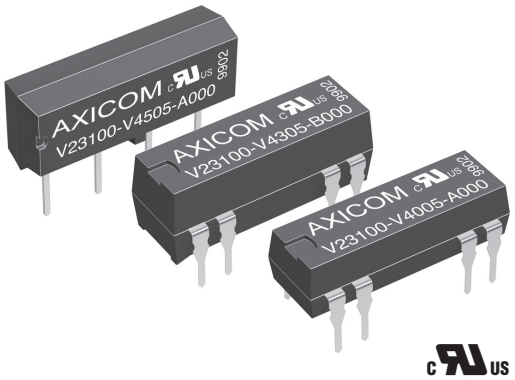
Reed Relay V23100 -V4

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



Typical applications
Incircuit 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

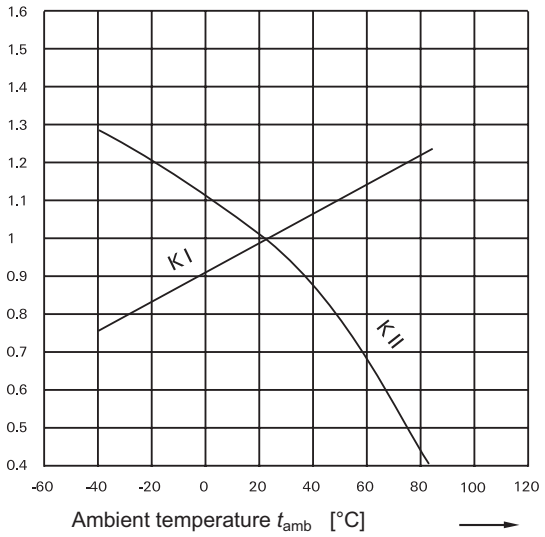
All figures are given for coil without pre-energization, at ambient temperature +23°C.

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 continous voltage at 23°C
	The operating voltage limits U_I and U_{II} depend on the temperature according to the formula:
$U_{I\ tamb}$	$K_I x U_I$ 23°C and
$U_{II\ tamb}$	$K_{II} x U_{II}$ 23°C
tamb	Ambient temperature
$U_{I\ tamb}$	Minimum voltage at ambient temperature, tamb
$U_{II\ tamb}$	Maximum voltage at ambient temperature, tamb
K_I , K_{II}	Factors (dependent on temperature), see diagram

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Reed Relay V23100 -V4 (Continued)

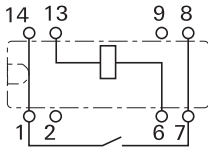
Insulation Data	
Initial dielectric strength	
between open contacts	
DIP and SIL, 1 form A (NO), 2 form A (2 NO)	250VDC
DIP, 1 form C (CO)	200VDC
Mini SIL, 1 form A (NO)	225VDC
between contact and coil	1500VDC
Initial insulation resistance at 500 VDC	$>10^9\Omega$
Capacitance	
between open contacts	max. 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/customersupport/rohssupportcenter		
Ambient temperature	-40 to +85°C	
Category of environmental protection		
IEC 61810	RT-III - wash tight	
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	265 °C / 10 s	

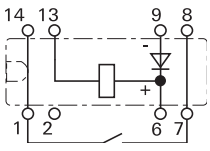
Terminal assignment
TOP view on component side of PCB

DIP, flat version

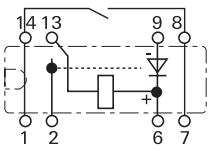
1 form A (NO)
standard
V23100-V4xxx-A000



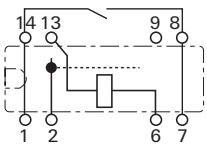
1 form A (NO)
with diode
V23100-V4xxx-A010



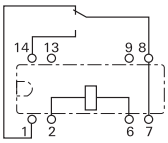
1 form A (NO)
with electrostatic shield + diode
V23100-V4xxx-A011



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

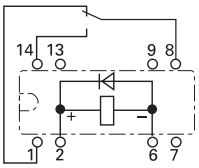


1 form C (CO)
standard
V23100-V4xxx-C000

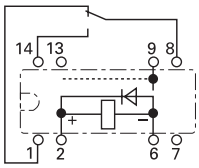


DIP, high version

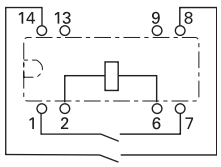
1 form C (CO)
with diode
V23100-V4xxx-C010



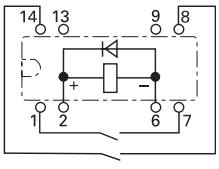
1 form C (CO)
with electrostatic shield + diode
V23100-V4xxx-C011



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

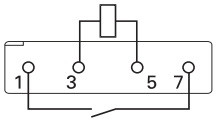


2 form A (NO)
with diode
V23100-V43xx-B010

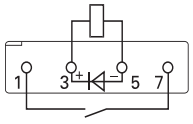


SIL version

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

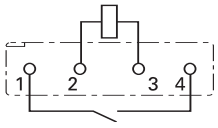


1 form A (NO)
with diode
V23100-V45xx-A010

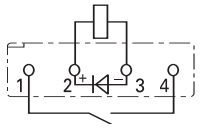


Mini SIL version

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



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



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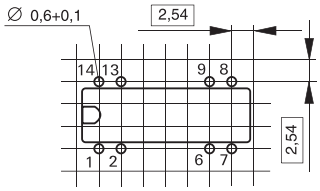
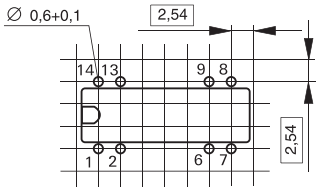
Reed Relay V23100 -V4 (Continued)

PCB layout
TOP view on component side of PCB

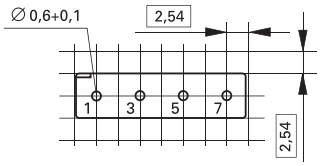
DIP, flat version



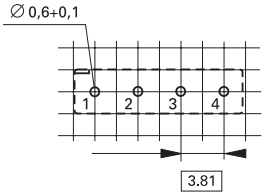
DIP, high version



SIL version

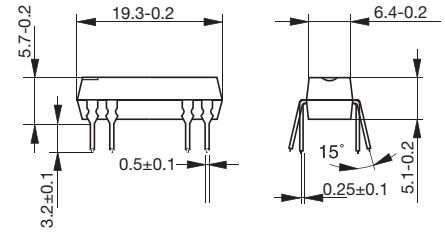


Mini SIL version

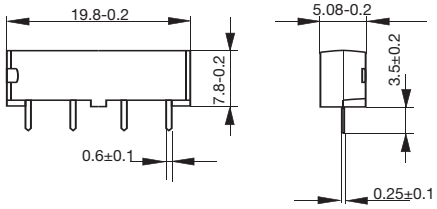


Dimensions

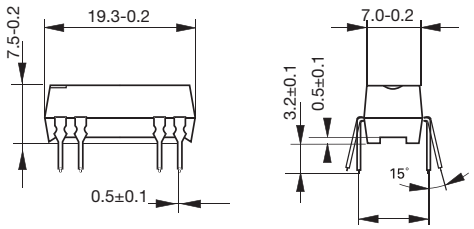
DIP, flat version



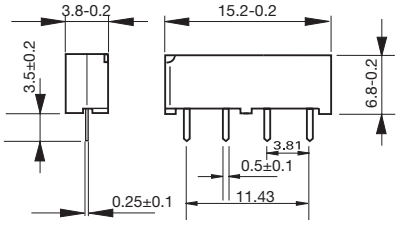
SIL version



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 DIP flat, 1 form A (NO) contact or 1 form C (CO) contact without diode
3 DIP high, 2 form A (NO) or 1 form C (CO) contacts
5 SIL, 1 form A (NO) contact
6 Mini SIL, 1 form A (NO) contact

Coil
Coil code: please refer to coil versions table
05 5VDC coil **15** 15VDC coil
12 12VDC 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

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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		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 C (CO)	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	1 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	DIP high	5VDC	2 form A (NO)	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)		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

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