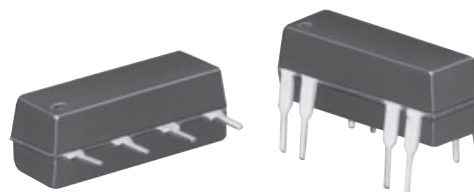


## JWD/JWS Series Reed Relays

- JWD has dual in-line package (DIP) configuration (14-pin DIP)
- JWS has single in-line package (SIP) configuration
- Low cost, dry reed reliability with various contact arrangements
- 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),<br>2 form A (NO) |
| Rated voltage                                      |                                                |
| 1 form A, 1 form B and 2 form A                    | 20VDC, 500mA                                   |
| 1 form C (CO)                                      | 10 VDC, 500mA and 10VDC, 10mA                  |
| 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                            | 500mA                                          |
| Limiting breaking current                          | 500mA                                          |
| Switching power                                    |                                                |
| form A (NO) and form B (NC)                        | 10W                                            |
| form C (CO)                                        | 3W                                             |
| Contact material                                   | Ruthenium                                      |
| Min. recommended contact load                      | 10mV, 10mA                                     |
| Minimum switching voltage                          | 10mV                                           |
| Initial contact resistance                         | 200mΩ max. at 10mA, 6VDC                       |
| Frequency of operation                             | 100Hz                                          |
| 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 (NO) and form B (NC), resistive load, +25°C |                                                |
| 20VDC, 500mA                                       | 1x10 <sup>6</sup> ops.                         |
| 20VDC, 250mA                                       | 20x10 <sup>6</sup> ops.                        |
| 5VDC, 1mA                                          | 100x10 <sup>6</sup> ops.                       |
| form C (CO) contact, resistive load, +25°C         |                                                |
| 10VDC, 500mA                                       | 1x10 <sup>6</sup> ops.                         |
| 10VDC, 250mA                                       | 20x10 <sup>6</sup> ops.                        |
| 5VDC, 1mA                                          | 100x10 <sup>6</sup> ops.                       |
| Contact ratings                                    |                                                |
| 1 form A, 1 form B and 2 form A                    | 500mA, 20VDC                                   |
| 1 form C (CO)                                      | 500mA, 10VDC                                   |
| Mechanical endurance                               | 100x10 <sup>6</sup> operations                 |

### Coil Data

|                                     |                       |
|-------------------------------------|-----------------------|
| Coil voltage range                  | 5 to 24VDC            |
| Min./Max. energization duration     | continuous            |
| Max. coil temperature               | 105° C                |
| Thermal resistance                  | approximately 100°C/W |
| Coil insulation system according UL | class A               |

### Insulation Data

|                                   |                              |
|-----------------------------------|------------------------------|
| Initial dielectric strength       |                              |
| between open contacts             |                              |
| 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 <sup>10</sup> Ω at 100VDC |
| Capacitance between open contacts | typ. 0.5pF                   |

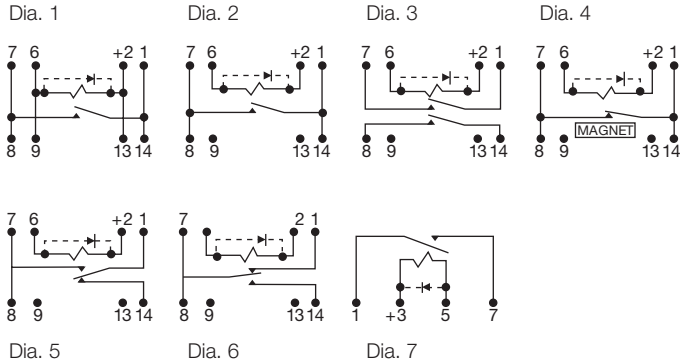
### Other Data

|                                                                                                                                                                                                                                         |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |                                                   |
| Ambient temperature                                                                                                                                                                                                                     | -35°C to +85°C                                    |
| Category of environmental protection                                                                                                                                                                                                    |                                                   |
| IEC 61810                                                                                                                                                                                                                               | RTIII -wash tight                                 |
| Vibration resistance (functional)                                                                                                                                                                                                       | 20g, 10 to 2000 Hz                                |
| Shock resistance (functional), 3 planes, half sine pulse, 8ms                                                                                                                                                                           |                                                   |
| form A (NO)                                                                                                                                                                                                                             | 100g                                              |
| form B (NC) and form C (CO)                                                                                                                                                                                                             | 50g                                               |
| Terminal type                                                                                                                                                                                                                           | PCB-THT                                           |
| Mounting position                                                                                                                                                                                                                       | any                                               |
| Weight                                                                                                                                                                                                                                  | approximately 2.3g ( 0.08 oz.)                    |
| Resistance to soldering heat THT                                                                                                                                                                                                        |                                                   |
| IEC 60068-2-20, wave solder                                                                                                                                                                                                             | max. 260°C/10s                                    |
| Ultrasonic cleaning                                                                                                                                                                                                                     | no                                                |
| Conformal coating                                                                                                                                                                                                                       | yes                                               |
| Packaging/unit                                                                                                                                                                                                                          | tray/50 pcs.,<br>bundle/250 pcs.,<br>box/500 pcs. |

## JWD/JWS Series Reed Relays (Continued)

### Terminal assignment

TOP view on component side of PCB

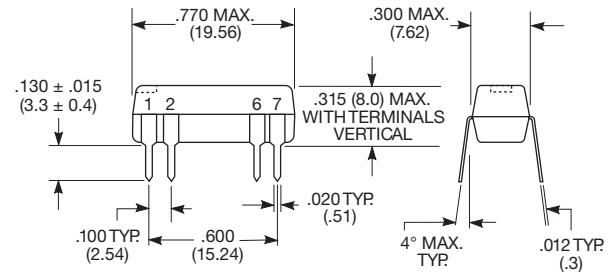


Note: Terminal numbers are for reference only and do not appear on relays.

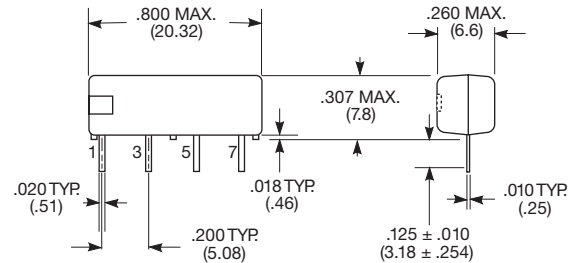
Note: Magnetic shielding may be required between relays when they are placed in very close proximity to one another.

### Dimensions

#### JWD Series



#### JWS Series



| Product code | Contacts      | Max. rating | Diode | Coil voltage | Coil resistance <sup>1)</sup> | 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                        | 3.8VDC          | 50/72mW    | 1              | 1393771-5   |
| JWD-107-3    |               |             | No    | 12VDC        | 1200ohm                       | 9.6VDC          | 120mW      | 1              | 1393771-4   |
| JWD-107-7    |               |             | Yes   | 12VDC        | 1200ohm                       | 9.6VDC          | 120mW      | 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         | 262mW      | 3              | 1-1393771-6 |
| JWD-171-28   |               |             | Yes   | 24VDC        | 2200ohm                       | 19.2VDC         | 262mW      | 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          | 120mW      | 4              | 1393771-9   |
| JWD-171-19   |               |             | Yes   | 12VDC        | 1200ohm                       | 9.6VDC          | 120mW      | 4              | 1-1393771-2 |
| JWD-171-15   |               |             | No    | 24VDC        | 2200ohm                       | 19.2VDC         | 262mW      | 4              | 1-1393771-0 |
| JWD-171-20   |               |             | Yes   | 24VDC        | 2200ohm                       | 19.2VDC         | 262mW      | 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         | 262mW      | 5              | 2-1393771-8 |
| JWD-172-8    |               |             | Yes   | 24VDC        | 2200ohm                       | 19.2VDC         | 262mW      | 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                        | 3.8VDC          | 50mW       | 7              | 3-1393771-8 |
| JWS-117-3    |               |             | No    | 12VDC        | 530ohm                        | 9.6VDC          | 272mW      | 7              | 3-1393771-4 |
| JWS-117-8    |               |             | Yes   | 12VDC        | 530ohm                        | 9.6VDC          | 272mW      | 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 ±10%.