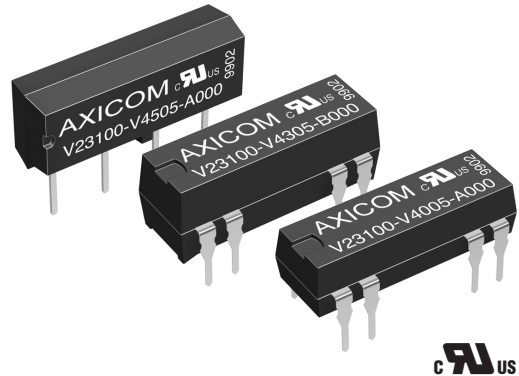


Reed Relay V23100 -V4

- Direct coil control with TTL-signals possible
- Highly reliable switching
- High switching rates
- Ultrasonic cleanable
- High vibration and shock resistance

Typical applications

In-circuit tester, measuring and control systems, telecom equipment, alarm and security equipment.



Approvals

UL File No. 111441

Technical data of approved types on request.

| Contact Data | form A | form C |
|----------------------------------|-------------------------------------|------------------------|
| Contact arrangement | 1 form A (1 NO), 2 form A (2 NO) | 1 form C (CO) |
| Max. switching voltage | | |
| at rated coil voltage 5VDC | 200VDC/VAC _{peak} | 175VDC |
| at rated coil voltage 12to 24VDC | 200VDC/VAC _{peak} | 175VDC _{peak} |
| Limiting continuous current | 1A | 1.2A |
| Switching power | 10W, 10VA | 3W, 3VA |
| Contact material | Ruthenium | |
| Contact style | reed contact | |
| Initial contact resistance | <150mΩ | |
| Operate / release time max. | 0.75/0.15ms | 1.1/1.6ms |
| Electrical endurance | | |
| at 12V/10mA | 50x10 ⁶ operations | |
| at 24V/400mA | 5x10 ⁶ operations | |

Coil Data

| | |
|-----------------------|------------|
| Magnetic system | neutral |
| Coil voltage range | 5 to 24VDC |
| Max. coil temperature | 105°C |
| Thermal resistance | < 75K/W |

Coil versions, monostable

| Coil code | Rated voltage VDC | Operate voltage VDC _{min.} | Release voltage VDC _{min.} | Coil resistance Ω±10% | Rated coil power mW |
|---|-------------------|-------------------------------------|-------------------------------------|-----------------------|---------------------|
| 1 form A (1 NO) contact | | | | | |
| 05 | 5VDC | 3.5 | 0.75 | 500 | 50 |
| 12 | 12VDC | 8.4 | 1.80 | 1000 | 144 |
| 15 | 15VDC | 10.5 | 2.25 | 2000 | 112 |
| 24 | 24VDC | 16.8 | 3.60 | 2000 | 288 |
| 2 form A (2 NO) or 1 form C (1 CO) contact | | | | | |
| 05 | 5VDC | 3.5 | 0.75 | 200 | 125 |
| 12 | 12VDC | 8.4 | 1.80 | 500 | 288 |
| 15 | 15VDC | 10.5 | 2.25 | 2000 | 112 |
| 24 | 24VDC | 16.8 | 3.60 | 2000 | 288 |

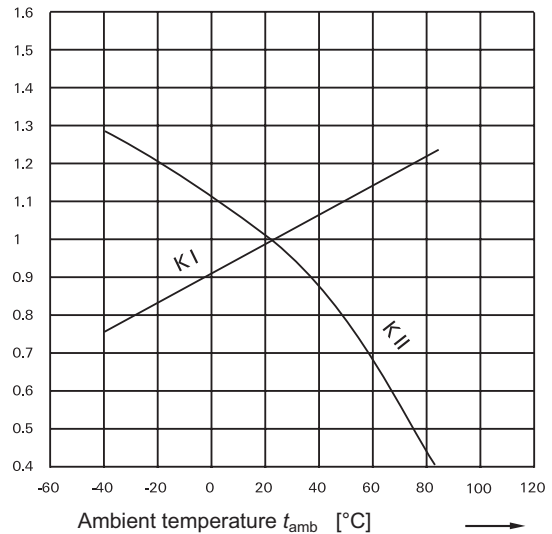
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Coil Data (continued)

Coil versions, limiting operate voltage

| Coil code | DIP flat, SIL, 1 form A | DIP flat, 1 form A with diode | DIP high 1 form C | DIP high 2 form A std, diode | DIP high 1 form C diode+ shield | Mini SIL 1 form A |
|-----------|-------------------------|-------------------------------|-------------------|------------------------------|---------------------------------|-------------------|
| | VDC | VDC | VDC | VDC | VDC | VDC |
| 05 | 22.0 | 14.0 | 13.0 | 14.0 | 14.5 | 13.6 |
| 12 | 33.0 | 25.0 | 22.0 | 25.0 | 23.5 | 21.6 |
| 15 | 44.0 | 47.0 | 44.0 | 47.0 | 14.5 | - |
| 24 | 44.0 | 47.0 | 44.0 | 47.0 | 49.0 | - |

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



Coil operative range

Coil operative range graphs

U_I Minimum voltage at 23°C after pre-energizing with rated voltage without contact current

U_{II} Maximum continuous voltage at 23°C

The operating voltage limits U_I and U_{II} depend on the temperature according to the formula:

$U_{I\ t_{amb}}$ $K_I \times U_I\ 23^\circ\text{C}$ and

$U_{II\ t_{amb}}$ $K_{II} \times U_{II}\ 23^\circ\text{C}$

t_{amb} Ambient temperature

$U_{I\ t_{amb}}$ Minimum voltage at ambient temperature, t_{amb}

$U_{II\ t_{amb}}$ Maximum voltage at ambient temperature, t_{amb}

K_I, K_{II} Factors (dependent on temperature), see diagram

Reed Relay V23100 -V4 (Continued)

Insulation Data

| | |
|---|--------------------|
| Initial dielectric strength | |
| between open contacts | |
| DIP and SIL, 1 form A (NO), 2 form A (2 NO) | 250VDC |
| DIP, 1 form C (CO) | 200VDC |
| Mini SIL, 1 form A (NO) | 225VDC |
| between contact and coil | 1500VDC |
| Initial insulation resistance at 500 VDC | >10 ⁹ Ω |
| Capacitance | |
| between open contacts | max. 1pF |
| between contact and coil | max. 2pF |
| between adjacent contacts | max. 1pF |

Other Data

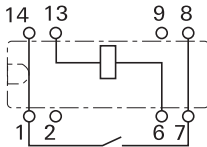
| | form A | form C |
|---|----------------------|----------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter | | |
| Ambient temperature | -40 to +85°C | |
| Category of environmental protection | IEC 61810 | |
| Vibration resistance (functional) | 30g, 10 to 2000Hz | 30g, 50 to 2000Hz |
| Shock resistance (functional), IEC 60068-2-27 (half sine), DIP and SIL 150g | 50g | - |
| | Mini SIL | 50g |
| Terminal type | PCB-THT | |
| Resistance to soldering heat THT | IEC 60068-2-20 | |
| | 260°C / 10s | |

Terminal assignment

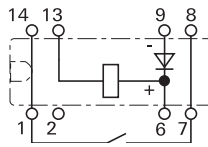
TOP view on component side of PCB

DIP, flat version

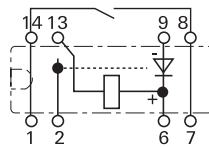
1 form A (NO)
standard
V23100-V4xxx-A000



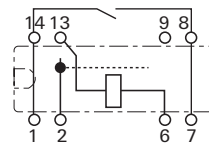
1 form A (NO)
with diode
V23100-V4xxx-A010



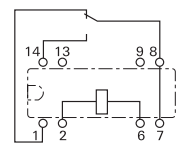
1 form A (NO)
with electrostatic shield + diode
V23100-V4xxx-A011



1 form A (NO)
with electrostatic shield
V23100-V4xxx-A001

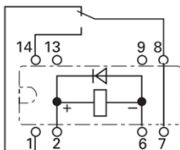


1 form C (CO)
standard
V23100-V4xxx-C000

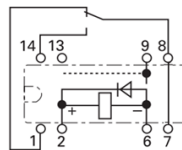


DIP, high version

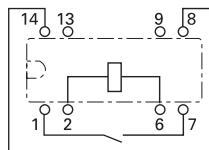
1 form C (CO)
with diode
V23100-V4xxx-C010



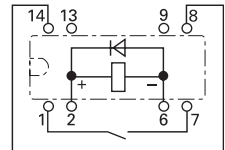
1 form C (CO)
with electrostatic shield + diode
V23100-V4xxx-C011



2 form A (NO)
standard
V23100-V43xx-B000



2 form A (NO)
with diode
V23100-V43xx-B010

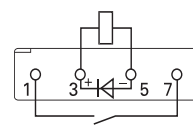


SIL version

1 form A (NO)
standard
V23100-V45xx-A000

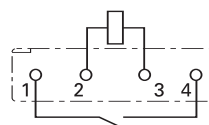


1 form A (NO)
with diode
V23100-V45xx-A010

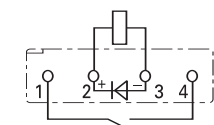


Mini SIL version

1 form A (NO)
standard
V23100-V46xx-A000



1 form A (NO)
with diode
V23100-V46xx-A010

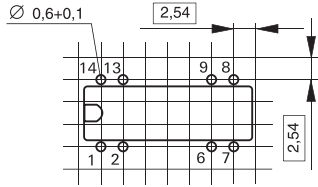


Reed Relay V23100 -V4 (Continued)

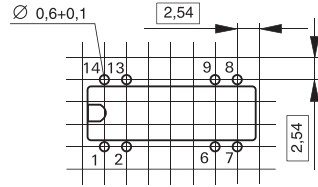
PCB layout

TOP view on component side of PCB

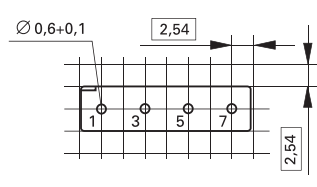
DIP, flat version



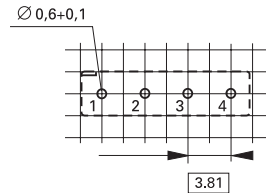
DIP, high version



SIL version

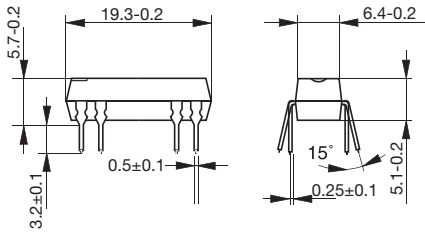


Mini SIL version

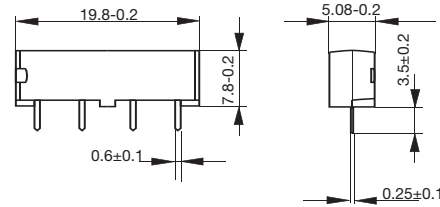


Dimensions

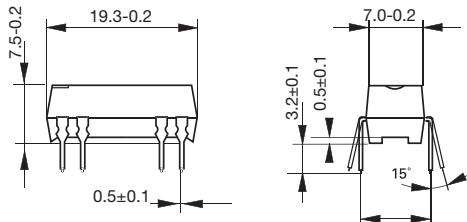
DIP, flat version



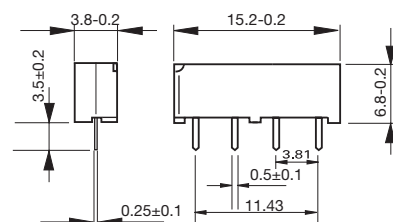
SIL version



DIP, high version



Mini SIL version



Product code structure

Typical product code **V23100-V4** **0** **05** **A0** **10**

| | | | | |
|----------------------------|--|---|----------------------------|---------------------------------|
| Type | V23100-V4 Reed Relay, V23100-V4 Series | | | |
| Version | 0 | 3 | 5 | 6 |
| | DIP flat, 1 form A (NO) contact or 1 form C (CO) contact without diode | DIP high, 2 form A (NO) or 1 form C (CO) contacts | SIL, 1 form A (NO) contact | Mini SIL, 1 form A (NO) contact |
| Coil | Coil code: please refer to coil versions table | | | |
| | 05 5VDC coil | 12 12VDC coil | 15 15VDC coil | 24 24VDC coil |
| Contact arrangement | A0 1 form A (NO) contact, DIP flat or SIL package | | | |
| | B0 2 form A (NO) contacts, DIP high package | | | |
| | C0 1 form C (CO) contact, DIP high package | | | |
| Coil circuit | 00 Standard | | | |
| | 10 With diode | | | |
| | 11 With diode and electrostatic shield | | | |

Reed Relay V23100 -V4 (Continued)

| Product Code | Version | Coil | Arrangement | Diode/shield | Part number | | |
|-------------------|----------|---------------|------------------|---------------|---------------|-------------|-------------|
| V23100-V4005-A000 | DIP flat | 5VDC | 1 form A (NO) | Standard | 1393763-1 | | |
| V23100-V4012-A000 | | 12VDC | | | 1393763-6 | | |
| V23100-V4015-A000 | | 15VDC | | | 1-1393763-0 | | |
| V23100-V4024-A000 | | 24VDC | | | 1-1393763-4 | | |
| V23100-V4005-A010 | | 5VDC | | 1 form C (CO) | Diode | 1393763-4 | |
| V23100-V4012-A010 | | 12VDC | | | | 1393763-8 | |
| V23100-V4015-A010 | | 15VDC | | | 1-1393763-2 | | |
| V23100-V4024-A010 | | 24VDC | | | 1-1393763-6 | | |
| V23100-V4305-C000 | | 5VDC | | | 1 form A (NO) | Standard | 2-1393763-0 |
| V23100-V4312-C000 | | 12VDC | | | | | 2-1393763-8 |
| V23100-V4315-C000 | 15VDC | 3-1393763-4 | | | | | |
| V23100-V4324-C000 | 24VDC | 4-1393763-0 | | | | | |
| V23100-V4005-A011 | 5VDC | 2 form A (NO) | Diode and shield | 1393763-3 | | | |
| V23100-V4012-A011 | 12VDC | | | 1393763-9 | | | |
| V23100-V4015-A011 | 15VDC | | 1-1393763-3 | | | | |
| V23100-V4024-A011 | 24VDC | | 1-1393763-7 | | | | |
| V23100-V4305-B000 | 5VDC | | 1 form C (CO) | Standard | 1-1393763-8 | | |
| V23100-V4312-B000 | 12VDC | | | | 2-1393763-6 | | |
| V23100-V4315-B000 | 15VDC | | | 3-1393763-2 | | | |
| V23100-V4324-B000 | 24VDC | | | 3-1393763-8 | | | |
| V23100-V4305-B010 | 5VDC | | | Diode | 1-1393763-9 | | |
| V23100-V4312-B010 | 12VDC | | | | 2-1393763-7 | | |
| V23100-V4315-B010 | 15VDC | 3-1393763-3 | | | | | |
| V23100-V4324-B010 | 24VDC | 3-1393763-9 | | | | | |
| V23100-V4305-C010 | 5VDC | 1 form C (CO) | Standard | 2-1393763-2 | | | |
| V23100-V4312-C010 | 12VDC | | | 3-1393763-0 | | | |
| V23100-V4315-C010 | 15VDC | | 3-1393763-6 | | | | |
| V23100-V4324-C010 | 24VDC | | 4-1393763-2 | | | | |
| V23100-V4305-C011 | 5VDC | | Diode and shield | 2-1393763-3 | | | |
| V23100-V4312-C011 | 12VDC | | | 3-1393763-1 | | | |
| V23100-V4315-C011 | 15VDC | | | 3-1393763-7 | | | |
| V23100-V4324-C011 | 24VDC | | | 4-1393763-3 | | | |
| V23100-V4505-A000 | SIL | | 5VDC | 1 form A (NO) | Standard | 4-1393763-4 | |
| V23100-V4512-A000 | | | 12VDC | | | 4-1393763-7 | |
| V23100-V4515-A000 | | 15VDC | 4-1393763-9 | | | | |
| V23100-V4524-A000 | | 24VDC | 5-1393763-1 | | | | |
| V23100-V4505-A010 | | 5VDC | Diode | | 4-1393763-5 | | |
| V23100-V4512-A010 | | 12VDC | | | 4-1393763-8 | | |
| V23100-V4515-A010 | | 15VDC | | | 5-1393763-0 | | |
| V23100-V4524-A010 | | 24VDC | | | 5-1393763-2 | | |
| V23100-V4605-A000 | | Mini SIL | | | 5VDC | Standard | 1422026-2 |
| V23100-V4612-A000 | | | | | 12VDC | | 1422026-3 |
| V23100-V4605-A010 | 5VDC | | Diode | 1422026-5 | | | |
| V23100-V4612-A010 | 12VDC | | | 1422026-6 | | | |