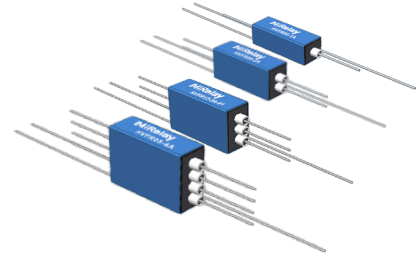


HVFR Series

High voltage Reed Relay

1 Feature

- ◆ High power reed relay with dielectric strength up to 4000VDC
- ◆ High carry current
- ◆ High Insulation resistance, up to $10^{13}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ External magnetic and electrostatic shield
- ◆ Custom Design, conforming to Rohs directive



2 Performance Data

Parameter	Units	Value	
Relay Model	/	HVFR□-□	
Contact Rating	W	100	
Max.Switching Voltage (Max DC/Peak AC)	V	1000	
Max.Switching Current (Max DC/Peak AC)	A	1.0	
Max.Carry Current	at 60°C	A	2.5
Contact Resistance	mΩ	120	
Dielectric Strength (static)	Between contact	V	4000
	Contact/shield to coil	V	4000
	Contacts to shield	V	4000
Insulation Resistance	Ω	10^{13}	
Operate Time	ms	1.0	
Release Time	ms	1.0	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 500VDC-100mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HVFR□-1A	5	4	0.5	6.5	100
	12	9	1	16	400
HVFR□-2A	24	18	2	29	1600

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Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HVFR□-3A	12	9	1	16	300
	24	18	2	29	1200
HVFR□-4A	12	9	1	16	300
	24	18	2	29	1200

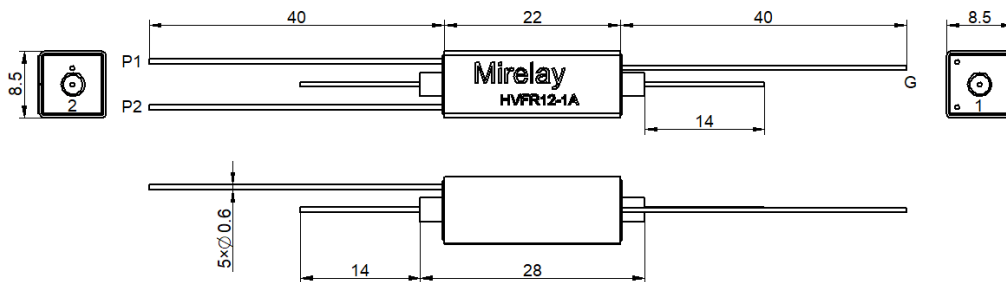
4 Example of order marking

HVFR □ - □ □ - (XXX)
 ① ② ③ ④ ⑤

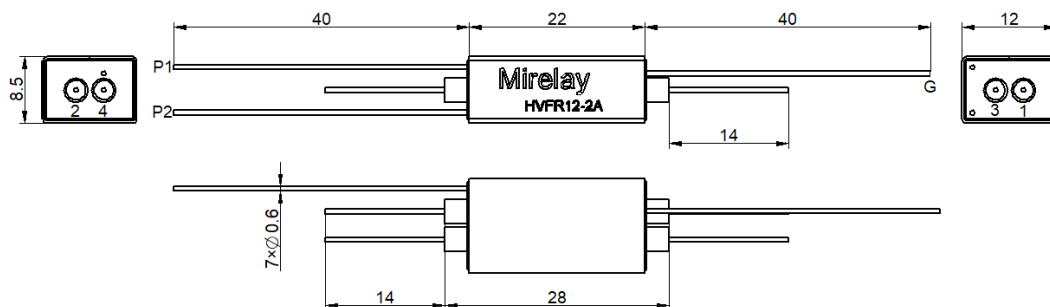
- ① Product model: HGFR
- ② Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ③ Contact form: 1A: 1 Form A、2A: 2 Form A、3A: 3 Form A、4A: 4 Form A
- ④ Layout: Blank: Verlical mount、01: Flat mount
- ⑤ Special code: Customer special requirement

5 Outline drawing

1) HVFR□-1A



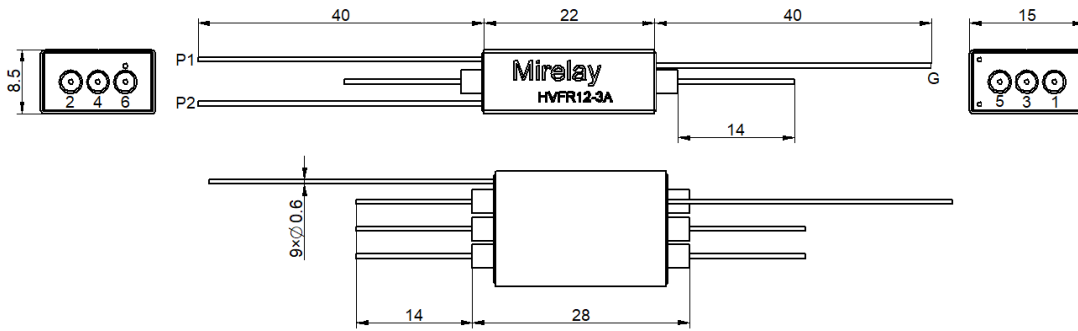
2) HVFR□-2A



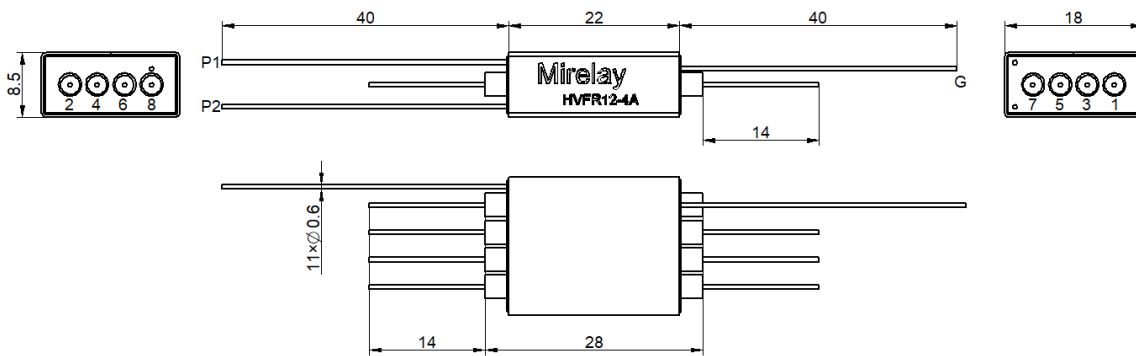
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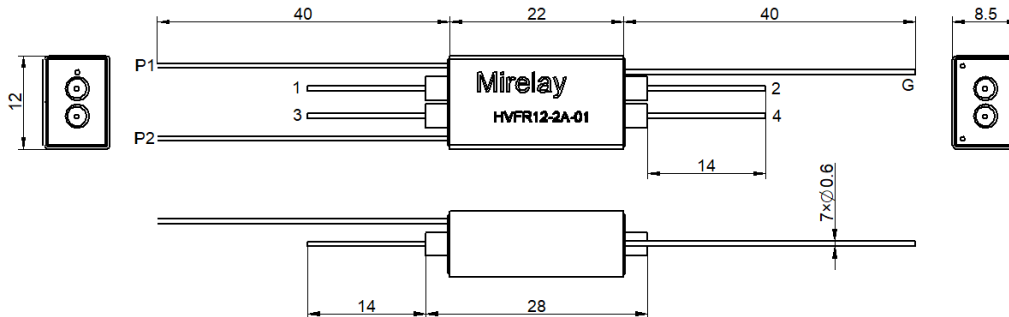
3) HVFR□-3A



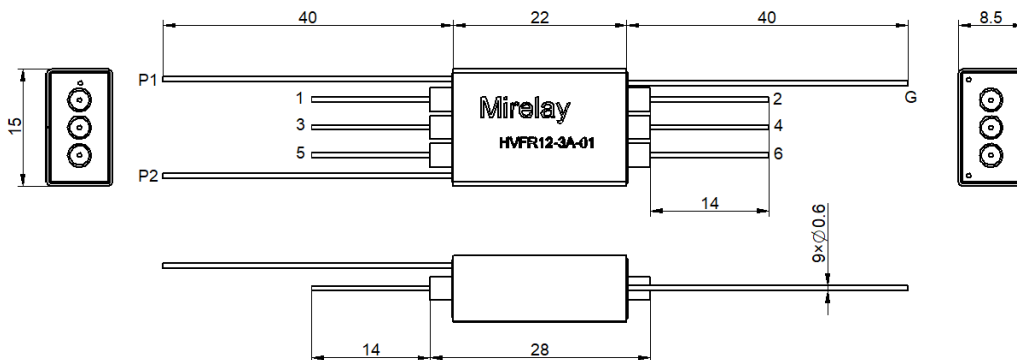
4) HVFR□-4A



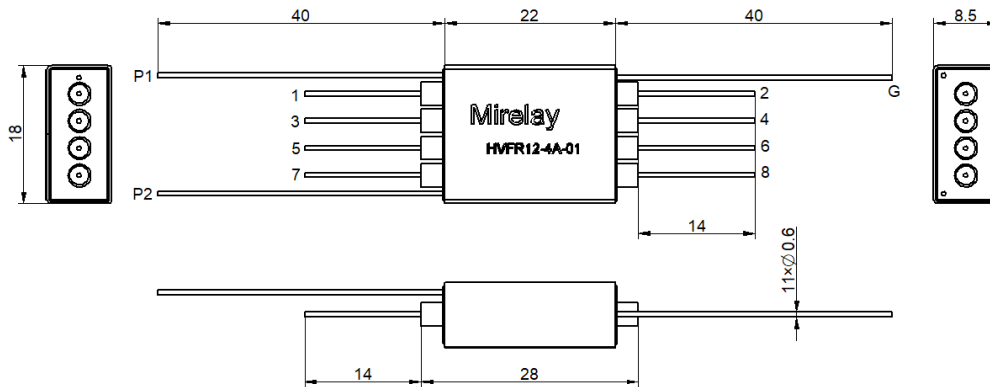
5) HVFR□-2A-01



6) HVFR□-3A-01

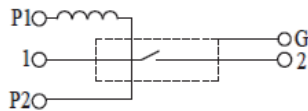


7) HVFR□-4A-01

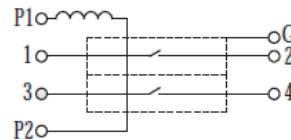


6 Wiring diagram

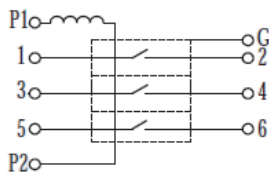
1) HVFR□-1A



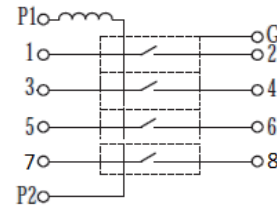
2) HVFR□-2A、HVFR□-2A-01



3) HVFR□-3A、HVFR□-3A-01



4) HVFR□-4A、HVFR□-4A-01



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

The document is for customer reference only. Specifications and parameters may be changed due to product improvement. For the specific parameters and performance of each product, please refer to the specifications and samples provided by Mirelay without further notice.

Relay performance parameters in different application areas are different, so customers should choose the appropriate products according to the specific conditions of use, if in doubt, please contact Shanghai MiRelay Electronics Co.,Ltd. for more technical support.

HRX Series**High voltage Reed Relay****1 Feature**

- ◆ High power reed relay with dielectric strength up to 15VDC
- ◆ High carry current
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ External magnetic and electrostatic shield
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Parameter	Units	Value		
Relay Model	/	HRX□-1A10	HRX□-1A15	
Contact Rating	W	50		
Max.Switching Voltage (Max DC/Peak AC)	V	7500	10000	
Max.Switching Current (Max DC/Peak AC)	A	3.0		
Max.Carry Current	A	5.0		
Contact Resistance	mΩ	150		
Dielectric Strength (static)	Between contact	V	10000	15000
	Contact/shield to coil	V	15000	
	Contacts to shield	V	15000	
Insulation Resistance	Ω	10^{12}		
Operate Time	ms	3.0		
Release Time	ms	1.5		
Vibration(0~2000Hz)	G	20		
Shock(11ms, 1/2 sine)	G	50		
Operating Temp	°C	-20~+70		
Storage Temp	°C	-35~+105		
Life Expectancy	Ops	5×10^7 (at 500VDC-100mA)		
Outline Dimensions	/	Reference outline drawing		

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HRX□-1A□	10	7.5	1	14	120
	12	9	1	16	200
	24	18	2	29	600

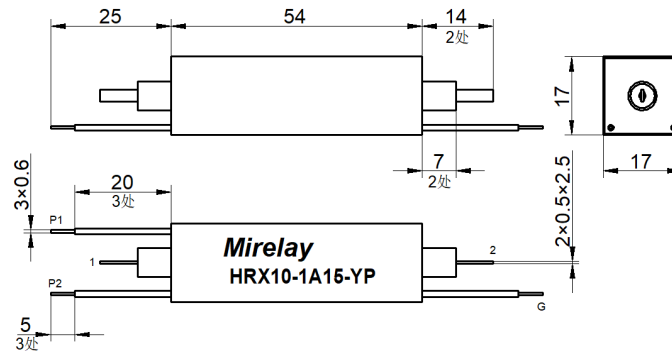
4 Example of order marking

HRX □ - □ □ □ - (XXX)

① ② ③ ④ ⑤ ⑥

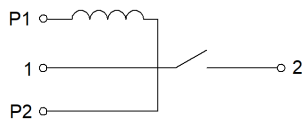
- ① Product model: HRX
- ② Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ③ Contact form: 1A: 1 Form A
- ④ Breakdown voltage: 10: 10KV、15: 15KV
- ⑤ Features: Blank: Standard 、YP: Electrostatic shield
- ⑥ Special code: Customer special requirement

5 Outline drawing

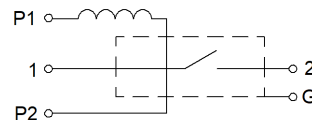


6 Wiring diagram

1) Standard



2) Electrostatic shield



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

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HVR Series(10KV&15KV&20KV)**High voltage Reed Relay****1 Feature**

- ◆ High power reed relay with dielectric strength up to 20KV DC
- ◆ High carry current
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Paramenter		Units	Value		
Relay Model		/	HVR□-□10-□	HVR□-□15-□	HVR□-□20-□
Contact Rating		W	50		
Max.Switching Voltage (Max DC/Peak AC)		V	7500	10000	
Max.Switching Current (Max DC/Peak AC)		A	3.0		
Max.Carry Current at 60°C		A	5.0		
Contact Resistance		mΩ	150		200
Dielectric Strength (static)	Between contact	V	10000	15000	20000
	Contact/shield to coil	V	15000		20000
	Contacts to shield	V	15000		20000
Insulation Resistance		Ω	10^{12}		
Operate Time		ms	3.0		
Release Time		ms	1.5		
Vibration(0~2000Hz)		G	20		
Shock(11ms, 1/2 sine)		G	50		
Operating Temp		°C	-20~+70		
Storage Temp		°C	-35~+105		
Life Expectancy		Ops	5×10^7 (at 500VDC-100mA)		
Outline Dimensions		/	Reference outline drawing		

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HVR□-□□	5	4	0.5	7	30
	12	9	1	16	200
	24	18	2	29	600

4 Example of order marking

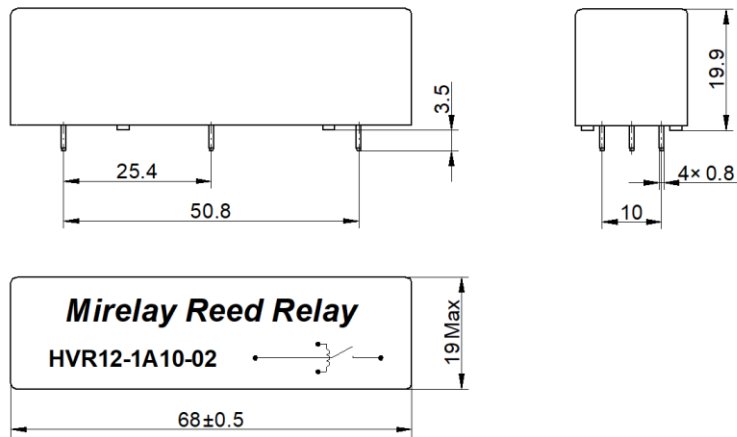
HVR - - - (XXX)

① ② ③ ④ ⑤ ⑥

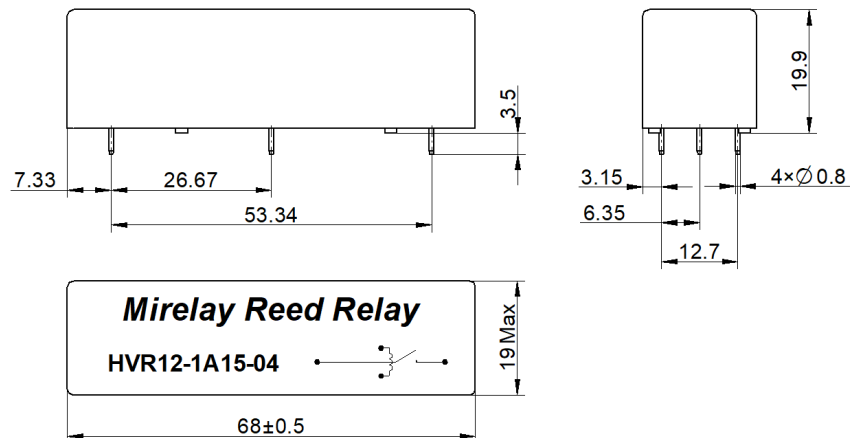
- ① Product model: HVR
- ② Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ③ Contact form: 1A: 1 Form A、1B: 1 Form B
- ④ Breakdown voltage: 10: 10KV、15: 15KV、20: 20KV
- ⑤ Pin type: 02、04、06、150、156
- ⑥ Special code: Customer special requirement

5 Outline drawing

1) HVR -1A -02



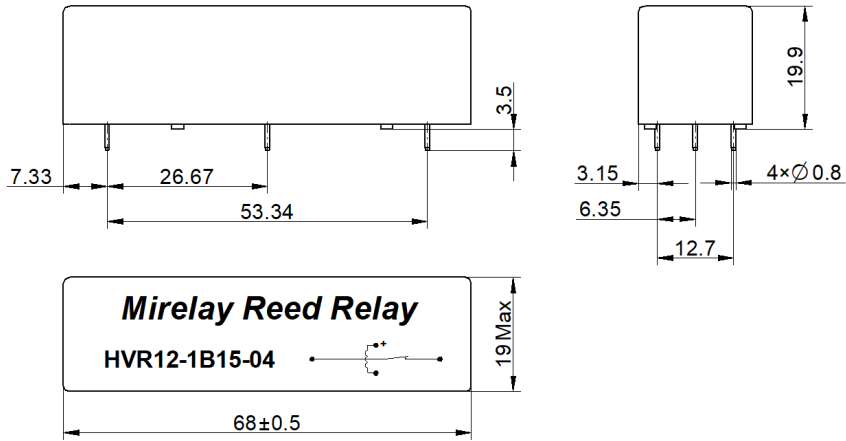
2) HVR -1A -04



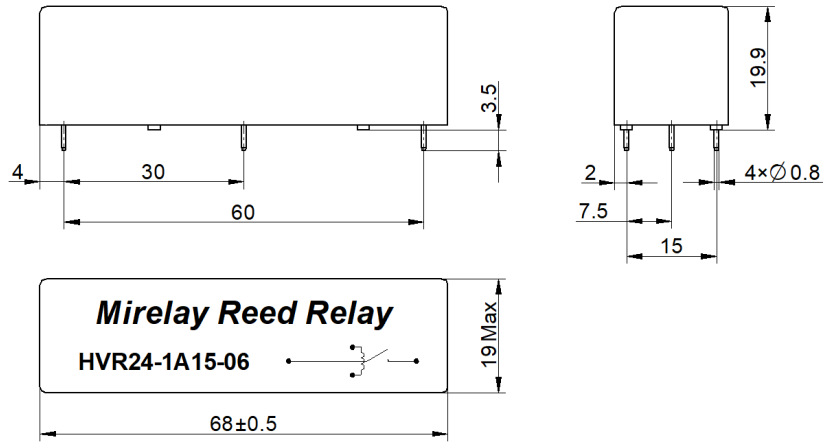
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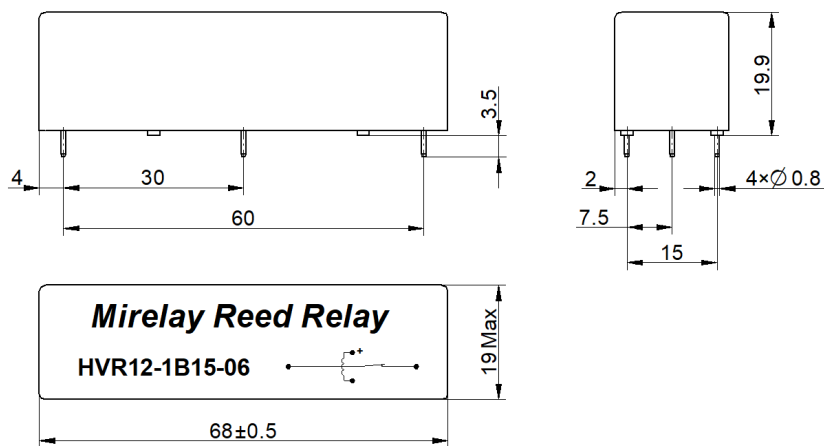
3) HVR□-1B□-04



4) HVR□-1A□-06



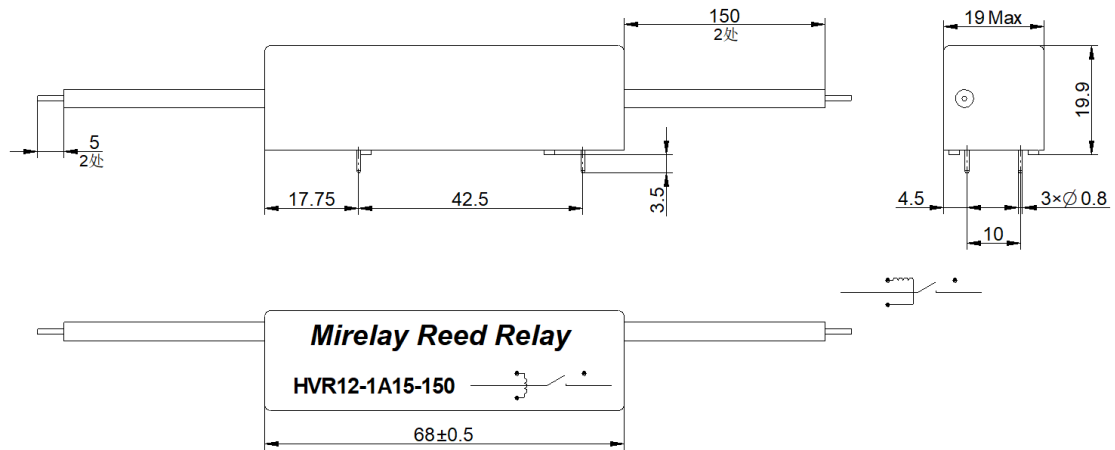
5) HVR□-1B□-06



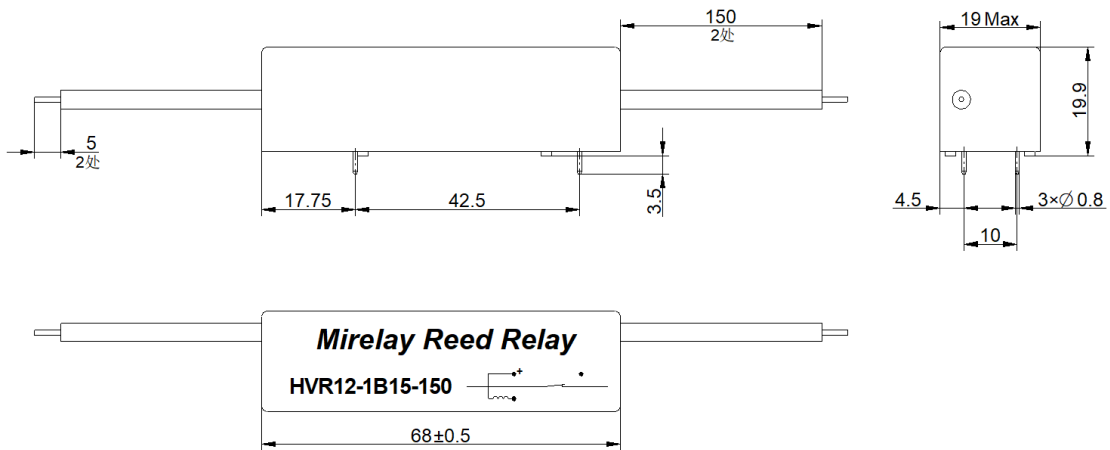
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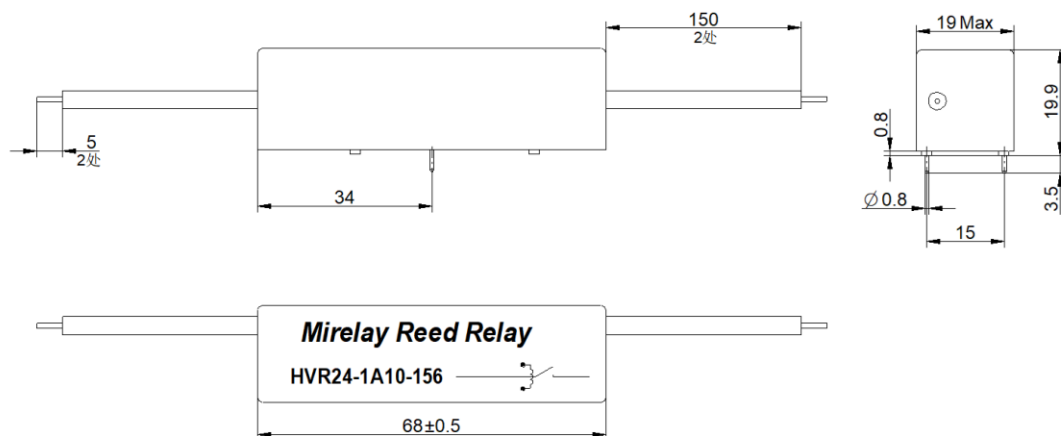
6) HVR□-1A□-150



7) HVR□-1B□-150

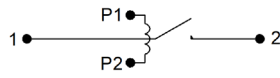


8) HVR□-1A□-156

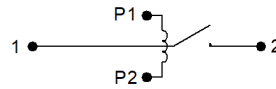


6 接线图

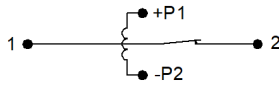
1) HVR□-1A□-02



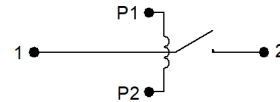
2) HVR□-1A□-04



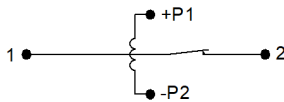
3) HVR□-1B□-04



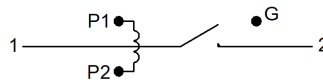
4) HVR□-1A□-06



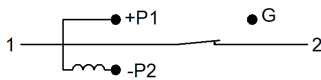
5) HVR□-1B□-06



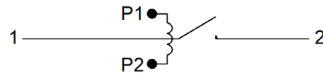
6) HVR□-1A□-150



7) HVR□-1B□-150



8) HVR□-1A□-156



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

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HVR Series(4KV&6KV)**High voltage Reed Relay****1 Feature**

- ◆ High power reed relay with dielectric strength up to 6KV DC
- ◆ High carry current
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Paramenter		Units	Value	
Relay Model		/	HVR□-2A04	HVR□-2A06
Contact Rating		W	100	
Max.Switching Voltage (Max DC/Peak AC)		V	1000	
Max.Switching Current (Max DC/Peak AC)		A	1.0	
Max.Carry Current	at 60°C	A	2.5	
Contact Resistance		mΩ	150	300
Dielectric Strength (static)	Between contact	V	4000	6000
	Contact/shield to coil	V	4000	6000
	Contacts to shield	V	4000	6000
Insulation Resistance		Ω	10^{12}	
Operate Time		ms	1.0	
Release Time		ms	0.1	
Vibration(0~2000Hz)		G	20	
Shock(11ms, 1/2 sine)		G	50	
Operating Temp		°C	-20~+70	
Storage Temp		°C	-35~+105	
Life Expectancy		Ops	5×10^7 (at 500VDC-100mA)	
Outline Dimensions		/	Reference outline drawing	

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HVR□-2A	5	4	0.5	7	120
	12	9	1	16	250
	24	18	2	29	1600

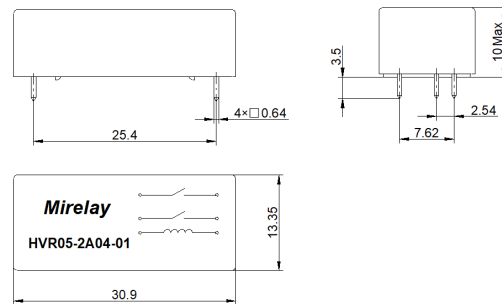
4 Example of order marking

HVR - - - (XXX)
 ① ② ③ ④ ⑤ ⑥

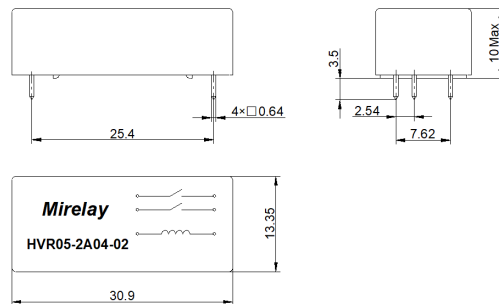
- ⑥ Product model: HVR
- ⑦ Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ⑧ Contact form: 2A: 2 Form A
- ⑨ Breakdown voltage: 04: 4KV、06: 6KV
- ⑩ Pin type: 01、02
- ⑥ Special code: Customer special requirement

5 Outline drawing

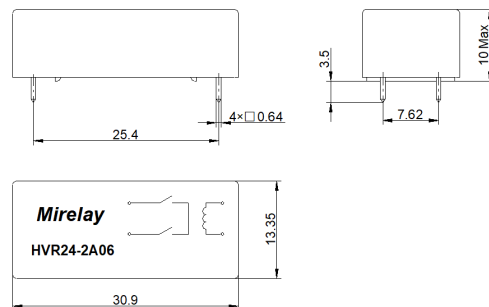
1) HVR -2A04-01



2) HVR -2A04-02

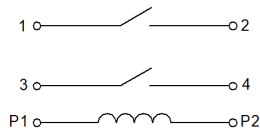


3) HVR -2A06

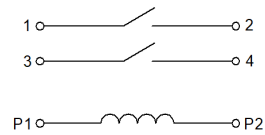


6 Wiring diagram

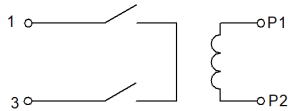
1) HVR□-2A04-01



2) HVR□-2A04-02



3) HVR□-2A06



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

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HVR Series**High voltage Reed Relay****1 Feature**

- ◆ High power reed relay with dielectric strength up to 4KV DC
- ◆ High carry current
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Parameter		Units	Value	
Relay Model		/	HVR1A□	HVR1B□
Contact Rating		W	100	
Max.Switching Voltage (Max DC/Peak AC)		V	1000	
Max.Switching Current (Max DC/Peak AC)		A	1.0	
Max.Carry Current	at 60°C	A	2.5	
Contact Resistance		mΩ	150	
Dielectric Strength (static)	Between contact	V	1000/2000/3000/4000	
	Contact to coil	V	4000	
	Contacts to shield	V	4000	
Insulation Resistance		Ω	10^{12}	
Operate Time		ms	1.0	
Release Time		ms	0.1	
Vibration(0~2000Hz)		G	20	
Shock(11ms, 1/2 sine)		G	50	
Operating Temp		°C	-20~+70	
Storage Temp		°C	-35~+105	
Life Expectancy		Ops	5×10^7 (at 500VDC-100mA)	
Outline Dimensions		/	Reference outline drawing	

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HVR1A□	5	4	0.5	7	100
	12	9	1	16	620
	24	18	2	29	1400
型号	额定电压	动作电压	释放电压	最大电压	线圈电阻

MIRELAY MISENSOR REALY

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 +86 13761571029

	(VDC)	(VDC)	(VDC)	(VDC)	(±10%Ω at 20°C)
HVR1B□	5	4	0.5	7	150
	12	9	1	16	250
	24	18	2	29	1600

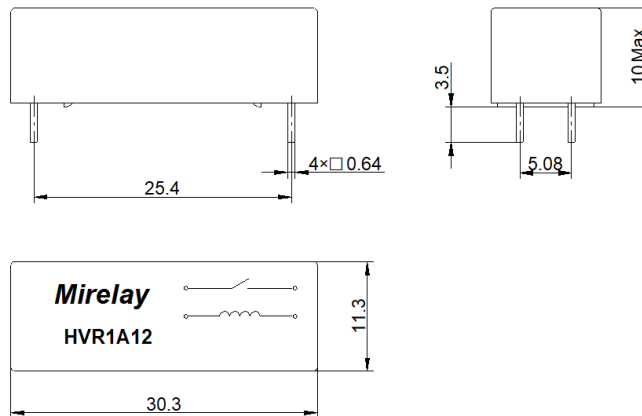
4 Example of order marking

HVR □ - □ □ - **(XXX)**
 ① ② ③ ④

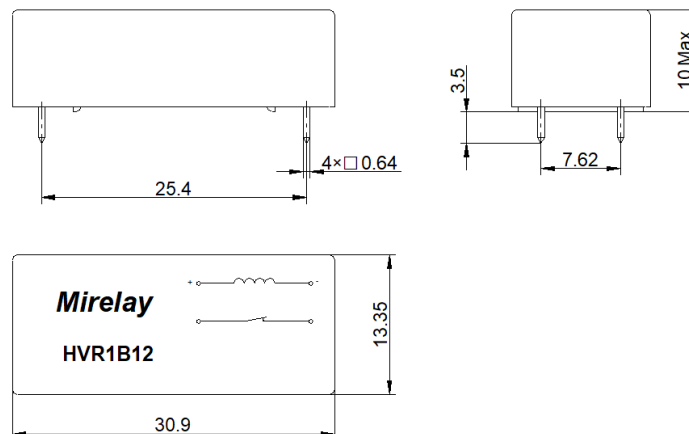
- ① Product model: HVR
- ② Contact form: 1A: 1 Form A、1B: 1 Form B
- ③ Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ④ Special code: Customer special requirement

5 Outline drawing

1) HVR1A□

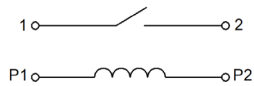


2) HVR1B□

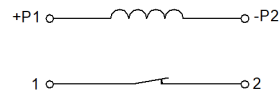


6 Wiring diagram

1) HVR1A□



2) HVR1B□



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

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PB Series**Reed Relay****1 Feature**

- ◆ Miniature Reed relay
- ◆ High Insulation resistance, up to $10^9\Omega$
- ◆ High speed switch,high reliability,long life sealed contact
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Paramenter	Units	Value	
Relay Model	/	PB-1C□	
Contact Rating	W	5	
Max.Switching Voltage (Max DC/Peak AC)	V	200	
Max.Switching Current (Max DC/Peak AC)	A	0.25	
Max.Carry Current	at 60°C	A	0.5
Contact Resistance	mΩ	150	
Dielectric Strength (static)	Between contact	VDC	200
	Contact/shield to coil	VDC	500
Insulation Resistance	Ω	10^9	
Operate Time	ms	0.5	
Release Time	ms	0.5	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 12VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

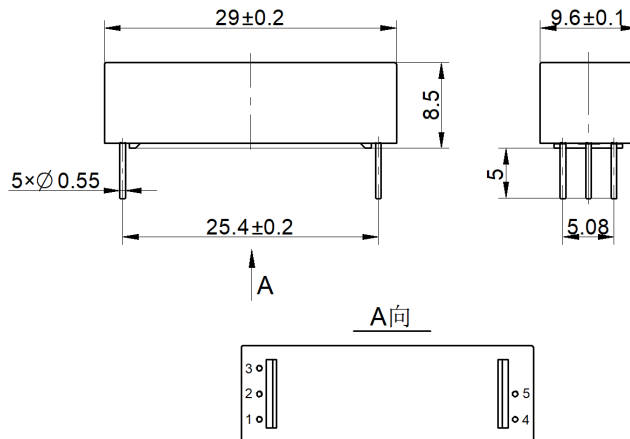
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
PB-1C□	5	3.8	0.75	10	500

4 Example of order marking

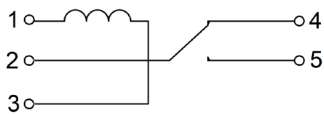
PB - □ □ - (XXX)
 ① ② ③ ④

- ⑮ Product model: PB
- ⑯ Contact form: 1C: 1 Form C
- ⑰ Nominal coil voltage: 05: 5VDC
- ⑱ Special code: Customer special requirement

5 Outline drawing



6 Wiring diagram



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

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HRM(Group 6) Series

High voltage Reed Relay

1 Feature

- ◆ 6 Channel high voltage relay module
- ◆ Dielectric strength up to 6 KVDC
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ LED indicate light
- ◆ DIN Guide or M4 screw mount available
- ◆ Custom Design, conforming to Rohs directive



2 Performance Data

Parameter	Units	Value	
Relay Model	/	HRM□-6A06	
Contact Rating	W	100	
Max.Switching Voltage (Max DC/Peak AC)	V	1000	
Max.Switching Current (Max DC/Peak AC)	A	1.0	
Max.Carry Current	A	2.5	
Contact Resistance	mΩ	300	
Dielectric Strength (static)	Between contact	VDC	6000
	Contact to coil	VDC	6000
Insulation Resistance	Ω	10^{12}	
Operate Time	ms	1.0	
Release Time	ms	0.1	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 500VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

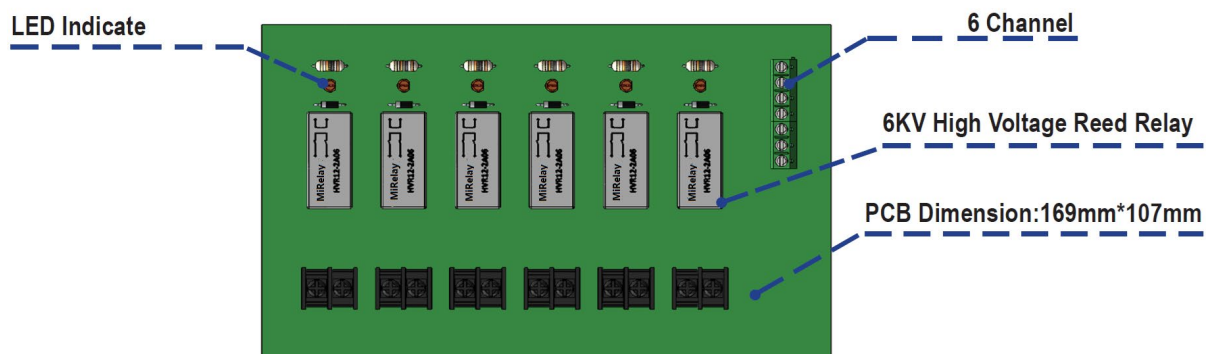
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HRM□-6A06	5	4	0.5	7	120
	12	9	1	16	250
	24	18	2	29	1600

4 Example of order marking

HRM □ - □ □ □ - (XXX)
 ① ② ③ ④ ⑤ ⑥

- ⑰ Product model: HRM
- ⑱ Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- 21 Contact form: 6A: 6 Form A
- 22 Breakdown voltage: 06: 6KV
- 23 Assesories: Blank: None、F: With plinth
- 24 Special code: Customer special requirement

5 Outline drawing



6 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260℃ and the time does not exceed 5s.

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HRM(Group 2) Series

High voltage Reed Relay

1 Feature

- ◆ 2 Channel high voltage relay module
- ◆ Dielectric strength up to 15 KVDC
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ LED indicate light
- ◆ DIN Guide or M4 screw mount available
- ◆ Custom Design, conforming to Rohs directive

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2 Performance Data

Paramenter		Units	Value	
Relay Model		/	HRM□-2A10	HRM□-2A15
Contact Rating		W	10	
Max.Switching Voltage (Max DC/Peak AC)		V	7000	10000
Max.Switching Current (Max DC/Peak AC)		A	3.5	
Max.Carry Current		A	5.0	
Contact Resistance		mΩ	150	
Dielectric Strength (static)	Between contact	VDC	10000	15000
	Contact to coil	VDC	15000	
Insulation Resistance		Ω	10^{12}	
Operate Time		ms	3.0	
Release Time		ms	1.5	
Vibration(0~2000Hz)		G	20	
Shock(11ms, 1/2 sine)		G	50	
Operating Temp		°C	-20~+70	
Storage Temp		°C	-35~+105	
Life Expectancy		Ops	5×10^7 (at 500VDC-10mA)	
Outline Dimensions		/	Reference outline drawing	

3 Coil Parameters

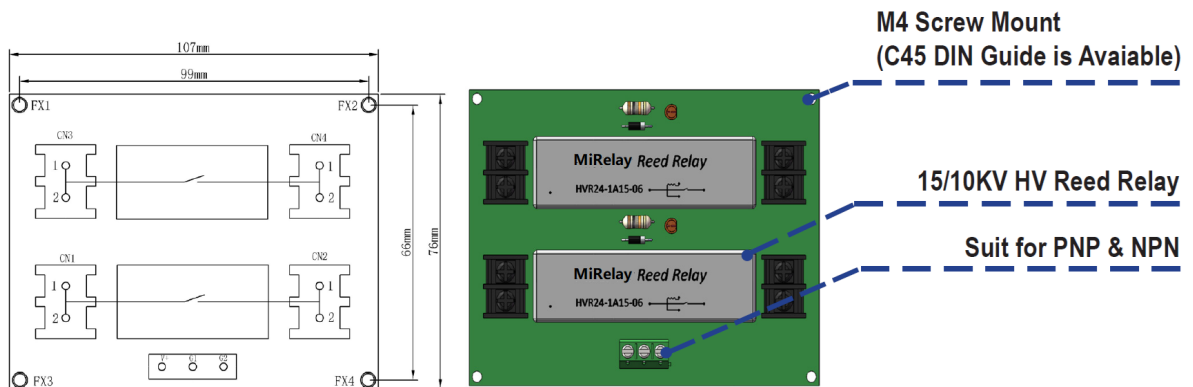
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HRM□-2A	5	4	0.5	6.5	30
	12	9	1	15	200
	24	18	2	29	600

4 Example of order marking

HRM - - (XXX)
 ① ② ③ ④ ⑤ ⑥

- 25 Product model: HRM
- 26 Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- 27 Contact form: 2A: 2 Form A
- 28 Breakdown voltage: 10: 10KV、15: 15KV
- 29 Assesories: Blank: None、F: With plinth
- 30 Special code: Customer special requirement

5 Outline drawing



6 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

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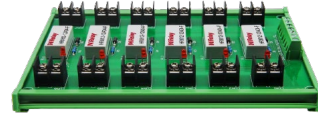
Relay performance parameters in different application areas are different, so customers should choose the appropriate products according to the specific conditions of use, if in doubt, please contact Shanghai MiRelay Electronics Co.,Ltd. for more technical support.

HRM(Group 12) Series

High voltage Reed Relay

1 Feature

- ◆ 12 Channel high voltage relay module
- ◆ Dielectric strength up to 4 KVDC
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ LED indicate light
- ◆ DIN Guide or M4 screw mount available
- ◆ Custom Design, conforming to Rohs directive



2 Performance Data

Parameter	Units	Value	
Relay Model	/	HRM□-12A04	
Contact Rating	W	100	
Max.Switching Voltage (Max DC/Peak AC)	V	1000	
Max.Switching Current (Max DC/Peak AC)	A	1.0	
Max.Carry Current	A	2.5	
Contact Resistance	mΩ	150	
Dielectric Strength (static)	Between contact	VDC	4000
	Contact to coil	VDC	4000
Insulation Resistance	Ω	10^{12}	
Operate Time	ms	1.0	
Release Time	ms	0.1	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 500VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

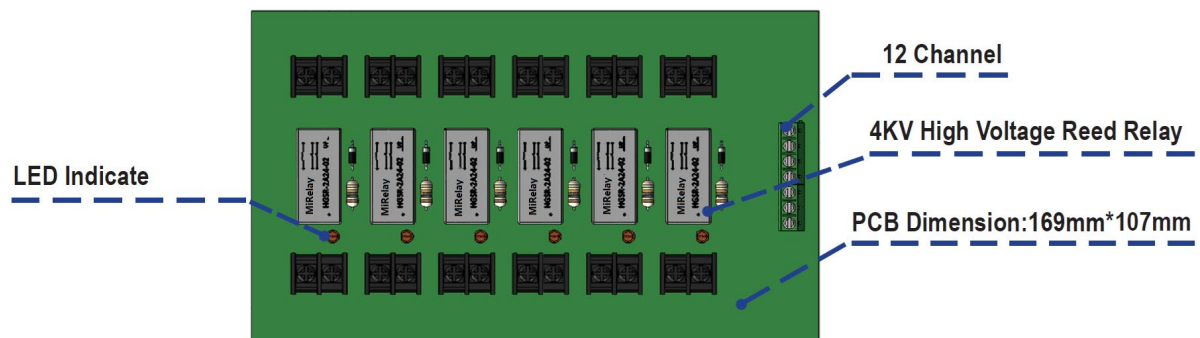
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
HRM□-12A04	5	4	0.5	7	120
	12	9	1	16	250
	24	18	2	29	1600

4 Example of order marking

HRM □ - □ □ □ - (XXX)
 ① ② ③ ④ ⑤ ⑥

- 31 Product model: HRM
- 32 Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- 33 Contact form: 12A: 12 Form A
- 34 Breakdown voltage: 04: 4KV
- 35 Assesories: Blank: None、F: With plinth
- 36 Special code: Customer special requirement

5 Outline drawing



6 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260℃ and the time does not exceed 5s.

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SIP-HV Series

High voltage Reed Relay

1 Feature

- ◆ Dielectric strength up to 4000 VDC
- ◆ High speed switch, high voltage up to 1000 VDC
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ Magnetic shield-reduces interaction
- ◆ Custom Design, conforming to Rohs directive



2 Performance Data

Parameter	Units	Value	
Relay Model	/	SIP-HV1A□	
Contact Rating	W	100	
Max.Switching Voltage (Max DC/Peak AC)	V	1000	
Max.Switching Current (Max DC/Peak AC)	A	1.0	
Max.Carry Current	at 60°C	A	2.5
Contact Resistance	mΩ	150	
Dielectric Strength (static)	Between contact	VDC	4000
	Contact/shield to coil	VDC	4000
Insulation Resistance	Ω	10^{12}	
Operate Time	ms	1.0	
Release Time	ms	0.25	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^8 (at 5VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

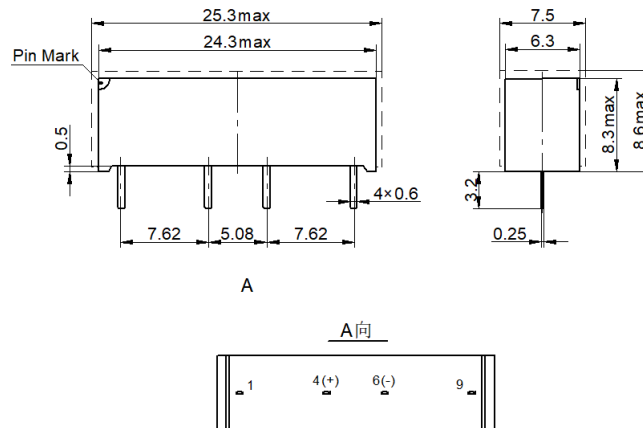
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
SIP-HV1A□	5	3.5	0.5	15	120
	12	9	1.2	35	500
	24	17	2.4	50	2000

4 Example of order marking

SIP-HV - - (XXX)
 ① ② ③ ④ ⑤

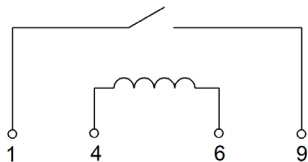
- 37 Product model: SIP-HV
- 38 Contact form: 1A: 1 Form A
- 39 Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- 40 Features: Blank: Standard、D: With Diode、S: With magnetic shield、DS: With Diode and magnetic shield
- 41 Special code: Customer special requirement

5 Outline drawing

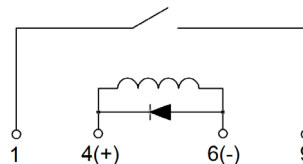


6 Wiring diagram

1) 无二极管



2) 有二极管



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260℃ and the time does not exceed 5s.

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VSIP Series

Reed Relay

1 Feature

- ◆ Molded thermoset body on integral lead frame design
- ◆ Optional coil suppression diode protects coil drive circuits
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ High speed switch,high reliability,long life sealed contact
- ◆ Magnetic shield-reduces interaction
- ◆ Custom Design, conforming to Rohs directive



2 Performance Data

Parameter	Units	Value	
Relay Model	/	VSIP-1A□	
Contact Rating	W	10	
Max.Switching Voltage (Max DC/Peak AC)	V	200	
Max.Switching Current (Max DC/Peak AC)	A	0.5	
Max.Carry Current	at 60°C	A	1.0
Contact Resistance	mΩ	150	
Dielectric Strength (static)	Between contact	VDC	150
	Contact/shield to coil	VDC	1400
Insulation Resistance	Ω	10^{12}	
Operate Time	ms	0.5	
Release Time	ms	0.1	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 10VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

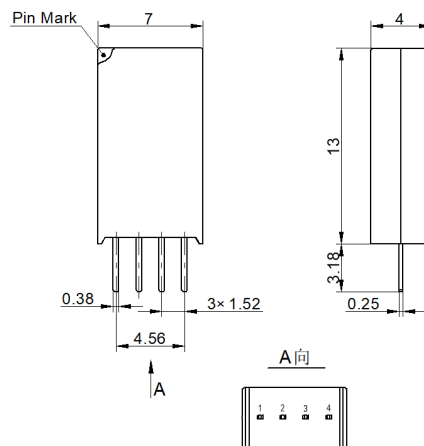
Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
VSIP-1A□	5	4	0.4	10	500
	12	9	1	24	1000

4 Example of order marking

VSIP □ - □ □ - (XXX)
 ① ② ③ ④ ⑤

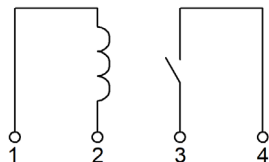
- 42 Product model: MSIP
- 43 Contact form: 1A: 1 Form A
- 44 Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- 45 Pin type: 01、02
- 46 Special code: Customer special requirement

5 Outline drawing

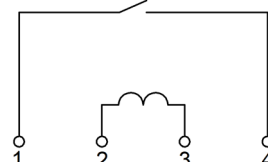


6 Wiring diagram

1) VSIP-1A□-01



2) VSIP-1A□-02



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

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MSIP Series**Reed Relay****1 Feature**

- ◆ Molded thermoset body on integral lead frame design
- ◆ Optional coil suppression diode protects coil drive circuits
- ◆ High Insulation resistance, up to $10^{12}\Omega$
- ◆ High speed switch,high reliability,long life sealed contact
- ◆ Magnetic shield-reduces interaction
- ◆ Custom Design, conforming to Rohs directive

**2 Performance Data**

Parameter	Units	Value	
Relay Model	/	MSIP-1A□	
Contact Rating	W	10	
Max.Switching Voltage (Max DC/Peak AC)	V	250	
Max.Switching Current (Max DC/Peak AC)	A	0.5	
Max.Carry Current	at 60°C	A	1.0
Contact Resistance	mΩ	100	
Dielectric Strength (static)	Between contact	VDC	250
	Contact/shield to coil	V	1500
Insulation Resistance	Ω	10^{12}	
Operate Time	ms	0.5	
Release Time	ms	0.3	
Vibration(0~2000Hz)	G	20	
Shock(11ms, 1/2 sine)	G	50	
Operating Temp	°C	-20~+70	
Storage Temp	°C	-35~+105	
Life Expectancy	Ops	5×10^7 (at 10VDC-10mA)	
Outline Dimensions	/	Reference outline drawing	

3 Coil Parameters

Model	Nominal Voltage (VDC)	Pickup Voltage Max.(VDC)	Dropout Voltage Min.(VDC)	Operate Voltage Max.(VDC)	Coil Resistance ($\pm 10\% \Omega$ at 20°C)
MSIP-1A□	5	4	0.4	21	500
	12	9	1	30	1000

4 Example of order marking

MSIP - - (XXX)
 ① ② ③ ④ ⑤

47 Product model: MSIP

48 Contact form: 1A: 1 Form A

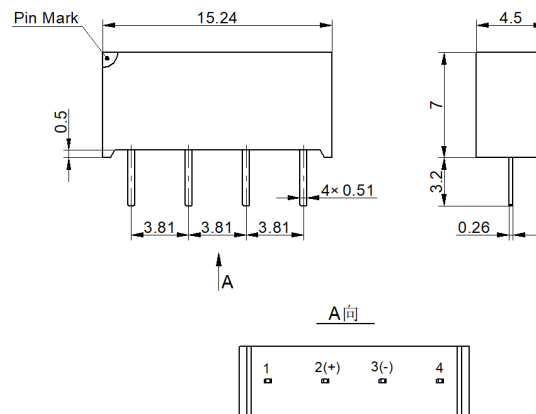
49 Nominal coil voltage: 05: 5VDC⁽¹⁾、12: 12VDC、24: 24VDC

50 Features: Blank: Standard、B: With Diode、S: With magnetic shield、BS: With Diode and magnetic shield

51 Special code: Customer special requirement

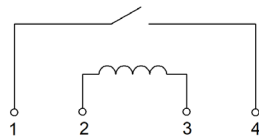
Note: (1) 5V DC is high resistance specification, suffix with “-HR”.

5 Outline drawing

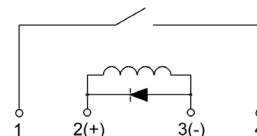


6 Wiring diagram

1)



2)



7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260°C and the time does not exceed 5s.

⚠Statement:

The document is for customer reference only. Specifications and parameters may be changed due to product improvement. For the specific parameters and performance of each product, please refer to the specifications and samples provided by Mirelay without further notice.

Relay performance parameters in different application areas are different, so customers should choose the appropriate products according to the specific conditions of use, if in doubt, please contact Shanghai MiRelay Electronics Co.,Ltd. for more technical support.