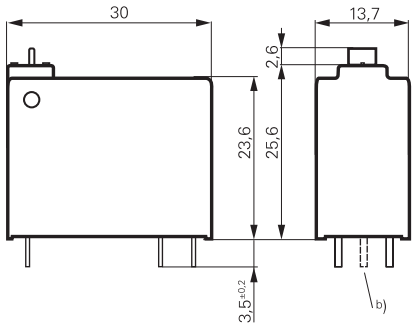
16 A, pinning 5 mm

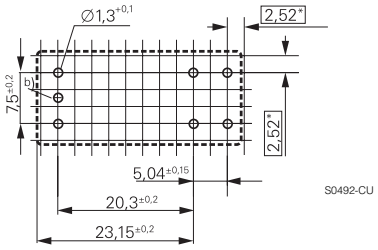


b) for 2 coil version only

version with test tab







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

Product key

R	T		3				

Type

Version
- **S** without test tab
- **T** with test tab (manual operator) for contact material 'T' and bistable coil only

Contact configuration
- **3** 1 NO contact

Contact material
- **L** $AgSnO_2$
- **T** Tungsten (W) pre-make + $AgSnO_2$

Coil
- Coil code: please refer to coil versions table

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Power PCB Relay RT1 Inrush Power (Continued)

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RTS3L005	without	1 NO contact	$AgSnO_2$	monostable	5 VDC	1-1415898-8
RTS3L012	test tab			coil	12 VDC	1-1415898-9
RTS3L018					18 VDC	2-1415898-0
RTS3L024					24 VDC	1-1415898-4
RTS3L048					48 VDC	2-1415898-1
RTS3L060					60 VDC	2-1415898-2
RTS3LA12				bistable	12 VDC	2-1415898-3
RTS3LA24				1-coil	24 VDC	2-1415898-4
RTS3LF12				bistable	12 VDC	2-1415898-5
RTS3LF24				2-coils	24 VDC	2-1415898-6
RTS3T012			W pre-make +	monostable	12 VDC	0-1415898-0
RTS3T024			$AgSnO_2$	coil	24 VDC	0-1415898-1
RTS3TA12				bistable	12 VDC	0-1415898-2
RTS3TA24				1-coil	24 VDC	0-1415898-3
RTS3TF03				bistable	3 VDC	0-1415898-4
RTS3TF12				2-coils	12 VDC	0-1415898-5
RTS3TF24					24 VDC	0-1415898-6
RTT3TA12	with			bistable	12 VDC	0-1415898-7
RTT3TA24	test tab			1-coil	24 VDC	0-1415898-8
RTT3TF12				bistable	12 VDC	0-1415898-9
RTT3TF24				2-coils	24 VDC	1-1415898-0

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