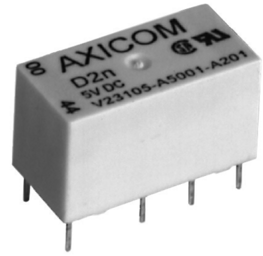
D2n Relay V23105

- **Standard DIL relay**
- **Dimensions 20x10x11mm (.795x.394x.433")**
- **Switching and continous current 3A**
- **2 form C contacts (2 CO, 2 changeover contacts)**
- **Immersion cleanable**
- **Four different coil sensitivities, 150mW, 200mW, 400mW, >500mW**
- **Surge voltage resistance meets FCC Part 68 requirement: 1.5kV (10/700µs) between coil and contacts**

Typical applications
Communications equipment, office equipment, measurement and control equipment, entertainment electronics, medical equipment, consumer electronics



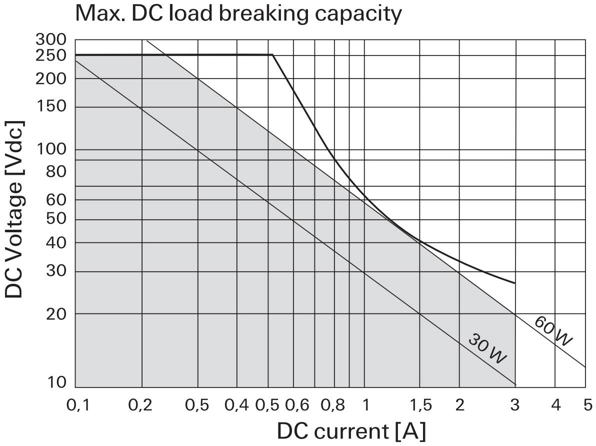
Approvals

UL 508 File No. E 111441
Technical data of approved types on request

Contact Data

Contact arrangement	2 form C (CO)
Max. switching voltage	220VDC, 250VAC
Rated current	3A
Limiting continuous current, 85°C	3A
Contact material	AgNi, gold-covered
Min. recommended contact load	10mA at 20mV
Minimum switching voltage	100µV
Initial contact resistance	<100mΩ at 10mA, 20mV
Frequency of operation without load	max. 50 operations/s
Operate / release time max.	6ms/4ms
Bounce time max.	5 ms
Electrical endurance	
at 230VAC/0.5A	typ. 3x10^5 operations
at 6VDC/0.1A	typ. 2x10^6 operations
at 30VDC/1A	typ. 5x10^5 operations
at 30VDC/2A	typ. 1x10^5 operations
Contact ratings, UL	30VDC/1.0A
	100VDC/0.3A
150mW and 200mW coil	125VAC/0.5A
400mW and 500mW coil	125VAC/1.0A
Mechanical endurance	typ. 15x10^6 operations

Max. DC load breaking capacity



Coil Data

Magnetic system	neutral
Coil voltage range	3 to 48VDC
Max. coil temperature	85 °C
Thermal resistance	< 85K/W

Coil versions, monostable

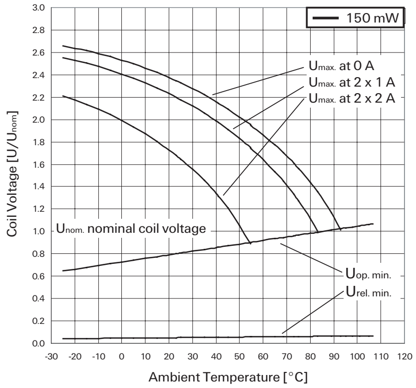
Coil code	Rated voltage VDC	Operate voltage VDC	Limiting Voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
150mW coil power						
001	5	4.0	11.7	0.25	167	150
002	6	4.8	14.0	0.30	240	150
006	9	7.2	21.0	0.45	540	150
003	12	9.6	28.0	0.60	960	150
005	24	19.2	56.0	1.20	3840	150
200mW coil power						
308	3	2.1	6.1	0.15	45	200
301	5	3.5	10.1	0.25	125	200
302	6	4.2	12.2	0.30	180	200
306	9	6.3	18.2	0.45	405	200
303	12	8.4	24.3	0.60	720	200
305	24	16.8	48.6	1.20	2880	200
307	48	33.6	97.2	2.40	11520	200
400mW coil power						
401	5	3.5	7.2	0.25	62	400
402	6	4.2	8.6	0.30	90	400
406	9	6.3	12.9	0.42	203	400
403	12	8.4	17.2	0.60	360	400
405	24	16.8	34.3	1.20	1440	400
407	48	33.6	68.6	2.40	5760	400
>500mW coil power						
501	5	3.5	6.1	0.25	36	695
502	6	4.2	7.3	0.30	70	515
506	9	6.3	10.9	0.45	140	580
503	12	8.4	14.5	0.60	280	515
505	24	16.8	29.1	1.20	1050	550
507	48	33.6	58.1	2.40	4000	575

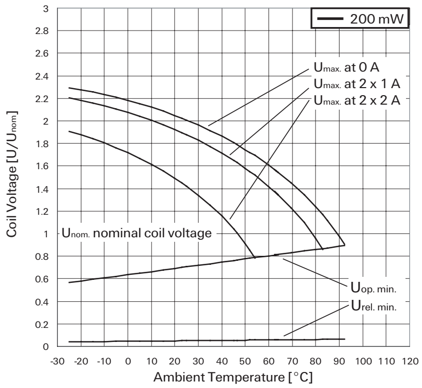
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

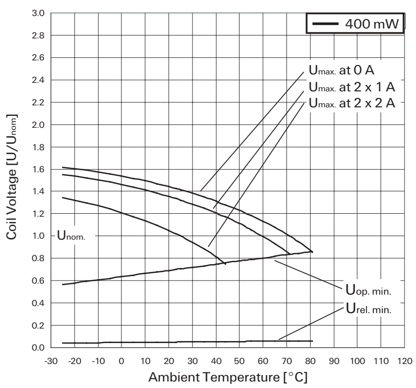
02-2011, Rev. 0211

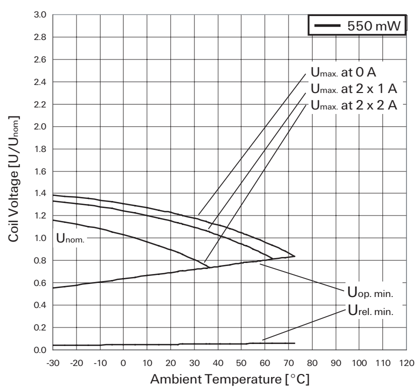
D2n Relay V23105 (Continued)

Coil Data (continued)









Coil Data (continued)

Coil operative range graphs

U_{nom}	Nominal coil voltage
U_{max}	Upper limit of the operative range of the coil voltage (limiting voltage) when coils are continously energized
$U_{op.\ min.}$	Lower limit of the operative range of the coil voltage (reliable operate voltage)
$U_{rel.\ min.}$	Lower limit of the operative range of the coil voltage (reliable release voltage)

Insulation Data

Initial dielectric strength	
between open contacts	$750V_{rms}$
between contact and coil	$1050V_{rms}$
between adjacent contacts	$750V_{rms}$
Initial surge withstand voltage	
between open contacts	1500V
between contact and coil	1500V
between adjacent contacts	1500V
Initial insulation resistance at 500 VDC	$> 10^9\Omega$
Capacitance	
between open contacts	max. 2pF
between contact and coil	max. 4pF
between adjacent contacts	max. 2 pF

RF Data

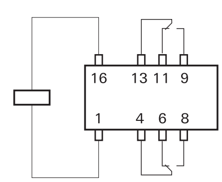
Isolation at 100MHz/900MHz	-39.0dB/-20.7dB
Insertion loss at 100MHz/900MHz	-0.02dB/-0.27dB
Voltage standing wave ratio (VSWR)	
at 100MHz/900MHz	1.04/1.40

Other Data

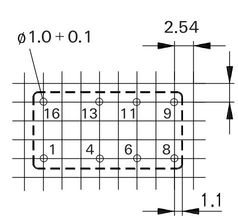
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.com/customersupport/rohssupportcenter

Ambient temperature	-40 to +85°C
Category of environmental protection	
IEC 61810	RT III - immersion cleanable
Degree of protection, IEC 60529	IP 67
Vibration resistance (functional)	10g, 10 to 55Hz
Shock resistance (functional)	
IEC 60068-2-27 (half sine)	10g
Shock resistance (destructive)	50g
Terminal type	PCB-THT
Weight	max. 6g
Resistance to soldering heat THT	
IEC 60068-2-20	265°C/10s
Ultrasonic cleaning	not recommended
Packaging unit	1000 pcs.

Terminal assignment
TOP view on component side of PCB



PCB layout
TOP view on component side of PCB



02-2011, Rev. 0211

www.te.com

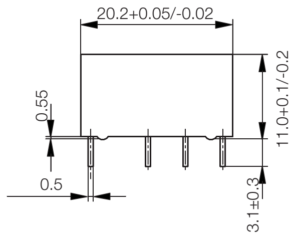
Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

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

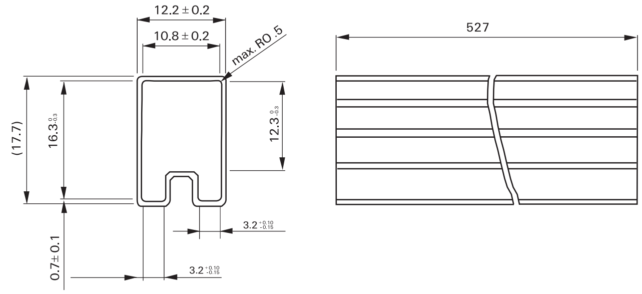
Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.

D2n Relay V23105 (Continued)

Dimensions



Packing



Product code structure

Typical product code **V23105-A5** **001** **A201**

Type
V23105-A5 D2n Series Signal Relay

Coil
Coil code: please refer to coil versions table
Coil power

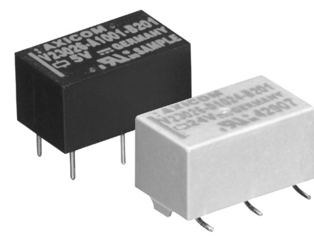
0xxx	150 mW	**4xxx**	400 mW
3xxx	300 mW	**5xxx**	550 mW

Contacts
A201 2 form C, 2 CO, AgNi+Au contacts

Product Code	Version	Coil power	Coil voltage	Part number
V23105A5001A201	AgNi+Au	150mW	5VDC	8-1393792-5
V23105A5002A201	contacts		6VDC	8-1393792-7
V23105A5006A201			9VDC	9-1393792-1
V23105A5003A201			12VDC	8-1393792-8
V23105A5005A201			24VDC	9-1393792-0
V23105A5308A201		200mW	3VDC	1393793-5
V23105A5301A201			5VDC	9-1393792-3
V23105A5302A201			6VDC	9-1393792-5
V23105A5306A201			9VDC	1393793-2
V23105A5303A201			12VDC	9-1393792-7
V23105A5305A201			24VDC	9-1393792-9
V23105A5307A201			48VDC	1393793-3
V23105A5401A201		400mW	5VDC	1393793-6
V23105A5402A201			6VDC	1393793-7
V23105A5406A201			9VDC	1-1393793-0
V23105A5403A201			12VDC	1393793-8
V23105A5405A201			24VDC	1393793-9
V23105A5407A201			48VDC	1-1393793-1
V23105A5501A201		>500mW	5VDC	1-1393793-6
V23105A5502A201			6VDC	1-1393793-8
V23105A5506A201			9VDC	2-1393793-3
V23105A5503A201			12VDC	1-1393793-9
V23105A5505A201			24VDC	2-1393793-1
V23105A5507A201			48VDC	2-1393793-4
V23105A5475A201		BT 47 type	5VDC	1-1393793-2
V23105A5479A201		spec T4563C	10VDC	3-1393794-0
V23105A5476A201		(current tested)	12VDC	1-1393793-3
V23105A5477A201			24VDC	1-1393793-4
V23105A5478A201			48VDC	1-1393793-5

P1 Relay V23026

- Directly triggerable with TTL standard modules as ALS, HCT & ACT
- Slim line 13.5x7.85mm (0.531x0.309”)
- Switching current 1 A
- Bifurcated 1 form C (CO) contact
- Immersion cleanable
- High sensitivity results in low nominal power consumption, 65 to 130mW for monostable and 30 to 150mW for bistable (latching)
- Initial surge withstand voltage
  2.5kV (2/10µs) meets the Bellcore Requirement GR-1089
  1.5kV (10/160µs) meets FCC Part 68



P1_THTSMD

Typical applications
Automotive equipment, CAN bus, imobilizer, office equipment, measurement and control equipment, medical equipment, safety equipment

c US

Approvals

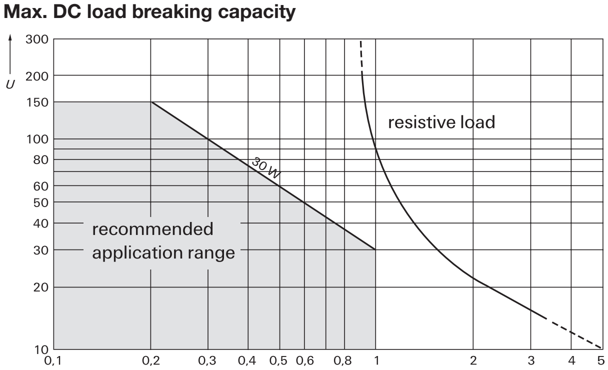
UL 508 File No. E 111441

Technical data of approved types on request

Contact Data

Contact arrangement	1 form C (CO)
Max. switching voltage	125VDC, 150VAC
Rated current	1A
Limiting continuous current, 85°C	1A
Breaking capacity max.	see max. DC load breaking capacity
Contact material	Palladium nickel, gold-rhodium covered
Contact style	bifurcated contact
Min. recommended contact load	10mA at 20mV
Initial contact resistance	≤50mΩ at 10mA/20mV
Frequency of operation without load	200 ops./s
Operate/release time max.	2ms
Set/reset time max.	2ms
Bounce time max.	3ms
Electrical endurance	
at 12V/10mA	typ. 50x10^6 operations
at 6V/100mA	typ. 10x10^6 operations
at 30V/1000mA	typ. 10x10^3 operations
Contact ratings	
UL contact ratings	30VDC/1A 65VDC/0.46A 150VAC/0.46A
Mechanical endurance	typ. 10^9 operations

Max. DC load breaking capacity



Coil Data

Magnetic system	polarized
Coil voltage range	3 to 24VDC other coil voltages on request
Operative range, IEC 61810	see coil operative range
Max. coil temperature	85°C
Thermal resistance	<130K/W

Coil versions, THT, monostable

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%	Rated coil power mW
006	3	2.25	0.3	137	66
001	5	3.75	0.5	370	68
005	9	6.75	0.9	1165	70
002	12	9.00	1.2	2250	34
004	24	18.00	2.4	4500	128

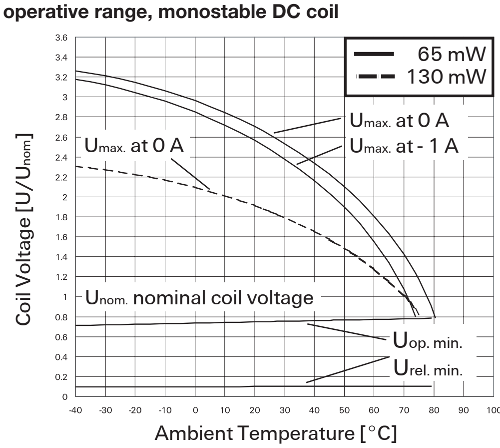
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Coil versions, SMT, monostable

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%	Rated coil power mW
026	3	2.25	0.3	113	80
021	5	3.75	0.5	313	80
025	9	6.75	0.9	1015	80
022	12	9.00	1.2	1800	80
024	24	18.00	2.4	4500	128

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

Coil operative range, monostable DC coil



02-2011, Rev. 0211

www.te.com

Datasheets and product specification according to IEC 61810-1 and to be used only together with the ‘Definitions’ section.

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

Datasheets, product data, ‘Definitions’ section, application notes and all specifications are subject to change.