

Power PCB Relay T9S

- 1 pole 35A, 1 form A (NO) contact
- Contact gap >1.5/1.8/2.1 mm options available
- 350mW hold power¹⁾
- Ambient temperature up to 85°C at 35A
- Meet VDE 0126-1-1 and IEC 62109-2
- Product in accordance to IEC 60335-1
- EN61095: AC7a at 85°C

Typical applications
Photovoltaic inverter
Electrical vehicle loading stations
Electrical vehicle

Approvals

VDE 40030974, UL E58304, TUV R50369970
Technical data of approved types on request

Contact Data

Contact arrangement	1 form A (NO)		
Contact gap	>1.5mm	>1.8mm	>2.1mm
Rated voltage	250/277VAC, 30VDC		
Rated current	35A ²⁾		
Breaking capacity max.	9695VA, 1200W		
Contact material	Ag alloy		
Initial contact resistance	75mΩ max. at 1A 6VDC		
Frequency of operation, with/without load	6 cycles / min = with 300 cycles / min = without		
Operate/release time max., incl bounce time	18/15ms		

Contact ratings ³⁾

Type	Load	Cycles
IEC 61810		
1.5mm gap (Suffix blank)		
NO	35A, 250VAC, resistive, 85°C	30x10 ³
1.8mm gap (Suffix S)		
NO	35A, 250VAC, resistive, 85°C	20x10 ³
NO	40A, 30VDC, 70°C	60x10 ³
2.1mm gap (Suffix T)		
NO	35A, 277VAC, resistive	30x10 ³
UL 508		
1.5mm gap (Suffix blank)		
NO	35A, 277VAC, resistive, 85°C	30x10 ³
1.8mm gap (Suffix S)		
NO	35A, 250VAC, resistive, 85°C	20x10 ³
NO	40A, 30VDC, 70°C	60x10 ³
Mechanical endurance, DC coil	5x10 ⁵	

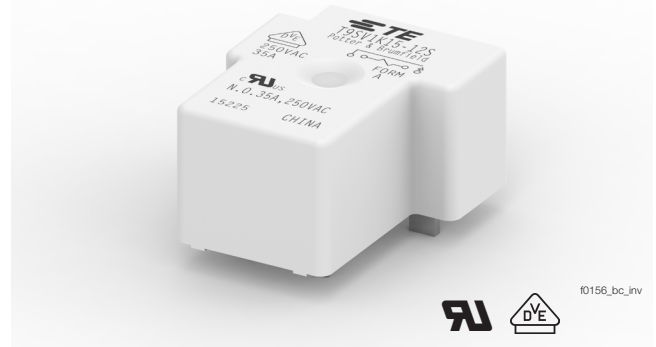
Coil Data

Rated coil voltage	12VDC
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%	Rated coil power W
12	see note ¹⁾	9.6	0.8	64±10%	2.25 / min. 0.35 hold

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	2500V _{rms}
between contact and coil	4000V _{rms}
Initial surge withstand voltage	
between contact and coil	6kV (1.2 / 50 uS)
Initial insulation resistance (at 500VDC)	
between open contacts	1X10 ⁹ Ω
between contact and coil	1X10 ⁹ Ω
Clearance/creepage	
between contact and coil	
>1.5/1.8 mm type	3/4mm
>2.1 mm type	4.2/5.6mm

Other Data

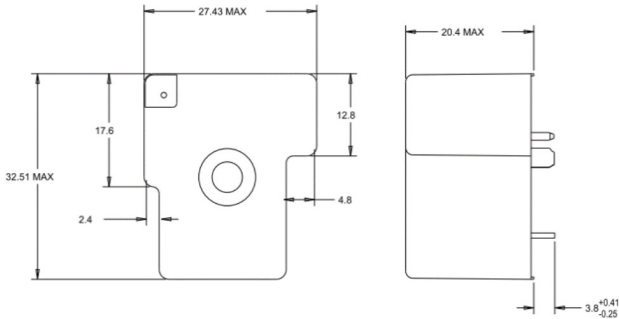
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter

Ambient temperature	-40 to +85°C ²⁾
Category of environmental protection	
IEC 61810	RTII - flux proof RTIII - wash tight
Vibration resistance (functional)	10-50Hz double amplitude 1.5mm
Shock resistance (functional)	10g
Shock resistance (destructive)	100g
Terminal type	PCB-THT
Mounting	see note ²⁾
Weight	appr. 30g
Resistance to soldering heat THT	
IEC 60068-2-20	260°C/10s
Packaging unit	box/500 pcs.

- 1) Rated Voltage: 12VDC. After the energization time of 100ms with 12 VDC the coil requires a reduction of the coil voltage to **4.7...6.0** VDC.
- 2) The relay connections and wiring have to be designed with an adequate cross sections to ensure the current flow and heat dissipation.
- 3) Contact ratings with relay properly vented. Only typical ratings listed, more ratings on request.

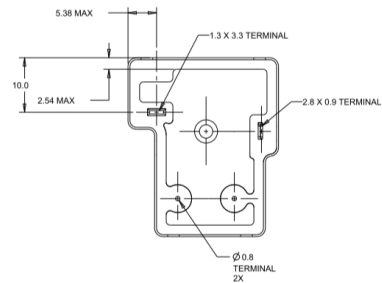
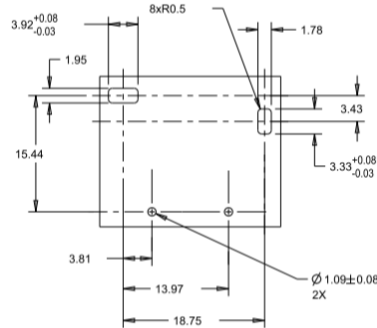
Power PCB Relay T9S (Continued)

Dimensions

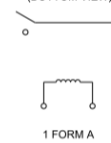


PCB layout / terminal assignment

Bottom view on solder pins



WIRING DIAGRAM (BOTTOM VIEW)



Notes

1) General tolerance

Diagram Dimension	Tolerance
< 1 mm	±0.1
1 ~ 3 mm	±0.2
> 3 mm	±0.3

2) Dimensions of the pins after tin soldering

- a) +0.4 for the width and the thickness
- b) +1.0 for the length

Product code structure

Typical product code **T9S V 1 K 1 5 -12 S**

Type	T9S Power Relay T9S Series					
Enclosure	V Flux-proof plastic case					S Wash tight
Contact arrangement	1 1 Form A (1 NO)					
Coil Input	K DC coil, 2.25W					
Mounting and termination	1 PCB mounting; PCB terminals for coil and contacts					
Contact material	5 AgNi					8 Special Ag Alloy
Coil voltage	Coil code: Please refer to coil version table					
Contact Gap	blank 1.5mm contact gap	S 1.8mm contact gap				T 2.1mm contact gap

Product code	Version	Contact arrangement	Contact material	Contact gap	Coil	Part Number
T9SV1K15-12	PCB, flux proof	1 form A (NO) contact	AgNi	>1.5mm	12VDC	2027395-1
T9SV1K15-12S				>1.8mm		2027395-3
T9SS1K15-12S	PCB, wash tight			>1.8mm		2027395-6
T9SV1K18-12T	PCB, flux proof		Special Ag alloy	>2.1mm		2027395-7

Note: only typical PN listed, other types on request.

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