

T9A Series, DC Coil 30A PCB or Panel Mount Relay

- 30A switching in 1 form A (NO) and 20A in 1 form C (CO)
- Plastic sealed case available
- Meets UL 508 and 873 spacing 3.18mm through air, 6.36mm over
- Option for load connections via 0.250"" (6.35mm) Q.C. terminals
- UL class F insulation system standard

Typical applications HVAC, Appliances, Industrial Controls

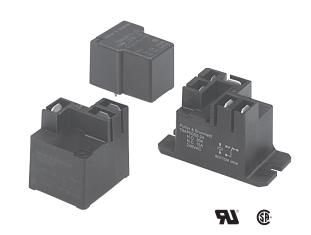


| Contact Data | | | |
|-----------------------------------|---|----------------|---------------|
| Contact arrangement | 1 form A (NO), | 1 form B (NC), | 1 form C (CO) |
| Rated voltage | | 277VAC | |
| Max. switching voltage | | 277VAC | |
| Rated current | 30A | 15A | 20A/10A |
| Limiting continuous current | 30A | | |
| Contact material | Ą | gSnOlnO, AgC | dO |
| Min. recommended contact load | fin. recommended contact load 1A, 5VDC or 12VAC | | |
| Initial contact resistance | 75 mΩ a | t 1A at 5VDC | or 12VAC |
| Frequency of operation, with/with | thout load | 360/3600 | hr |
| Operate/release time max inclu | udina bounce | 15/15ms | |

| Contact ratings 1) | | | | |
|--------------------|----------------------------------|---------------------|--|--|
| Туре | Load | Cycles | | |
| Factory | | | | |
| AgCdO, 1 | W coil | | | |
| NO | 30A, 240VAC, general purpose | 100x10 ³ | | |
| NO | 25A, 240VAC, resistive | 100x10 ³ | | |
| CO | 20A/10A, 240VAC, general purpose | 100x10 ³ | | |
| CO | 20A/10A, 240VAC, resistive | 100x10 ³ | | |
| CO | 20A/10A, 28VDC, resistive | 100x10 ³ | | |
| UL 508/8 | 73 | | | |
| AgCdO, 1 | W coil | | | |
| NO | 30A, 240VAC, general purpose | 100x10 ³ | | |
| NO | 154 040/40 | 100 102 | | |

| CO | 20A/10A, 28VDC, resistive | 100x10 ³ |
|------------|------------------------------------|---------------------|
| UL 508/873 | | |
| AgCdO, 1W | coil | |
| NO | 30A, 240VAC, general purpose | 100x10 ³ |
| NC | 15A, 240VAC, general purpose | 100x10 ³ |
| CO | 20A/10A, 240VAC, general purpose | 100x10 ³ |
| NO | 25A, 240VAC, resistive | 6x10 ³ |
| NC | 20A, 240VAC, resistive | 6x10 ³ |
| CO | 16.75A/13.4A, 240VAC, resistive | 6x10 ³ |
| NO | 80LRA/30FLA, 240VAC | 30x10 ³ |
| NC | 30LRA/12FLA, 240VAC | 30x10 ³ |
| CO | 53.6LRA/20FLA / 20LRA/8FLA, 240VAC | 30x10 ³ |
| NO | 98LRA/22FLA, 120VAC | 100x10 ³ |
| NO | 2HP, 240VAC | 1x10 ³ |
| NC | 1/2HP, 240VAC | 1x10 ³ |
| NO | 1HP, 125VAC | 1x10 ³ |
| NC | 1/4HP, 125VAC | 1x10 ³ |
| NO | 10A, 277VAC, ballast | 6x10 ³ |
| NC | 3A, 277VAC, ballast | 6x10 ³ |
| NO | 8.3A, 120VAC, tungsten | 6x10 ³ |
| NO | 5.4A, 277VAC, tungsten | 6x10 ³ |
| NO | 470VA, 120VAC, pilot duty | 30x10 ³ |
| NO | 20A, 28VDC, resistive | 100x10 ³ |
| NC | 10A, 28VDC, resistive | 100x10 ³ |

Contact ratings at 25°C (unless otherwise noteed) with relay properly vented. Remove vent nib after soldering and cleaning.



| Contact ratings 1) (continued) | | | | | |
|--------------------------------|-------------------------------|---------------------|--|--|--|
| Туре | Load | Cycles | | | |
| UL 508/873 | | | | | |
| AgSnOlnO, 1V | V coil | | | | |
| NO | 30A, 240VAC, general purpose | 100x10 ³ | | | |
| NO | 80LRA/30FLA, 240VAC | 30x10 ³ | | | |
| NC | 10A, 250VAC, resistive | 50x10 ³ | | | |
| AgCdO, 900m | W coil | | | | |
| NO | 30A, 240VAC, general purpose | 100x10 ³ | | | |
| NO | 18A, 240VAC, resistive, 105°C | 100x10 ³ | | | |
| NC | 15A, 240VAC, resistive | 6x10 ³ | | | |
| NO | 30LRA/15FLA, 240VAC | 100x10 ³ | | | |
| NO | 50LRA/16FLA, 120VAC | 100x10 ³ | | | |
| NO | 30LRA/11FLA, 120VAC | 200x10 ³ | | | |

1) Contact ratings at 25° C (unless otherwise noteed) with relay properly vented. Remove vent nib after soldering and cleaning.

| Mechanical endurance | 10x10 ⁶ ops. |
|----------------------|-------------------------|
| | |

| Coil Da | ta | | | | |
|--------------------|----------------|-------------|--------------|------------|------------|
| Coil voltage range | | 5 | to 110VDC | | |
| Max. coil power | | 110 | % of nominal | | |
| Max. coil | temperature | | | 155°C | |
| Coil insula | ation system a | ccording UL | | Class F | |
| Coil vers | ions, DC coi | l | | | |
| Coil | Rated | Operate | Release | Coil | Rated coil |
| code | voltage | voltage | voltage | resistance | power |
| | VDC | VDC | VDC | Ω±10% | W |
| Code D | (1W) coil | | | | |
| 5 | 5 | 3.75 | 0.5 | 25 | 1 |
| 6 | 6 | 4.5 | 0.6 | 36 | 1 |
| 9 | 9 | 6.75 | 0.9 | 81 | 1 |
| 12 | 12 | 9 | 1.2 | 144 | 1 |
| 15 | 15 | 11.25 | 1.5 | 225 | 1 |
| 18 | 18 | 13.5 | 1.8 | 324 | 1 |
| 24 | 24 | 18 | 2.4 | 576 | 1 |
| 48 | 48 | 36 | 4.8 | 2304 | 1 |
| 110 | 110 | 82.5 | 11 | 12100 | 1 |
| Code L (| (900mW) coil | | | | |
| 5 | 5 | 3.75 | 0.5 | 27 | .9 |
| 6 | 6 | 4.5 | 0.6 | 40 | .9 |
| 9 | 9 | 6.75 | 0.9 | 97 | .9 |
| 12 | 12 | 9 | 1.2 | 155 | .9 |
| 15 | 15 | 11.25 | 1.5 | 256 | .9 |
| 18 | 18 | 13.5 | 1.8 | 380 | .9 |
| 24 | 24 | 18 | 2.4 | 660 | .9 |
| 48 | 48 | 36 | 4.8 | 2560 | .9 |
| 110 | 110 | 82.5 | 11 | 13450 | .9 |

All figures are given for coil without preenergization, at ambient temperature +23°C.

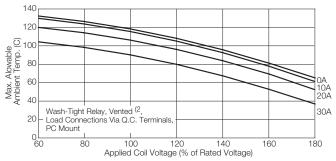


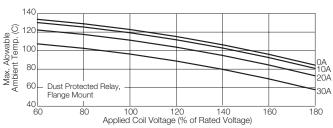
T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

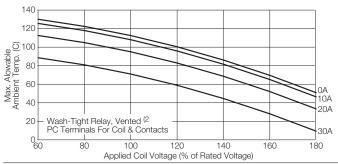
Coil Data (continued)

Ambient temperature vs. coil voltage - 1W coil

Data below are average values and should be verified in application. Tests were conducted within a 2' (.6 m) cube (still air); at nominal coil power @ 25°C; with normally open contact loaded; and with 4' (1.22 m) long, #10 AWG load wires. P.C. board relays were mounted to a 30A, single side P.C. board. Coil rise test conducted with a 30A PC board to maintain 20°C max. rize at 30°C. The relay connections and wiring must be designed with an adequate cross section to ensure proper current flow and heat dissipation.







2) Remove knock-off nib after cleaning process for optimum life of wash-tight relays.

Insulation Data Initial dielectric strength between open contacts 1500V_{rms} between contact and coil 2500V_{rms} Initial surge withstand voltage 6kV Initial insulation resistance 5kV between insulated elements 1x10°Ω Clearance/creepage 5kV between contact and coil 3.18mm clearance/6.3638mm

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

Ambient temperature

DC coil -55°C to 85°C ³⁾
105°C models available

Category of environmental protection IEC 61810

RT0 - open, RTI - dust protected, RTII - flux proof, RTIII - wash tight

Vibration resistance (functional) 1.65mm max excursions, 10-55 Hz Shock resistance (functional) 1.09 for 11msec

Shock resistance (destructive) 100g
Terminal type pcb-tht and pcb-tht + quick connect
Weight 26g mounting code 1

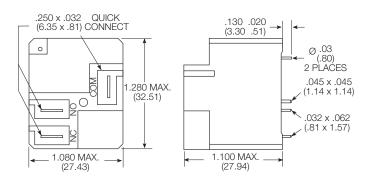
33g mounting codes 2 and 5 Resistance to soldering heat THT

IEC 60068-2-20 250°C

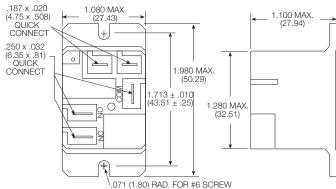
Packaging/unit tray/50 pcs., bundle/250 pcs., box/500 pcs.

Dimensions

T9AS - Mounting and termination code 2



T9AP - Mounting and termination code 5



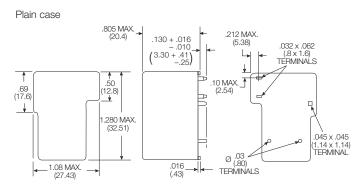
Note: Recommended mounting screw torque is 4.0-5.0 lbs.in when #6 screw is used.

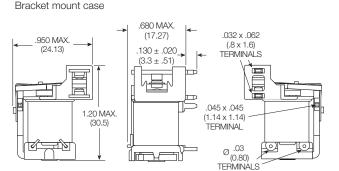
Operating ambient temperature must consider "Must Operate Voltage Change Over Temperature," Contact Temperature Rise, Coil Temperature Rise (If coil is not allowed to cool) and Maximum Coil Temperature. Specification ambient considers 20A load with coil cooled to ambient.



T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

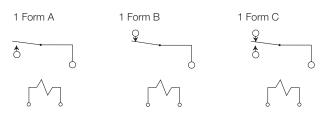
Dimensions





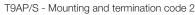
Terminal assignment

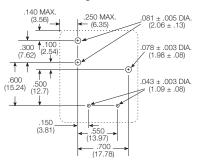
Bottom view on pins



PCB layout

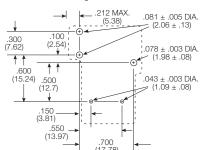
Bottom view on pins





Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

T9AS/V - Mounting and termination code 1



Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

Product code structure Typical product code T9A S 5 D -12 T9A Power PCB or panel mount relay T9A Enclosure Ν Open, no enclosure (requires mounting code 1) Ρ Dust protected plastic case (requires mounting code 5) Wash-tight plastic case with knock off nib (requires mounting code 1 or 2) Flux-proof plastic case (requires mounting code 1 or 2) **Contact arrangement** 2 1 form B (1 NC) 5 1 form C (1 CO) 1 1 form A (1 NO) Coil Input DC voltage, 1W L DC voltage, 900mW D Mounting and termination PCB mounting; PCB terminals for coil and contacts (only available with enclosure code N, S or V) PCB mounting; PCB term. for coil and contacts; 6.35mm (.250in) QC for contacts (only available with enclosure code S or V) Flanged mounting; 4.75mm (.187) QC for coil; 6.35mm (.250in) QC for contacts (only available with enclosure code P) 5 Contact material 2 AgCdO AgSnOlnO Coil voltage

Coil code: please refer to coil versions table



T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

| Product Code | Enclosure | Contacts | Coil | Mounting | Contact Material | Coil | Part Number |
|----------------------------|--|-----------------|----------|---------------------------|------------------|----------------|----------------------------|
| T9AN1L22-24 | Open (no cover) | 1 form A, 1 NO | 900mW | pcb + QC | AgCdO | 24VDC | 1419104-6 |
| T9AN5L12-24 | | 1 form C, 1 CO | | pcb terminals | | | 1-1393210-0 |
| T9AN5L22-24 | | | | pcb + QC | | | 1419104-9 |
| T9AP1D52-12 | Unsealed, plastic dust cover | 1 form A, 1 NO | 1W | Flanged mount, QC | | 12VDC | 6-1419102-0 |
| T9AP1D52-24 | | | | | | 24VDC | 6-1419102-3 |
| T9AP1D52-48 | | | | | | 48VDC | 5-1419102-8 |
| T9AP1D54-24 | | | | | AgSnOlnO | 24VDC | 7-1423091-3 |
| T9AP5D52-12 | | 1 form C, 1 CO | | | AgCdO | 12VDC | 5-1419102-4 |
| T9AP5D52-24 | | | | | | 24VDC | 5-1419102-2 |
| T9AP5D52-48 | | | | | A 0 0 0 | 48VDC | 6-1419102-4 |
| T9AP5D54-12 | | | | | AgSnOlnO | 12VDC | 7-1423091-4 |
| T9AP5D54-24 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 4.6 4.4 10 | | | 4 0 10 | 24VDC | 7-1423091-5 |
| T9AS1D12-5 | Wash tight, knock off nib | 1 form A, 1 NO | | pcb terminals | AgCdO | 5VDC | 2-1393210-0 |
| T9AS1D12-9 | | | | | | 9VDC | 2-1393210-2 |
| T9AS1D12-12 | | | | | | 12VDC 15VDC | 1-1393210-3 1-1393210-4 |
| T9AS1D12-15 T9AS1D12-18 | | | | | | 18VDC | 1-1393210-4 |
| T9AS1D12-16 | | | | | | 24VDC | 1-1393210-8 |
| T9AS1D12-24 | | | | | | 48VDC | 1-1393210-9 |
| T9AS1D12-40 | | | | | | 110VDC | 1-1393210-9 |
| T9AS1D12-110 | | | | | AgSnOlnO | 12VDC | 5-1423091-7 |
| T9AS1D14-12 | | | | | Agonomo | 24VDC | 6-1423091-3 |
| T9AS1D14 24 | | | | pcb + QC | AgCdO | 5VDC | 2-1419104-3 |
| T9AS1D22-12 | | | | pob i do | 7.9000 | 12VDC | 1-1419104-7 |
| T9AS1D22-24 | | | | | | 24VDC | 2-1419104-1 |
| T9AS1D22-48 | | | | | | 48VDC | 2-1419104-2 |
| T9AS1D22-110 | | | | | | 110VDC | 1-1419104-6 |
| T9AS1L12-12 | | | 900mW | pcb terminals | | 12VDC | 2-1393210-4 |
| T9AS1L12-24 | | | 00011111 | poo tommoro | | 24VDC | 2-1393210-5 |
| T9AS1L22-18 | | | | pcb + QC | | 18VDC | 2-1419104-6 |
| T9AS2L22-24 | | 1 form B, 1 NC | | | | 24VDC | 1423794-1 |
| T9AS5D12-5 | | 1 form C, 1 CO | 1W | pcb terminals | | 5VDC | 3-1393210-9 |
| T9AS5D12-12 | | | | | | 12VDC | 3-1393210-3 |
| T9AS5D12-18 | | | | | | 18VDC | 3-1393210-4 |
| T9AS5D12-24 | | | | | | 24VDC | 3-1393210-7 |
| T9AS5D12-48 | | | | | | 48VDC | 3-1393210-8 |
| T9AS5D12-110 | | | | | | 110VDC | 3-1393210-2 |
| T9AS5D14-5 | | | | | AgSnOlnO | 5VDC | 6-1423091-4 |
| T9AS5D22-5 | | | | pcb + QC | AgCdO | | 3-1419104-9 |
| T9AS5D22-12 | | | | | | 12VDC | 3-1419104-3 |
| T9AS5D22-24 | | | | | | 24VDC | 3-1419104-6 |
| T9AS5D22-110 | | | | | | 110VDC | 3-1419104-2 |
| T9AS5D24-5 | | | | | AgSnOlnO | 5VDC | 6-1423091-9 |
| T9AS5D24-12 | | | | | | 12VDC | 7-1423091-0 |
| T9AS5D24-24 | | | 200 | | 4.6.10 | 24VDC | 7-1423091-1 |
| T9AS5L12-12 | | | 900mW | pcb terminals | AgCdO | 12VDC | 4-1393210-1 |
| T9AS5L22-18 | | | | pcb + QC | | 18VDC | 4-1419104-0 |
| T9AS5L22-24 | | | | | | 24VDC | 4-1419104-1 |
| T9AS5L22-48 |)/ | 4 6 4 4 4 4 6 | 4147 | 1 1 1 1 | | 48VDC | 9-1419136-6 |
| T9AV1D12-12 | Vented, flux tight | 1 form A, 1 NO | 1W | pcb terminals | | 12VDC | 4-1393210-3 |
| T9AV1D12-18 | | | | | | 18VDC | 5-1393210-2 |
| T9AV1D22-18 T9AV1D22-24 | | | | pcb + QC | | 241/00 | 4-1419148-8 |
| | | | | | | 24VDC | 5-1419148-0 |
| T9AV1D22-48 | | | 900mW | noh terminala | | 48VDC | 2-1423091-3 |
| T9AV1L12-12 | | | SOOTIIVV | pcb terminals pcb + QC | | 12VDC 24VDC | 1-1423091-8 4-1419104-2 |
| T9AV1L22-24 T9AV2D22-24 | | 1 form B, 1NC | 1W | pcb + QC | | 24100 | 1419137-1 |
| T9AV2D22-24 | | 1 form C, 1CO | 1 V V | nch terminale | | | 4-1393210-8 |
| T9AV5D12-24 T9AV5D22-18 | | 1 101111 0, 100 | | pcb terminals pcb + QC | | 18VDC | 5-1419148-2 |
| T9AV5D22-16 | | | | pou + Q0 | | 24VDC | 1419137-2 |
| T9AV5L12-12 | | | 900mW | pcb terminals | | 12VDC | 1423091-6 |
| IUMVULIZ-IZ | I | | JOUITIVV | hon reminals | | 12100 | 1720031-0 |

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