# JWD/JWS Series Reed Relays 

## JWD has dual in-line package (DIP) configuration (14-pin DIP) <br> ■ JWS has single in-line package (SIP) configuration <br> ■ Low cost, dry reed reliability with various contact arrangements <br> - Wave solderable and immersion cleanable molded epoxy package ■ Optional coil suppression diode

Typical applications
Telecommunications, measurement and control, automated test equipment, security systems, medical equipment.



## Approvals

UL E29244, CSA LR81479
Technical data of approved types on request

## Contact Data

| Contact arrangement |  |
| :---: | :---: |
| JWD and JWS | 1 form A (NO) contact |
| JWD only | 1 form B (NC), 1 form C (CO), 2 form $\mathrm{A}(\mathrm{NO})$ |
| Rated voltage |  |
| 1 form A, 1 form B and 2 form A | 20VDC, 500mA |
| 1 form C (CO) | $10 \mathrm{VDC}, 500 \mathrm{~mA}$ and 10VDC, 10 mA |
| Max. switching voltage |  |
| 1 form A, 1 form B and 2 form A | 100VDC |
| 1 form C (CO) | 28VDC |
| Rated current |  |
| 1 form A, 1 form B and 2 form A | 500mA, 20VDC |
| 1 form C (CO) | 500mA, 10VDC |
| Limiting making current | 500 mA |
| Limiting breaking current | 500 mA |
| Switching power |  |
| form A (NO) and form B (NC) | 10W |
| form C (CO) | 3W |
| Contact material | Ruthenium |
| Min. recommended contact load | $10 \mathrm{mV}, 10 \mathrm{~mA}$ |
| Minimum switching voltage | 10 mV |
| Initial contact resistance | $200 \mathrm{~m} \Omega$ max. at $10 \mathrm{~mA}, 6 \mathrm{VDC}$ |
| Frequency of operation | 100 Hz |
| Operate/release time max., incl. bounce |  |
| form A (NO) and form B (NC) | 1.5/0.5ms |
| form C (CO) | 1.5/3.0ms |
| Electrical endurance |  |
| form $A(N O)$ and form B (NC), resistive load, $+25^{\circ} \mathrm{C}$ |  |
| 20VDC, 500mA | $1 \times 10^{6} \mathrm{ops}$. |
| 20VDC, 250mA | $20 \times 10^{6}$ ops. |
| $5 \mathrm{VDC}, 1 \mathrm{~mA}$ | $100 \times 10^{6}$ ops. |
| form C (CO) contact, resistive load, $+25^{\circ} \mathrm{C}$ |  |
| 10VDC, 500mA | $1 \times 10^{6} \mathrm{ops}$. |
| 10VDC, 250mA | $20 \times 10^{6}$ ops. |
| $5 \mathrm{VDC}, 1 \mathrm{~mA}$ | $100 \times 10^{6}$ ops. |
| Contact ratings |  |
| 1 form A, 1 form B and 2 form A | 500mA, 20VDC |
| 1 form C (CO) | 500mA, 10VDC |
| Mechanical endurance | $100 \times 10^{6}$ operations |


| Coil Data |  |
| :---: | :---: |
| Coil voltage range | 5 to 24VDC |
| Min./Max. energization duration | continuous |
| Max. coil temperature | $105^{\circ} \mathrm{C}$ |
| Thermal resistance | approximately $100^{\circ} \mathrm{C} / \mathrm{W}$ |
| Coil insulation system according UL | class A |
| Insulation Data |  |
|  |  |
|  |  |
| form A (NO) and form B (NC) | 250VDC, |
| form C (CO) | 175VDC |
| between contact and coil | 500VDC |
| between adjacent contacts |  |
| 2 form A(NO) of JWD only | 500VDC |
| Initial insulation resistance |  |
| between insulated elements | $10^{10} \Omega$ at 100VDC |
| Capacitance between open contacts | typ. 0.5pF |
| 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 | $-35^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Category of environmental protection |  |
| Vibration resistance (functional) $20 \mathrm{~g}, 10$ to 2000 Hz Shock resistance (functional), 3 planes, half sine pulse, 8 ms |  |
|  |  |
| form A (NO) | 100 g |
| form B (NC) and form C (CO) | 50 g |
| Terminal type | PCB-THT |
| Mounting position | any |
| Weight | approximately 2.3 g ( 0.08 oz .) |
| Resistance to soldering heat THT |  |
| Ultrasonic cleaning | no |
| Conformal coating | yes |
| Packaging/unit | tray/50 pcs. bundle/250 pcs., box/500 pcs. |

JWD/JWS Series Reed Relays (Continued)

## Terminal assignment

TOP view on component side of PCB
Dia. 1
Dia. 2


Dia. 3
Dia. 4




Dia. 5
Dia. 6
Dia. 7
Note: Terminal numbers are for reference only and do not appear on relays.

Note: Magnetic shielding may be required between relays when they are placed in very close proximity to one another.

## Dimensions

JWD Series


JWS Series


| Product code | Contacts | Max. rating | Diode | Coil voltage | Coil resistance ${ }^{1)}$ | Operate voltage | Coil power | Wiring diagram | Part number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JWD-107-1 | 1 form A, | 10W | No | 5/6VDC | 500ohm | 3.8VDC | 50/72mW | 1 | 1393771-3 |
| JWD-107-5 | 1 NO contact |  | Yes | 5/6VDC | 500ohm | 3.8 VDC | 50/72mW | 1 | 1393771-5 |
| JWD-107-3 |  |  | No | 12VDC | 1200ohm | 9.6VDC | 120 mW | 1 | 1393771-4 |
| JWD-107-7 |  |  | Yes | 12VDC | 1200ohm | 9.6VDC | 120 mW | 1 | 1393771-6 |
| JWD-171-5 |  |  | No | 24VDC | 2150ohm | 19.2VDC | 268mW | 2 | 2-1393771-0 |
| JWD-171-10 |  |  | Yes | 24VDC | 2150ohm | 19.2VDC | 268mW | 2 | 1393771-7 |
| JWD-171-21 | 2 form A, |  | No | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 3 | 1-1393771-4 |
| JWD-171-25 | 2 NO contacts |  | Yes | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 3 | 1-1393771-7 |
| JWD-171-23 |  |  | No | 12VDC | 500ohm | 9.6VDC | 288mW | 3 | 1-1393771-5 |
| JWD-171-27 |  |  | Yes | 12VDC | 500ohm | 9.6VDC | 288mW | 3 | 1-1393771-8 |
| JWD-171-24 |  |  | No | 24VDC | 2200ohm | 19.2VDC | 262 mW | 3 | 1-1393771-6 |
| JWD-171-28 |  |  | Yes | 24VDC | 2200ohm | 19.2VDC | 262 mW | 3 | 1-1393771-9 |
| JWD-171-12 | 1 form B, |  | No | 5/6VDC | 500ohm | 3.8VDC | 50/72mW | 4 | 1393771-8 |
| JWD-171-17 | 1 NCO contact |  | Yes | 5/6VDC | 500ohm | 3.8VDC | 50/72mW | 4 | 1-1393771-1 |
| JWD-171-14 |  |  | No | 12VDC | 1200ohm | 9.6VDC | 120 mW | 4 | 1393771-9 |
| JWD-171-19 |  |  | Yes | 12VDC | 1200ohm | 9.6VDC | 120 mW | 4 | 1-1393771-2 |
| JWD-171-15 |  |  | No | 24VDC | 2200ohm | 19.2VDC | 262 mW | 4 | 1-1393771-0 |
| JWD-171-20 |  |  | Yes | 24VDC | 2200ohm | 19.2VDC | 262 mW | 4 | 1-1393771-3 |
| JWD-172-1 | 1 form C, | 3W | No | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 5 | 2-1393771-1 |
| JWD-172-5 | 1 CO contact |  | Yes | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 5 | 2-1393771-9 |
| JWD-172-3 |  |  | No | 12VDC | 500ohm | 9.6VDC | 288mW | 5 | 2-1393771-7 |
| JWD-172-7 |  |  | Yes | 12VDC | 500ohm | 9.6VDC | 288mW | 5 | 3-1393771-0 |
| JWD-172-4 |  |  | No | 24VDC | 2200ohm | 19.2VDC | 262 mW | 5 | 2-1393771-8 |
| JWD-172-8 |  |  | Yes | 24VDC | 2200ohm | 19.2VDC | 262 mW | 5 | 3-1393771-1 |
| JWD-172-155 |  |  | No | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 6 | 2-1393771-2 |
| JWD-172-159 |  |  | Yes | 5/6VDC | 200ohm | 3.8VDC | 125/180mW | 6 | 2-1393771-4 |
| JWD-172-161 |  |  | Yes | 12VDC | 1000ohm | 9.6VDC | 144mW | 6 | 2-1393771-5 |
| JWD-172-158 |  |  | No | 24VDC | 2150ohm | 19.2VDC | 268mW | 6 | 2-1393771-3 |
| JWD-172-162 |  |  | Yes | 24VDC | 2150ohm | 19.2VDC | 268mW | 6 | 2-1393771-6 |
| JWS-117-1 | 1 form A, | 10W | No | 5VDC | 500ohm | 3.8VDC | 50mW | 7 | 3-1393771-2 |
| JWS-117-6 | 1 NO contact |  | Yes | 5VDC | 500ohm | 3.8 VDC | 50 mW | 7 | 3-1393771-8 |
| JWS-117-3 |  |  | No | 12VDC | 5300hm | 9.6VDC | 272mW | 7 | 3-1393771-4 |
| JWS-117-8 |  |  | Yes | 12VDC | 5300hm | 9.6VDC | 272 mW | 7 | 3-1393771-6 |
| JWS-117-18 |  |  | Yes | 12VDC | 1850ohm | 9.6VDC | 78mW | 7 | 3-1393771-3 |
| JWS-117-5 |  |  | No | 24VDC | 2150ohm | 19.2VDC | 268mW | 7 | 3-1393771-5 |

1) Coil resistance $\pm 10 \%$.

2 only together with the 'Definitions' section.

[^0]Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.

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[^0]:    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

