Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

OV-24DC …

Solid-State Relays

INTERFACE

Data Sheet
103082_01_en

Description

OV-24DC … solid-state relays for electrical isolation can be mounted directly on the PCB as interfaces or plugged in using the SIM-AMS socket, which can be soldered.

The solid-state relays are suitable for switching ohmic, capacitive or inductive loads. Relays for switching AC circuits have a zero point switch to switch on loads that are in the zero voltage crossing. They are switched off in the zero current crossing.

DC loads can switch up to 1 A at 350 V DC and up to 4 A at 60 V DC, while AC loads can switch up to 5 A at 480 V AC. Inductive loads must be provided with an appropriate protective circuit (e.g., free-wheeling diode or RC element).

The electronic load relays have the following advantages:

– No wear, even at high switching frequencies
– No contact bounce – no movable parts
– No electromagnetic interference
– Electrically insulated housing
– Compact dimensions
– High test voltage of up to 4 kV between control and load circuits

Make sure you always use the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

This data sheet is valid for all products listed on the following page:

PHŒNIX CONTACT

INSPIRING INNOVATIONS

Ordering Data

Solid-State Relays With DC Voltage Output

Description	Type	Order No.	Pcs./Pck.
Solid-state relay, for signal amplification and electrical isolation of the control and load circuits, can be plugged into the SIM-AMS plug-in base, which can be soldered, or mounted directly on the PCB with PCB connection, input/output: DC voltage (350 V DC, maximum)	OV-24DC/350DC/1	2982634	10
Solid-state relay, for signal amplification and electrical isolation of the control and load circuits, can be plugged into the SIM-AMS plug-in base, which can be soldered, or mounted directly on the PCB with PCB connection, input/output: DC voltage (60 V DC, maximum)	OV-24DC/ 60DC/4	2982647	10

Solid-State Relays With AC Voltage Output

Description	Type	Order No.	Pcs./Pck.
Solid-state relay, for signal amplification and electrical isolation of the control and load circuits, can be plugged into the SIM-AMS plug-in base, which can be soldered, or mounted directly on the PCB with PCB connection, input: DC voltage/output: AC voltage	OV-24DC/480AC/5	2982650	10

Accessories

Description	Type	Order No.	Pcs./Pck.
Plug-in base	SIM-AMS ...	See INTERFACE catalog	

Technical Data

Input Data	...350DC/1	...60DC/4	...480AC/5
Nominal input voltage U_N	24 V DC	24 V DC	24 V DC
Operating voltage range	4.25 V DC ... 32 V DC		4 V DC ... 32 V DC
Voltage switching threshold			
"0" signal	< 1 V DC	< 1 V DC	< 1.2 V DC
"1" signal	> 3.3 V DC	> 3.3 V DC	> 3.5 V DC
Typical input current at U_N	15 mA	15 mA	10 mA
Typical switch-on time	< 100 μs	< 100 μs	1/2 period, maximum
Typical switch-off time	< 250 μs	< 250 μs	1/2 period, maximum
Switching frequency for ohmic nominal load	100 Hz	100 Hz	25 Hz

Output Data	...350DC/1	...60DC/4	...480AC/5
Nominal output voltage range	1 V DC ... 350 V DC	1 V DC ... 60 V DC	12 V AC ... 530 V AC
Periodic peak reverse voltage	–	–	1000 V
Limiting continuous current (see derating curves)	1 A	4 A	5 A
Minimum load current	1 mA	1 mA	20 mA
Surge current	20 A (tp = 1 s)	25 A (tp = 1 s)	80 A (tp = 20 ms)
Voltage drop at maximum limiting continuous current (2-wire)	0.5 V	0.5 V	1.2 V
Maximum load value I^2t	–	–	50 A^2s
Leakage current when switched off	100 μA	100 μA	1 mA
Maximum phase shift (inductive loads)	–	–	cos φ = ≥ 0.5
Protective circuit	Diode for protection against polarity reversal	Diode for protection against polarity reversal	–

General Data

	...350DC/1	...60DC/4	...480AC/5
Test voltage input/output	4 kV$_{rms}$	4 kV$_{rms}$	4 kV$_{rms}$
Ambient temperature range	-20°C ... +80°C		-20°C ... +70°C
Operating mode	100% operating factor	100% operating factor	100% operating factor
Assembly	Directly on the PCB or can be plugged in with a SIM-AMS socket, which can be soldered		

Conformance With EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC

Noise Immunity Test According to EN 61000-6-2[1]

Electrostatic discharge (ESD)	EN 61000-4-2
Electromagnetic HF field	EN 61000-4-3
Fast transients (burst)	EN 61000-4-4

Noise Emission Test According to EN 61000-6-4

Noise emission of housing	EN 55011[2]

[1] EN 61000 corresponds to IEC 61000

[2] EN 55011 corresponds to CISPR11
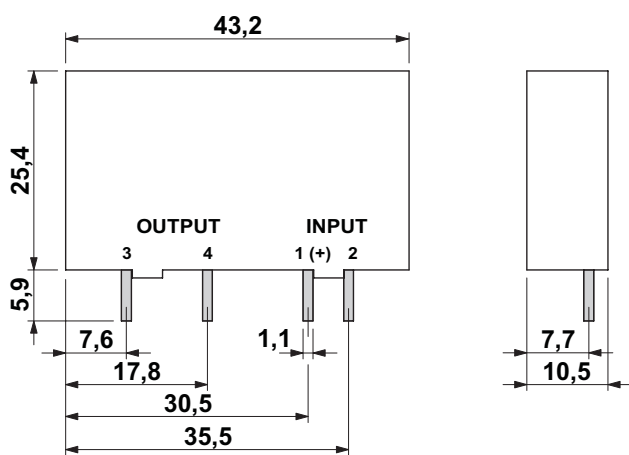
Approvals

UL

Dimensions

Figure 1   Dimensions (in mm)
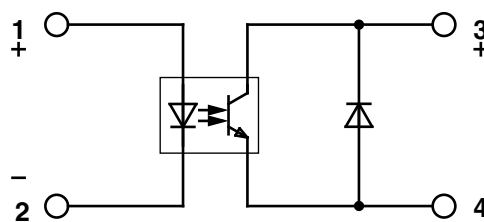
Block Diagrams

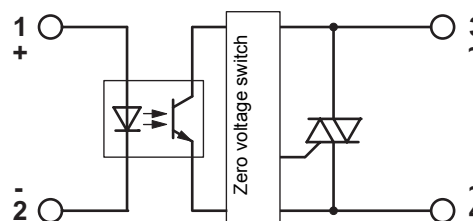Figure 2   Block diagram for OV-24DC/350DC/1 and OV-24DC/ 60DC/4

Figure 3   Block diagram for OV-24DC/480AC/5

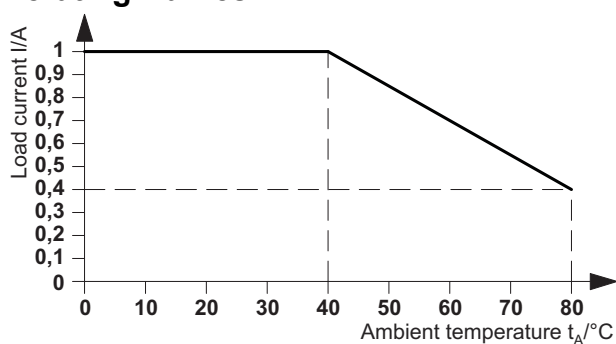## Derating Curves

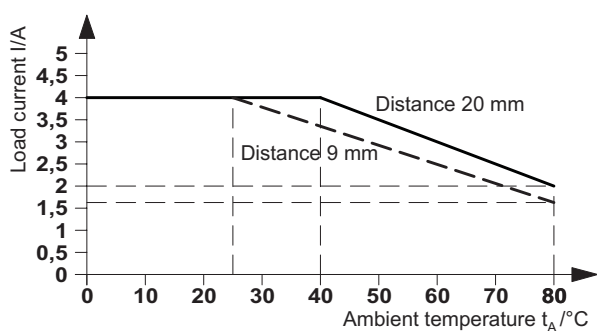Figure 4   Derating curve for OV-24DC/350DC/1
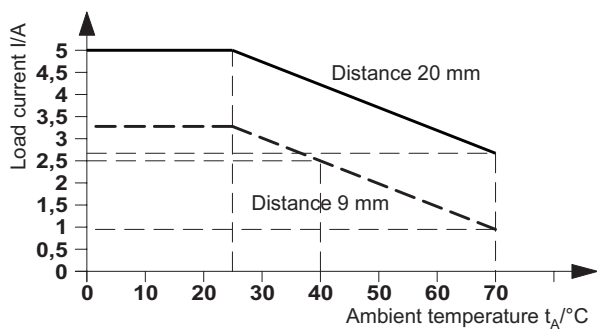

Figure 5   Derating curve for OV-24DC/ 60DC/4

Figure 6   Derating curve for OV-24DC/480AC/5

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