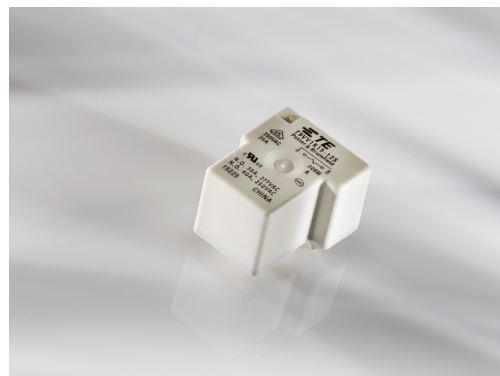


## Power PCB Relay T9V Solar

- 1 pole 40A, 1 form A (NO) contact
- Contact gap >1.8mm (suffix S)
- 350mW hold power<sup>1)</sup>
- Ambient temperature up to 85°C at 35A
- The appliance is able to meet VDE V 0126-1-1
- Product in accordance to IEC 60335-1
- EN61095: AC7a at 85°C



f0156\_bc\_inv



Typical applications  
Electrical vehicle loading stations  
Electrical vehicle  
Photovoltaic inverter

### Approvals

VDE 40030974, UL E58304, CQC16002145203, TUV R50369970  
Technical data of approved types on request

### Contact Data

|                                             |                        |
|---------------------------------------------|------------------------|
| Contact arrangement                         | 1 form A (NO)          |
| Contact gap                                 | >1.8mm                 |
| Rated voltage                               | 277VAC (1.8mm gap)     |
| Rated current                               | 40A <sup>2)</sup>      |
| Breaking capacity max.                      | 10 000 VA              |
| Contact material                            | AgNi                   |
| Initial contact resistance                  | 75mΩ max. at 1A 6VDC   |
| Frequency of operation, with/without load   | 6/300min <sup>-1</sup> |
| Operate/release time max., incl bounce time | 18/15ms                |

### Contact ratings<sup>3)</sup>

| Type                          | Contact | Load                         | Cycles                       |
|-------------------------------|---------|------------------------------|------------------------------|
| <b>IEC 61810</b>              |         |                              |                              |
| T9VV1K15-12S                  | A (NO)  | 35A, 250VAC, cosφ=1, 85°C    | 20x10 <sup>3</sup>           |
| <b>UL 508</b>                 |         |                              |                              |
| T9VV1K15-12S                  | A (NO)  | 35A, 250VAC, resistive, 85°C | 20x10 <sup>3</sup>           |
| T9VV1K15-12S                  | A (NO)  | 40A, 30VDC, resistive, 70°C  | 60x10 <sup>3</sup>           |
| <b>CQC</b>                    |         |                              |                              |
| T9VV1K15-12S                  | A (NO)  | 40A, 250VAC, resistive, 60°C | 20x10 <sup>3</sup>           |
| <b>TUV</b>                    |         |                              |                              |
| T9VV1K15-12S                  | A (NO)  | 40A, 30VDC, resistive, 70°C  | 60x10 <sup>3</sup>           |
| Mechanical endurance, DC coil |         |                              | 5x10 <sup>5</sup> operations |

### 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        | 12 <sup>1)</sup>  | 9.6                 | 0.8                 | 64±10%                | 2.25 /<br>min. 0.35<br>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 <sub>rms</sub> |
| between contact and coil           | 4000V <sub>rms</sub> |
| Initial surge withstand voltage    |                      |
| between contact and coil           | 6kV                  |
| Clearance/creepage                 |                      |
| between contact and coil           | 3/4mm                |
| Material group of insulation parts | III                  |
| Tracking index of relay base       | PTI 325              |

### 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](http://www.te.com/customer-support/rohssupportcenter)

|                                      |                            |
|--------------------------------------|----------------------------|
| Ambient temperature                  | -40 to +85°C <sup>2)</sup> |
| Category of environmental protection |                            |
| IEC 61810                            | RTII - flux proof          |
| Vibration resistance (functional)    | 10g                        |
| Shock resistance (functional)        | 10g                        |
| Shock resistance (destructive)       | 100g                       |
| Terminal type                        | PCB-THT                    |
| Mounting                             | see note <sup>2)</sup>     |
| Mounting distance                    | ≥10mm                      |
| Weight                               | appr. 30g                  |
| Resistance to soldering heat THT     |                            |
| IEC 60068-2-20                       | 260°C/5s                   |
| Packaging unit                       | box/500 pcs.               |

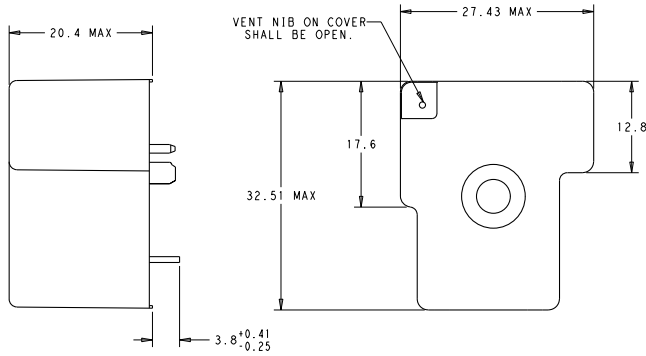
1) After the energization time of 100ms with 12 VDC the coil requires a reduction of the coil voltage to 4.7...6.0 VDC.

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.

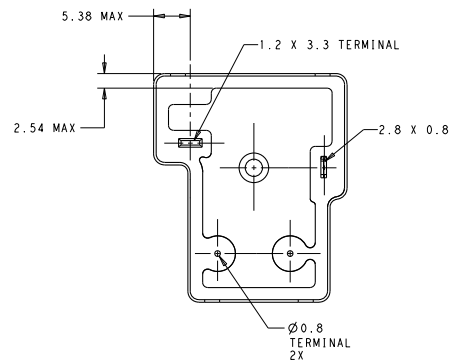
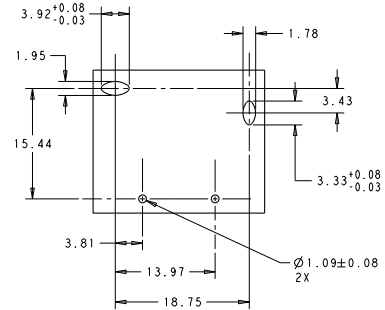
**Power PCB Relay T9V Solar** (Continued)

**Dimensions**

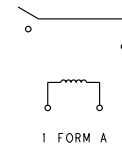


**PCB layout / terminal assignment**

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 | Version         | Contact arrangement   | Contact material | Contact gap | Coil  | Part Number |
|--------------|-----------------|-----------------------|------------------|-------------|-------|-------------|
| T9V1K15-12S  | PCB, flux tight | 1 form A (NO) contact | AgNi             | >1.8mm      | 12VDC | 2027395-5   |