

Power PCB Relay RT1

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- **■** DC or AC coil
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C (DC coil)
- WG version: product in accordance to IEC 60335-1
- Reflow version: for THR (Through-Hole Reflow) soldering process



F0144-C









Typical applications

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

Approvals

VDE REG.-Nr. 6106, UL E214025, cCSAus 14385, BEAB C0786

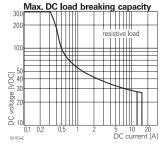
Technical data of approved types on request

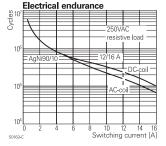
Contact Data	12A	16A
Contact arrangement	1 form C (CO)	or 1 form A (NO)
Rated voltage	25	OVAC
Max. switching voltage	40	OVAC
Rated current	12A	16A
Limiting continuous current	12A	16A, UL: 20A
Limiting making current		
max. 4s, duty factor 10%	25A	30A
Breaking capacity max.	3000VA	4000VA
Contact material	AgNi 90/10, Ag	Ni 90/10 gold plated
Frequency of operation, with/without	load	
DC coil	360/7	'2000h ⁻¹
_ AC coil	360/3	6000h ⁻¹
Operate/release time max., DC coil	8/	6ms
Bounce time max., DC coil, form A/fo	orm B 4/	6ms
Electrical endurance	see electrical e	ndurance graph ¹⁾

Со	nta	ct	ratir	igs

Contact rating	js		
Type	Contact	Load	Cycles
IEC 61810			
RT314 DC-coil	A (NO)	16A, 250VAC, cosφ=1, 85°C	$30x10^3$
RT314 DC-coil	C (CO)	16A, 250VAC, cosφ=1, 85°C	10x10 ³
RT314 DC-coil	A (NO)	10A, 400VAC, cosφ=1, 85°C	150x10 ³
RT114 DC-coil	A (NO)	12A, 250VAC, cosφ=1, 85°C	50x10 ³
RT114 AC-coil	A (NO)	12A, 250VAC, cosφ=1, 70°C	100x10 ³
UL 508			
RT314	A/B (NO/NC)	20A, 250VAC, general purpose, 85°	C 6x10 ³
RT334	A (NO)	16A, 250VAC, gen. purpose, 85°C	50x10 ³
RT314	A (NO)	1hp, 240VAC, 40°C	1x10 ³
EN60947-5-1			
RT314 DC-coil	A/B (NO/NC)	2A, 24VDC, DC13	6.050
EN60730-1			
RT314 DC-coil	A (NO)	12(2)A, 250VAC, 85°C	100x10 ³
1) For reflect colds	roble versiones es	atual contact performance may be influence	od by the

reflow soldering process.





Contact Data (continued)	
Mechanical endurance	
DC coil	>30x10 ⁶ operations
AC coil	>10x10 ⁶ operations
AC coil, reflow version	>5x10 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

Con versions, DC con	ons, DC co	oil
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Coil	Rated	Operate	Release	Coil	Rated coil
code	voltage	voltage	voltage	resistance	power
	VDC	VDC	VDC	$\Omega \pm 10\%^{2)}$	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	85702)	420
110	110	77.0	11.0	28800 ²⁾	420

2) Coil resistance ±12%

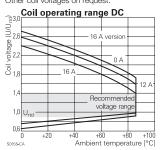
All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coil voltages on request

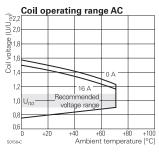
Coil versions, AC coil 50Hz

	,				
Coil	Rated	Operate	Release	Coil	Rated coil
code	voltage	voltage	voltage	resistance	power
	VAC	VAC	VAC	$\Omega \pm 15\%^{(3)}$	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, 50 Hz. Other coil voltages on request.





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Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.



Power PCB Relay RT1 (Continued)

Insulation Data	
Initial dielectric strength	
between open contacts	1000V _{rms}
between contact and coil	5000V _{rms}
Clearance/creepage	
between contact and coil	≥10/10mm
Material group of insulation parts	Illa
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.te.com/customersupport/rohssupportcenter

according EN60335, par30

Resistance to heat and fire WG version or Reflow version

Ambient temperature -40 to 85°C

DC coil AC coil -40 to 70°C

Category of environmental protection, IEC 61810 standard version RTII - flux proof, RTIII - wash tight RTII - flux proof reflow version

Vibration resistance (functional)

form A/form B contact, 30 to 500Hz 20g/5g Shock resistance (destructive) 100g

Other Data (continued) Terminal type standard version PCB-THT, plug-in reflow version PCB-THR Mounting distance AC coil: ≥2.5mm Weight 14g Resistance to soldering heat THT, IEC 60068-2-20 270°C/10s 260°C/5s Resistance to soldering heat THR

reflow soldering (for reflow version)

forced gas convection 4) or vapour phase 5) according EN61730 temperature profile Packaging/unit tube/20 pcs., box/500 pcs

4) infrared heating not allowed

5) recommended fluid LS/230

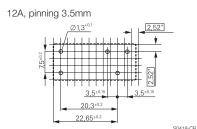
Accessories

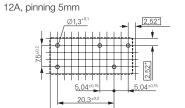
For details see datasheet Accessories Industrial Power Relay RT NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply

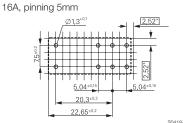
PCB layout / terminal assignment

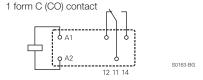
Bottom view on solder pins

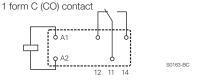
*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used

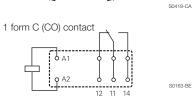


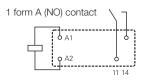


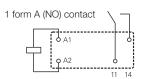


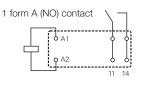












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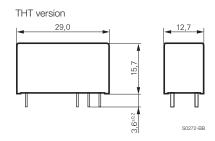
S0418-CN

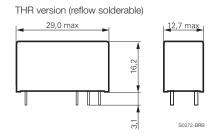
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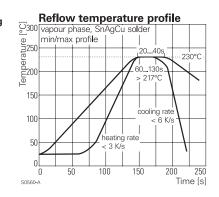
Power PCB Relay RT1 (Continued)

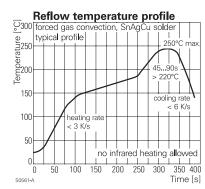
Dimensions





Process conditions for Reflow soldering according to EN61760-1





Product	code structure	Typical product code	RT	3	1	4	024
Гуре							
	Power PCB Relay RT1						
ersion							
1	12A, pinning 3.5mm, flux proof						
2	12A, pinning 5mm, flux proof *)						
3	16A, pinning 5mm, flux proof						
В	12A, pinning 3.5mm, wash tight						
D	16A, pinning 5mm, wash tight						
Contact a	arrangement						
1	1 form C (CO) contact						
3	1 form A (NO) contact						
Contact r	material						
4	AgNi 90/10						
5	AgNi 90/10 gold plated (for type RT31.)						
Coil	<u> </u>						
Co	oil code: please refer to coil versions table						
/ersion							
BI	ank Standard version						

Reflow solderable *) Wash tight version on request

WG

R

Product in accordance with IEC 60335-1 (domestic appliances)



Power PCB Relay RT1 (Continued)

Product code	Version	Contacts	Contact material	Coil	Version	Part number
RT114009	12A, pinning 3.5mm,	1 form C (CO)	AgNi 90/10	9VDC	Standard	1393239-9
RT114012	flux proof	contact		12VDC		1419108-1
RT114012WG					IEC60335-1 compliant	7-1415538-6
RT114024				24VDC	Standard	1-1393239-3
RT114024WG					IEC60335-1 compliant	1415539-4
RT114730				230VAC	Standard	1-1393239-9
RT115024			AgNi 90/10 gold pl.	24VDC		2-1393239-1
RT134012		1 form A (NO)	AgNi 90/10	12VDC		2-1393239-6
RT134024		contact	Ŭ.	24VDC		3-1393239-0
RT214012	12A, pinning 5mm,	1 form C (CO)		12VDC		5-1393239-4
RT214024	flux proof	contact		24VDC		5-1393239-5
RT214524				24VAC		5-1393239-9
RT214730				230VAC		1419108-6
RT314005	16A, pinning 5mm,			5VDC		9-1393239-1
RT314006	flux proof			6VDC		9-1393239-3
RT314012	·			12VDC		9-1393239-5
RT314012WG					IEC60335-1 compliant	8-1415535-6
RT314024				24VDC	Standard	9-1393239-8
RT314024WG					IEC60335-1 compliant	1415538-7
RT314048				48VDC	Standard	1393240-1
RT314730				230VAC		1393240-7
RT315024			AgNi 90/10 gold pl.	24VDC		1-1393240-4
RT334009WG		1 form A (NO)	AgNi 90/10	9VDC	IEC60335-1 compliant	3-1415538-1
RT334012		contact		12VDC	Standard	4-1393240-5
RT334012WG					IEC60335-1 compliant	1-1415527-1
RT334024				24VDC	Standard	4-1393240-8
RT334048				48VDC		5-1393240-0
RTB14005	12A, pinning 3.5mm,	1 form C (CO)		5VDC		1-1393238-2
RTB14012	wash tight	contact		12VDC		1-1393238-5
RTB14024	1			24VDC		1-1393238-9
RTB14524				24VAC		2-1393238-4
RTD14005	16A, pinning 5mm,			5VDC		5-1393238-9
RTD14012	wash tight			12VDC		6-1393238-2
RTD14024	ı			24VDC		6-1393238-8
RTD14048				48VAC		6-1393238-9
RTD34012		1 form A (NO)		12VDC		3-1419108-5
RTD34024		contact		24VDC		3-1419108-8

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

Other types on request