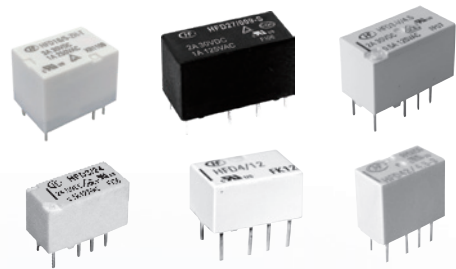




Signal Relays Supplier of Most Complete Series



HONGFA SIGNAL RELAY





Company Introduction

Hongfa (Shanghai Stock Exchange: 600885) was founded in 1984 and has established a full-range and well-equipped industrial system by upholding the company spirit of "persevere for progress; strive for excellence". Hongfa has set up three relay R&D and production bases with nearly 14000 employees globally. Hongfa products cover various product segments including relays, low-voltage and high-voltage devices, capacitors, precision parts and automatic production equipment, which are widely used in industrial, energy, transportation, telecommunication, home appliance, and medical areas.

As a technical center of national level and by setting up Post-Doctoral Research Center and Academician expert workstation, Hongfa has become the world's leading relay research & production base. Hongfa successfully built an integrated industrial chain from product research, mold and part manufacturing, automatic assembly and on-line inspection. In product inspection, Hongfa Testing Center is one of the largest and most authoritative laboratories for testing and analysis of relays, which enables Hongfa to obtain certifications from VDE, UL and CNAS; also Hongfa is a major strategic partner of VDE in components.

Hongfa's vision is to grow along with all of our customers worldwide and share the convenience and happiness brought by technologies.



Xiamen Hongfa Signal Electronics Co., Ltd.

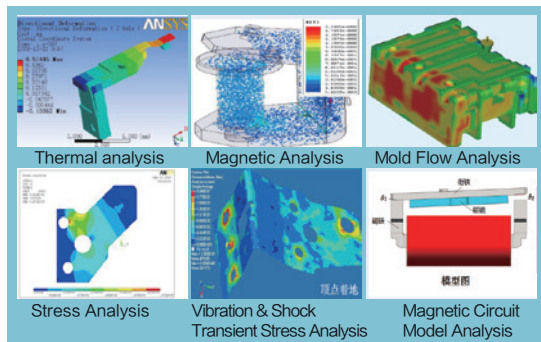
Hongfa signal department was set up in 1999 and Xiamen Hongfa Signal Electroacoustic Co., Ltd was established in 2015. In past 17 years, Hongfa has been always focusing on developing, manufacturing and sales of high sensitivity and reliability signal relays. Nowadays, Hongfa grows to a global known signal relay supplier, and the only third and forth generation signal relay R&D and manufacturer in China. Hongfa Signal plant area is over 22000m² with top automated production line in the industry.

Nowadays, Hongfa signal relays are widely used in security monitoring, communication networks, ATE inspection, Intelligent building, smart home, new energy, Automotive electronic module and so on.

HONGFA

Most complete series signal relays supplier

Core Competitiveness



Outstanding Product Design and R&D



Complete Test and Analysis



Automatic Assembly Lines and Manufacturing Ability



Quality Assurance



Product Family



HFD4



HFD4-I



HFD4-V



HFD42

4th Generation Signal relays

Type	Capability	Application
HFD4	2A	Security, Fire Protection, Network Communication, ATE Detection, Instruments, Medical Equipment, New Energy Utilization, Automotive Electronic Modules, Intelligent Building and other fields
HFD4-I	3A	Temperature controller, power management and other occasions with large load current
HFD4-V	1A	ATE detection, instrumentation, new energy utilization, battery management, charging equipment
HFD42	2A	Security, Fire Protection, Network Communication, ATE Detection, Instruments, Medical Equipment, New Energy Utilization, Automotive Electronic Modules, Intelligent Building and other fields

Features

- ◆ The only 4th- generation signal relay independently developed in mainland China
- ◆ Subminiature polarized relay
- ◆ Bifurcated contacts
- ◆ Both standing and flat versions available
- ◆ DIP&SMT types available
- ◆ Single side stable & latching type available
- ◆ Specifications for surge current resistance and high voltage resistance are optional



HFD3



HFD3-V



HFD3-I



HFD3-VI



HFD31

3th Generation Signal relays

Type	Capability	Application
HFD3	3A	Security, Fire Protection, Network Communication, ATE Detection, Instruments, Energy Utilization, Automotive Electronic Modules, Intelligent Building and other fields
HFD3-V	2A	Lighting, ATE Detection, Instruments, New Energy Utilization, Network Communication
HFD3-I	4A	Temperature controller, power management and other occasions with large load current
HFD3-VI	2A	Lighting, ATE testing, instrumentation, new energy utilization, network communication office equipment, battery management, charging equipment
HFD31	2A	Security, Fire Protection, ATE Detection, Instruments, Automotive Electronic Modules, Intelligent Building and other fields

Features

- ◆ The first 3rd- generation signal relay independently developed in mainland China
- ◆ Polarized relay
- ◆ Bifurcated contacts
- ◆ Both standing and flat versions available
- ◆ DIP&SMT types available
- ◆ Single side stable & latching type available
- ◆ Specifications for surge current resistance and high voltage resistance are optional



HFD27



HFD2

2th Generation Signal relays

Type	Capability	Application
HFD27	2A	Security, Fire Protection, Network Communication, Instruments, New Energy Utilization, Intelligent Building and other fields
HFD2	3A	Security, Fire Protection, ATE Detection, Instruments, Intelligent Building and other fields

Features

- ◆ Bifurcated contacts
- ◆ Matching 16 pin IC socket
- ◆ Imported Siemens D2 relay production line
- ◆ HFD2 provides single side stable & latching types
- ◆ DIP type available



HFD16



HFD17



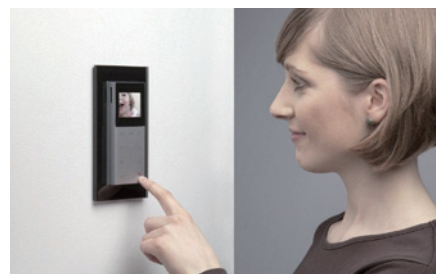
HFD23

Non-standard Signal relays

Type	Capability	Application
HFD16	5A	Security, fire protection, power management, office equipment, intelligent building and other fields
HFD17	5A	Security, fire protection, power management, office equipment, intelligent building and other fields
HFD23	2A	Security, fire protection, power management, intelligent building and other fields

Features

- ◆ Widely used and high cost-effective
- ◆ Non-polarized single-side stable
- ◆ DIP type available
- ◆ Products withstand high inrush current available



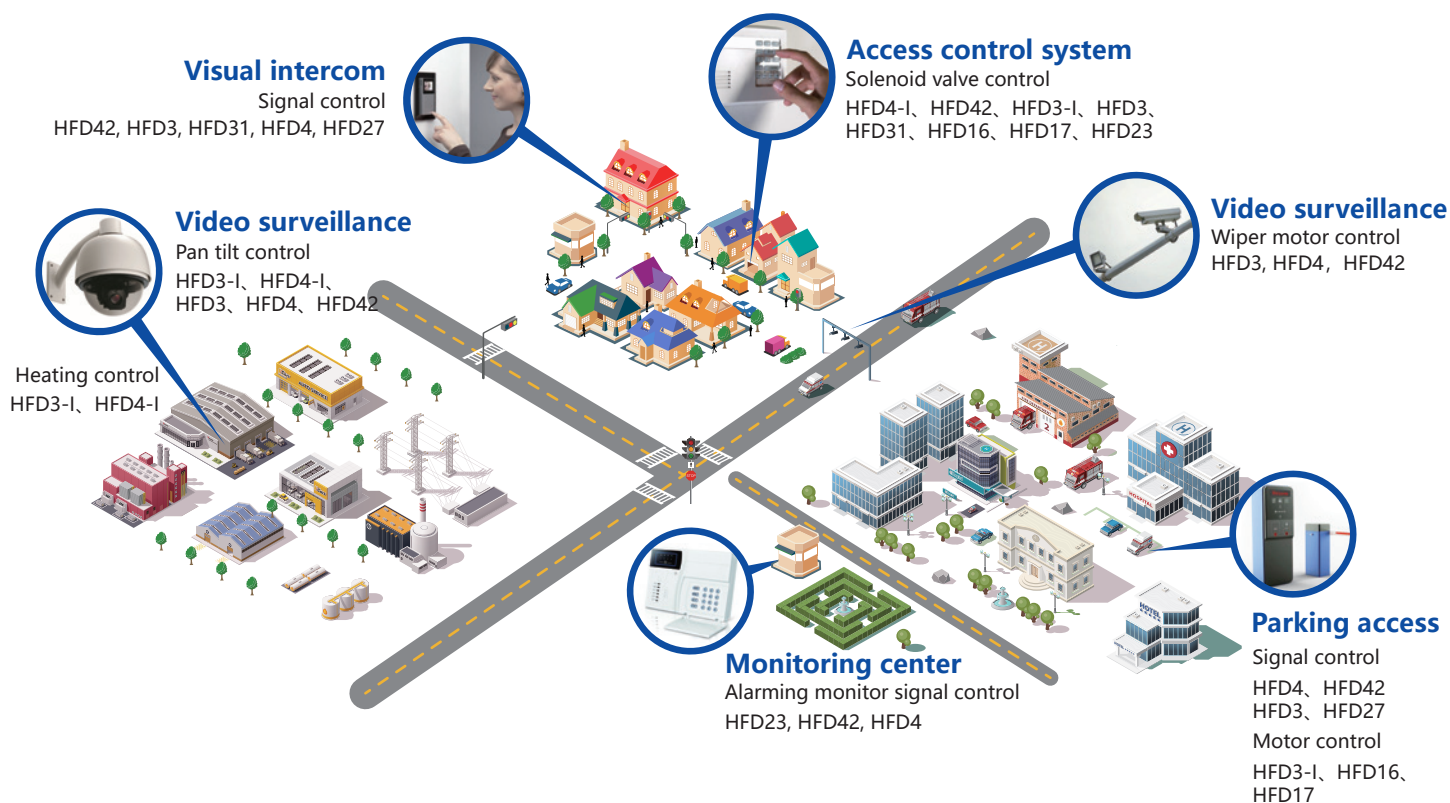
Key products

 HFD16 15.7x10.6x11.8(mm) 5A	 HFD17 15.7x10.6x11.8(mm) 5A	 HFD23 12.5x7.5x10.0(mm) 2A
 HFD3 15.0x7.5x9.0(mm) 3A	 HFD3-I 15.0 x 7.5 x 9.0(mm) 4A	 HFD31 14.0 x 9.0 x 5.0(mm) 2A
 HFD4 10.0x6.5x5.4(mm) 2A	 HFD4-I 10.0x6.5x5.65(mm) 3A	 HFD42 10.6x5.7x9.0(mm) 2A

Security System

Hongfa is the prefer partner for global security system suppliers. Products are widely used in video surveillance, visual intercom and access control system for providing safety living conditions.

Application





Key products

			
HFD16	HFD17	HFD27	HFD2
15.7x10.6x11.8(mm) 5A	15.7x10.6x12(mm) 5A	20.2x10.0x11.5(mm) 2A	20.2x10.2x10.6(mm) 3A
			
HFD3	HFD4	HFD42	
15.0x7.5x9.0(mm) 3A	10.0x6.5x5.4(mm) 2A	10.6x5.7x9.0(mm) 2A	

Fire Alarm System

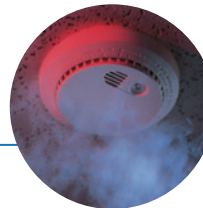
Hongfa provides a reliable and safe fire system relay solution, from the city to the home, to build a safe fortress for you.

Application



Emergency intercom

Emergency intercom
HFD27、HFD2、HFD3、
HFD4、HFD42



Smoke alarm

Interface signal control
HFD16、HFD17、HFD27、
HFD2、HFD3



Fire alarm

Interface signal control
HFD16、HFD17、HFD27、
HFD2、HFD3



Emergency lighting

Interface signal control
HFD16、HFD17、HFD3、
HFD3-I、HFD3-V



Key products

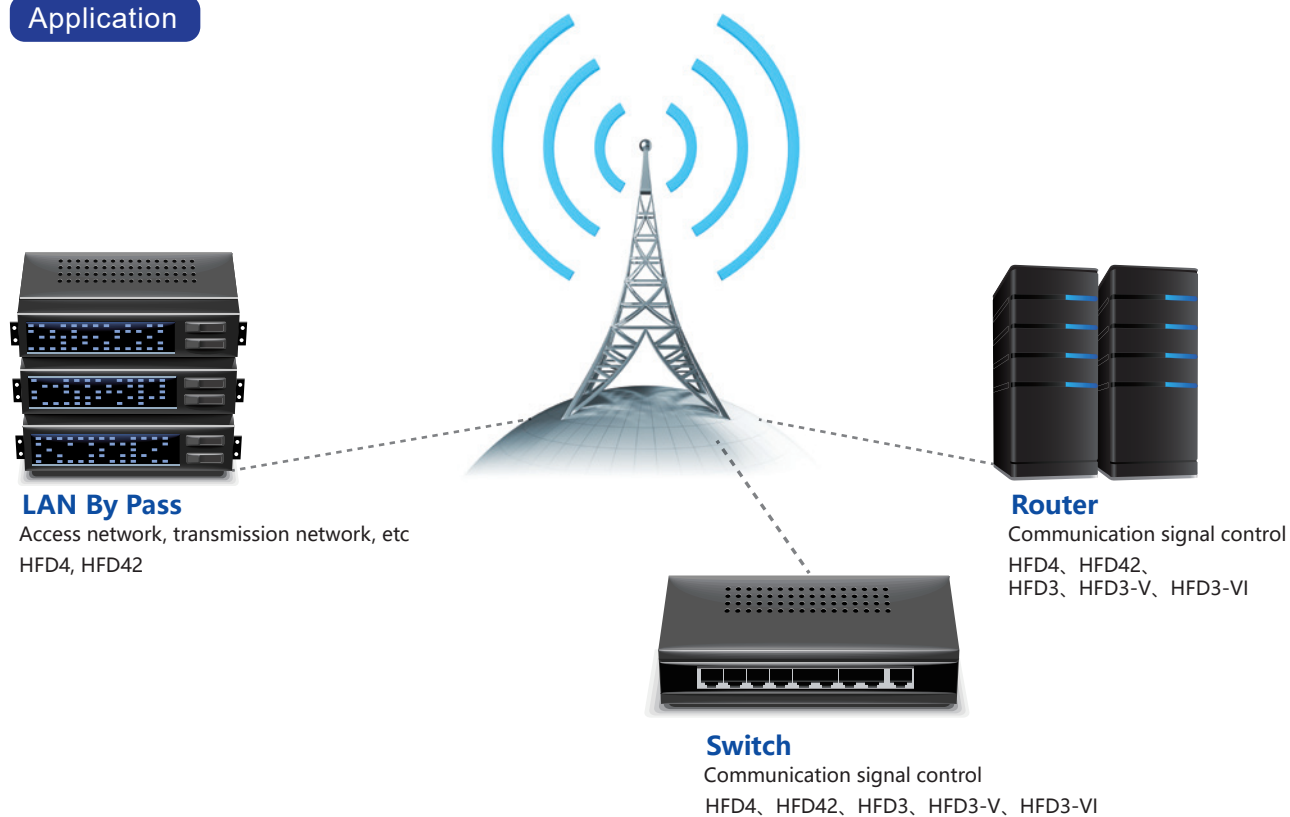
				
HFD42 10.6x5.7x9.0(mm) 2A	HFD4 10.0x6.5x5.4(mm) 2A	HFD3 15.0x7.5x9.0(mm) 3A	HFD3-V 15.0x7.5x9.4(mm) 2A	HFD3-VI 15.0 x 7.5 x 9.2(mm) 4A

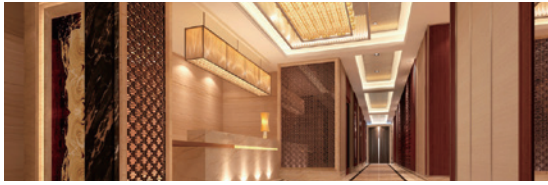


Communication Networks

Hongfa signal relay is widely used in terminals such as switches, routers, and communication base stations, satellite signal transceiver terminals, access network, transmission network, VOIP network telephone, network security and other occasions to ensure high speed and high reliability communication requirements.

Application





Key products

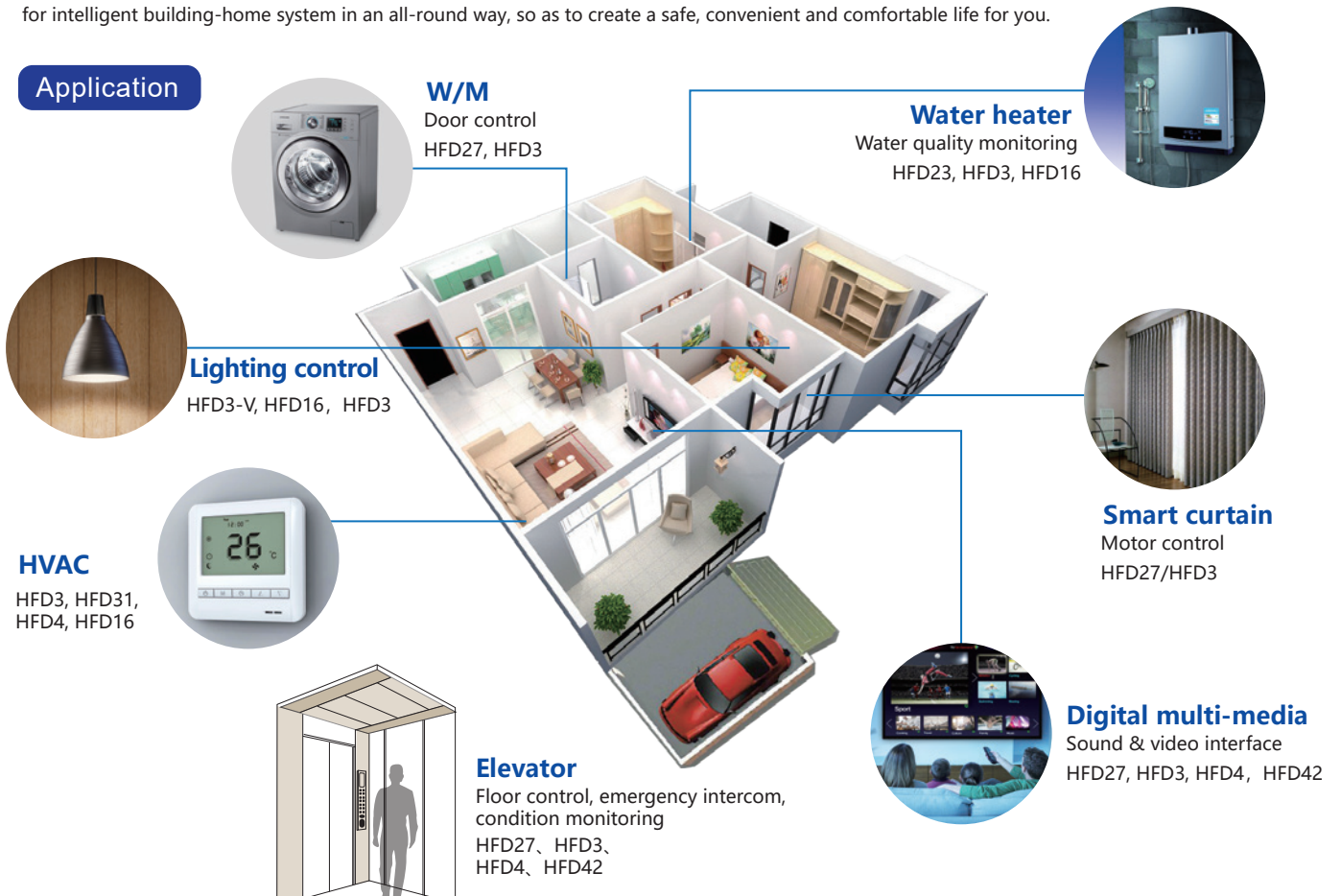
HFD16 15.7x10.6x11.8(mm) 5A	HFD17 15.7x10.6x11.8(mm) 5A	HFD23 12.5x7.5x10.0(mm) 2A	HFD27 20.2x10.0x11.5(mm) 2A
HFD3 15.0x7.5x9.0(mm) 3A	HFD3-I 15.0 x 7.5 x 9.0(mm) 4A	HFD3-VI 15.0 x 7.5 x 9.2(mm) 2A	HFD3-V 15.0x7.5x9.4(mm) 2A
HFD31 14.0x9.0x5.0(mm) 2A	HFD4 10.0x6.5x5.4(mm) 2A	HFD4-I 10.0x6.5x5.65(mm) 3A	HFD42 10.6x5.7x9.0(mm) 2A

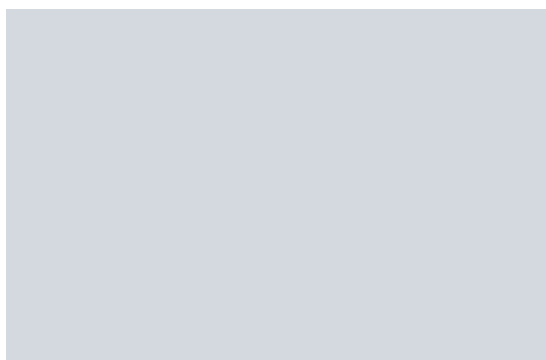
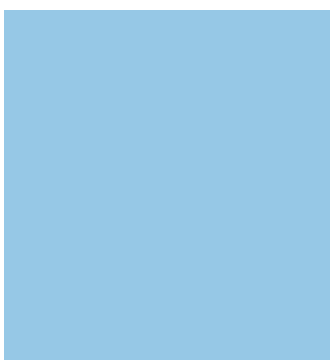
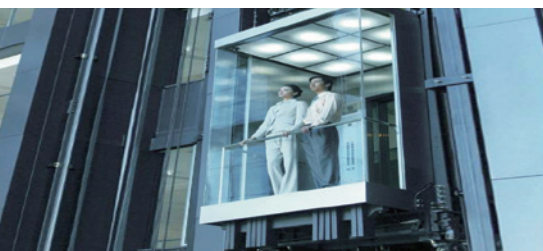


Intelligent building

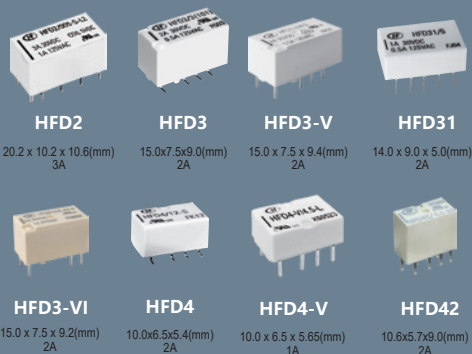
Hongfa keeps pace with the trend of the times, pays attention to the intelligence and safety of buildings and households, and improves life with science and technology. Hongfa products can provide comprehensive solutions including temperature control system, light control system, smart curtain, four meters combination, video entertainment, household appliances, etc. for intelligent building-home system in an all-round way, so as to create a safe, convenient and comfortable life for you.

Application





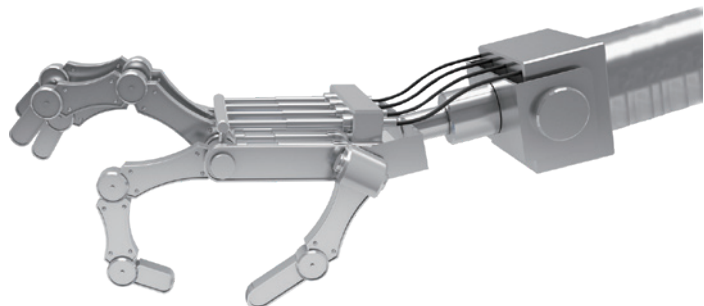
Key products



Automation Control and Testing

Hongfa signal relay is widely used in industrial computers, PLC and automatic detection equipment, instrumentation and other fields, to help industrial intelligence upgrade.

Application



Robot and industrial computer
Motherboard signal switching and transmission
HFD3、HFD4、HFD42



Instruments and Apparatuses
Signal transmission, acquisition and switching
HFD2、HFD3、HFD3-V、
HFD4、HFD4-V、HFD42





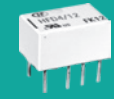
PLC
I/O signal transmission switching
HFD3、HFD3-I、HFD4、HFD4-I、HFD42



ATE
Signal transmission and channel switching
HFD3、HFD3-V、HFD3-VI、
HFD31、HFD4、HFD4-V、HFD42



Key products

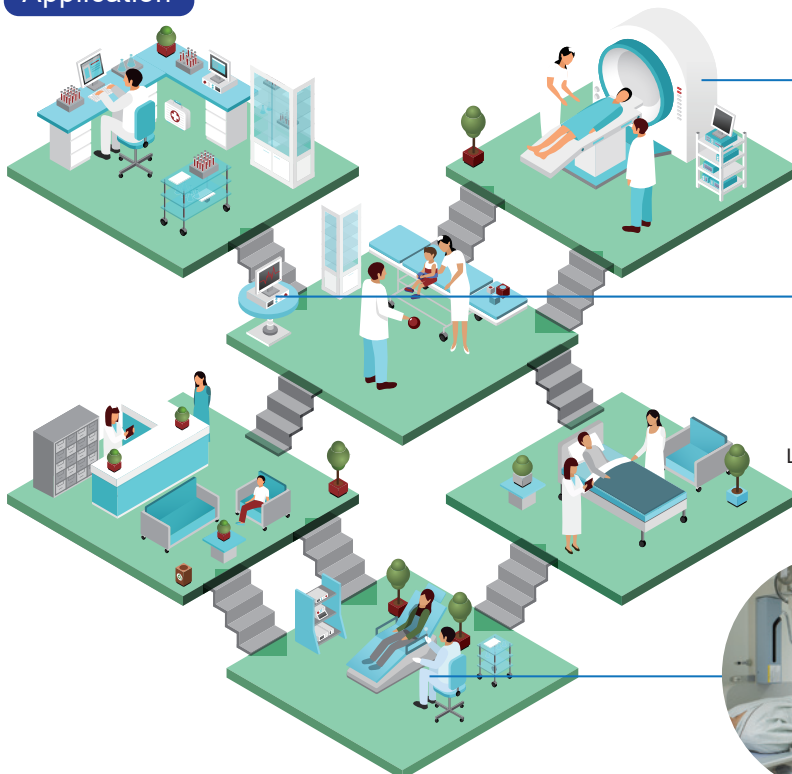
		
HFD27 20.2 x 10.0 x 11.5(mm) 2A	HFD3 15.0 x 7.5 x 9.0(mm) 3A	HFD3-I 15.0 x 7.5 x 9.0(mm) 4A
		
HFD4 10.0 x 6.5 x 5.4(mm) 2A	HFD42 10.6 x 5.7 x 9.0(mm) 2A	



Medical

Through cooperation with world-renowned medical manufacturers, Hongfa has accumulated rich experience in the application of medical industry, and is committed to providing high reliable signal relays to meet the high standard requirements of medical equipment.

Application



CT machine

Communication and Motor Control
HFD27、HFD3、HFD3-I、HFD4、HFD42



Ultrasound medical equipment

Loop switching, power switching
HFD4、HFD4-I、HFD42



Blood analyzer

Loop switching, power switching
HFD4、HFD4-I、HFD42

Key products



Energy Utilization

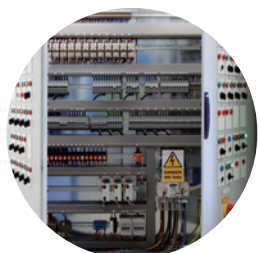
Through good cooperation with world-renowned energy enterprises, Hongfa provides reliable solutions to improve energy efficiency and security, and helps to achieve a sustainable green future.

Application



Industrial power supply

Power input interface control
HFD16、HFD17、HFD23



Photovoltaic Inverter

Insulation monitoring, energy release, alarm output
HFD3-V、HFD3-VI、HFD4-V、
HFD4、HFD42












Four meters combination

Data transmission
HFD3、HFD31、
HFD4、HFD42



Key products

 HFD16 15.7x10.6x11.8(mm) 5A	 HFD17 15.7x10.6x11.8(mm) 5A	 HFD27 20.2x10.0x11.5(mm) 2A
 HFD3 15.0x7.5x9.0(mm) 3A	 HFD3-I 15.0 x 7.5 x 9.0(mm) 4A	 HFD3-VI 15.0x7.5x9.2(mm) 4A
 HFD3-V 15.0x7.5x9.4(mm) 2A	 HFD4 10.0x6.5x5.4(mm) 2A	 HFD42 10.6x5.7x9.0(mm) 2A



Vehicle application

Application



Oil and gas conversion

Solenoid valve control

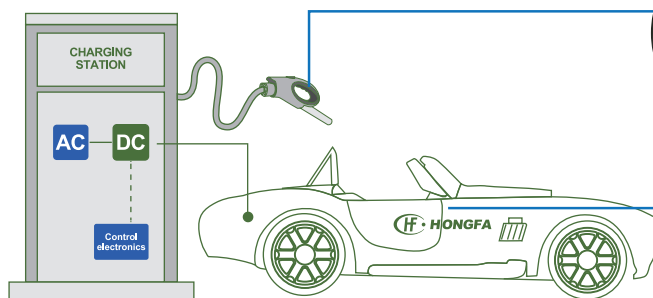
HFD16、HFD17、HFD27、HFD3、HFD3-I



Charging Piles、OBC

Charger motor control

HFD3、HFD3-I、HFD3-V、
HFD3-VI、HFD4-V



Navigation, entertainment system

Communication,
audio, video signal control
HFD4、HFD42



BMS

High voltage relay coil control,
Insulation detection, fan control, alarm control

HFD3、HFD3-I、HFD3-V、
HFD3-VI、HFD4、HFD4-V



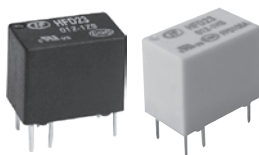
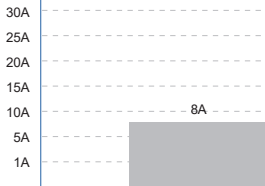
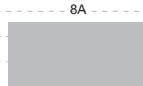

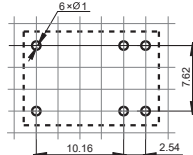
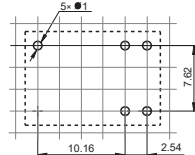
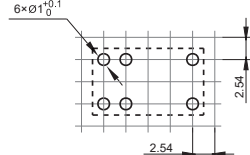


T-Box



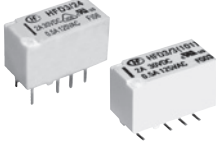
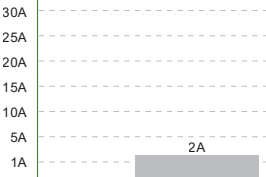
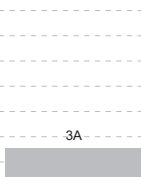
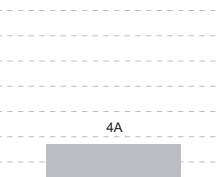
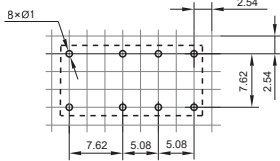
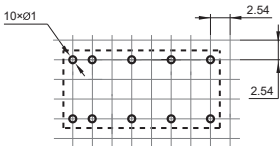
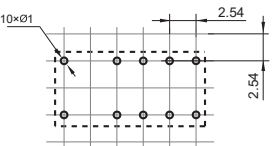
Communication signal transmission,
audio control

HFD3、HFD4、HFD42

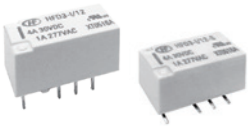

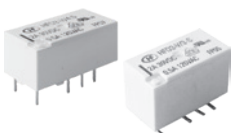
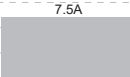


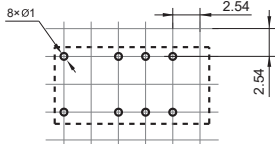
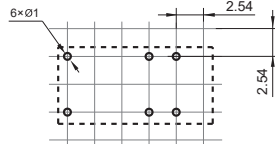
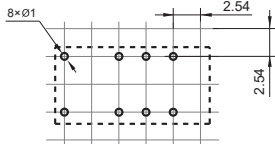
SIGNAL RELAY SELECTION CHART

Type	HFD16	HFD17	HFD23	
Appearance				
Dimensions(L x W x H) mm	15.7 x 10.6 x 11.8	15.7 x 10.6 x 12	12.5 x 7.5 x 10.0	
Features	<ul style="list-style-type: none">■ 5A switching capability■ Plastic sealed and flux proofed types available■ Standard PCB layout■ UL insulation system: Class F	<ul style="list-style-type: none">■ 8A switching capability■ UL insulation system: Class F available■ Plastic sealed and flux proofed types available■ Standard PCB layout■ Product in accordance to IEC 60335-1 available	<ul style="list-style-type: none">■ Max.4A switching capability■ High sensitive: 150mW■ Plastic sealed type available	
Contact Ratings				
Contact Form	1C	1C	1A	1C
Contact Material	AgNi, AgSnO2	AgNi + Au plated	AgNi + Au plated	
Max. Switching Current (Res. load)				
Max. Switching Voltage	250VAC / 220VDC	250VAC / 220VDC	125VAC / 60VDC	
Max. Switching Power	250VA / 90W	750VA / 90W	125VA / 60W	62.5VA / 30W
Rated Load (Resistive load)	3A 30VDC 1A 125VAC	3A 30VDC 3A 250VAC	1A 125VAC 2A 30VDC	0.5A 125VAC 1A 30VDC
Coil Ratings				
Rated Voltage	(2.4 ~ 24)VDC	(2.4 ~ 24)VDC	(1.5 ~ 24)VDC	
Nominal Operating Power	0.2W, 0.36W, 0.45W	0.2W	0.15W, 0.2W	
Specifications				
Insulation Resistance	1000MΩ	1000MΩ	1000MΩ	
Dielectric Strength (Between coil and contacts)	1100VAC	1500VAC	1000VAC	
Ambient Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 70℃	
Operate / Release Time max.	5ms / 5ms	5ms / 5ms	5ms / 5ms	
Mechanical Endurance min.	1 x 10 ⁷ OPS	1 x 10 ⁷ OPS	1 x 10 ⁷ OPS	
Electrical Endurance min.	1 x 10 ⁶ OPS (3A 30VAC) 1 x 10 ⁴ OPS (5A 125VAC)	9 x 10 ⁴ OPS (1Z: 0.5A 125VAC 1H: 1A 125VAC)	9 x 10 ⁴ OPS (1Z: 0.5A 125VAC 1H: 1A 125VAC)	
Layout (Bottom view)				
Terminal Type	PCB (DIP)	PCB (DIP)	PCB (DIP)	
Approved Standards	UL/CUL TÜV	UL/CUL TÜV	UL/CUL CQC	
File No.	E133481 R50075326	E133481 R50431434	E133481 CQC09002035070	
Cross Reference	OMRON: G2E SONGCHUAN: 842 FUJITSU: FBR211 TE: OUA	FUJITSU: MZ AXICOM: V23101 HKE: HRS1K SANYOU: SYS1K	OMRON: G5V-1 PANASONIC: HY FUJITSU: SY NEC: TY TE: V23111	

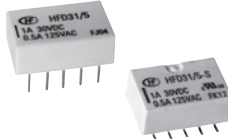



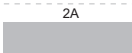
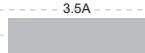
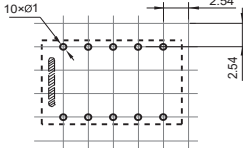
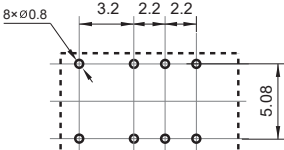
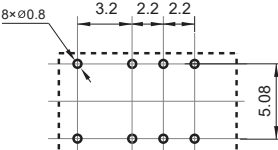
SIGNAL RELAY SELECTION CHART

Type	HFD27	HFD2	HFD3
Appearance			
Dimensions(L x W x H) mm	20.2 x 10.0 x 11.5	20.2 x 10.2 x 10.6	15.0 x 7.5 x 9.0
Features	<ul style="list-style-type: none"> High switching capacity: 125VA/60W Matching 16 pin IC socket Epoxy plastic sealed for automatic wave soldering and cleaning Bifurcated contacts 	<ul style="list-style-type: none"> High sensitive: 150mW High switching capacity: 90W/125VA Epoxy plastic sealed for automatic wave soldering and cleaning Matching standard 16 pin IC socket Bifurcated contacts Single side stable and latching types available 	<ul style="list-style-type: none"> Meets EN60950/EN41003 Surge voltage up to 2500VAC, meets FCC Part 68 and Telecordia 2.5kV dielectric strength (between coil and contacts) Bifurcated contacts Single side stable and latching types available
Contact Ratings			
Contact Form	2C	2C	2C
Contact Material	AgNi + Au plated	Ag+ Au plated, AgPd+ Au plated	Ag+ Au plated, AgPd+ Au plated
Max. Switching Current (Res. load)			
Max. Switching Voltage	240VAC / 120VDC	250VAC / 220VDC	277VAC / 220VDC
Max. Switching Power	125VA / 60W	125VA / 90W	62.5VA / 90W
Rated Load (Resistive load)	1A 125VAC 2A 30VDC	1A 125VAC 2A 30VDC 3A 30VDC	0.5A 125VAC 2A 30VDC 3A 30VDC
Coil Ratings			
Rated Voltage	(3 ~ 48)VDC	(3 ~ 48)VDC	(1.5 ~ 48)VDC
Nominal Operating Power	0.15W ~ 0.58W	0.15W, 0.2W	0.05W, 0.1W, 0.14W, 0.2W
Specifications			
Insulation Resistance	1000MΩ	1000MΩ	1000MΩ
Dielectric Strength (Between coil and contacts)	1500VAC	1500VAC	2000VAC
Ambient Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃
Operate / Release Time max.	7ms / 4ms	4.5ms / 3.5ms	4ms / 4ms
Mechanical Endurance min.	1 x 10 ⁸ OPS	1 x 10 ⁸ OPS	1 x 10 ⁸ OPS
Electrical Endurance min.	1 x 10 ⁵ OPS (1A 30VDC)	1 x 10 ⁵ OPS (1A 125VAC)	1 x 10 ⁵ OPS (0.5A 125VAC)
Layout (Bottom view)			
Terminal Type	PCB (DIP)	PCB (DIP)	PCB (DIP, SMT)
Approved Standards	UL/CUL TÜV CQC	UL/CUL CQC	UL/CUL VDE CQC
File No.	E133481 R50075362 CQC09002033393	E133481 CQC13002095174 CQC13002095175	E133481 40018867 CQC14002107409
Cross Reference	OMRON: G5V-2 PANASONIC: DS2Y FUJITSU: FBR244/FTR-C2/R NEC: MR82 AXICOM: V23105/D2N	OMRON: G6A PANASONIC: DS2Y FUJITSU: RA NEC: MR82 TE: V23042 / AXICOM: MT2	OMRON: G6S PANASONIC: TX FUJITSU: NA/BA NEC: EC2/ED2 AXICOM: P2/V23079



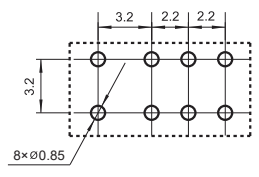
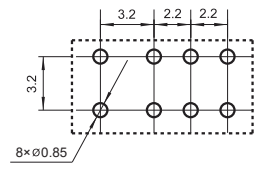
SIGNAL RELAY SELECTION CHART

Type	HFD3-I	HFD3-VI	HFD3-V
Appearance			
Dimensions(L x W x H) mm	15.0 x 7.5 x 9.0	15.0 x 7.5 x 9.2	15.0 x 7.5 x 9.4
Features	<ul style="list-style-type: none"> Third generation Signal relay High contact switching capacity Withstand inrush current at 7.5A (Effective value) SMT and DIP types available Single side stable and latching type available 	<ul style="list-style-type: none"> Third generation Signal relay 6kV dielectric strength (between coil and contacts) 2 From A and 2 From C configurations High contact switching capacity:10mA 1000VDC/1500VDC SMT and DIP types available Single side stable and latching type available 2 pairs of NO contacts connected in series with contact gap ≥ 1.5mm, product in accordance to IEC62776 available. 	<ul style="list-style-type: none"> 3kV dielectric strength (between coil and contacts) Surge withstand voltage up to 6000VAC, meets FCC Part 68 and Telecordia Meets EN60950 / EN41003 Bifurcated contacts Single side stable and latching types available
Contact Ratings			
Contact Form	2C	2C	2C
Contact Material	Ag Alloy + Au plated	Ag+ Au plated	Ag+ Au plated, AgPd+ Au plated
Max. Switching Current (Res. load)			
Max. Switching Voltage	277VAC / 220VDC	700VAC / 1500VDC	700VAC / 1000VDC
Max. Switching Power	277VAC / 120W	277VA / 60W	62.5VA / 60W
Rated Load (Resistive load)	4A 30VDC 2A 30VDC 1A 277VAC	0.5A 125VAC 2A 30VDC	0.5A 125VAC 2A 30VDC
Coil Ratings			
Rated Voltage	(1.5 ~ 24)VDC	(1.5 ~ 24)VDC	(1.5 ~ 24)VDC
Nominal Operating Power	0.1W, 0.14W, 0.2W	0.14W, 0.2W	0.14W, 0.2W
Specifications			
Insulation Resistance	1000MΩ	1000MΩ	1000MΩ
Dielectric Strength (Between coil and contacts)	2000VAC	3000VAC	3000VAC
Ambient Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃
Operate / Release Time max.	6ms / 6ms	6ms / 6ms	6ms / 6ms
Mechanical Endurance min.	1 x 10 ⁷ OPS	1 x 10 ⁷ OPS	1 x 10 ⁷ OPS
Electrical Endurance min.	1 x 10 ⁵ OPS(0.5A 125VAC)	1 x 10 ⁵ OPS(2A 30VAC)	1 x 10 ⁵ OPS(0.5A 125VAC)
Layout (Bottom view)			
Terminal Type	PCB(DIP, SMT)	PCB(DIP, SMT)	PCB(DIP, SMT)
Approved Standards	UL/CUL VDE CQC	UL/CUL	UL/CUL VDE CQC
File No.	E133481	E133481	E133481 40018867 CQC14002107409
Cross Reference	PANASONIC :TX-TH		AXICOM: FT2/FX2 FUJITSU: FTR-C1

SIGNAL RELAY SELECTION CHART

Type	HFD31	HFD4	HFD4-I
Appearance			
Dimensions(L x W x H) mm	14.0 x 9.0 x 5.0	10.0 x 6.5 x 5.4	10.0×6.5×5.65
Features	<ul style="list-style-type: none">■ Surge voltage up to 1500VAC, meets FCC Part 68 and Telecordia■ High contact capacity: 1A 30VDC■ Single side stable and latching types available	<ul style="list-style-type: none">■ Offers excellent board space savings■ Surge withstand voltage up to 2500V, meets FCC Part 68 and Telecordia■ Meets EN60950/EN41003■ SMT and DIP types available■ Single side stable and latching type available■ High contact capacity: 1A 30VDC	<ul style="list-style-type: none">■ Surge withstand current up to 3.5A(Valid value)■ Available in accordance with IEC 60335-1■ Low power consumption■ Single side stable and latching type available
Contact Ratings			
Contact Form	2C	2C	2C
Contact Material	AgNi + Au plated、AgPd + Au plated	AgNi + Au plated、AgPd + Au plated	Silver alloy + Au plated
Max. Switching Current (Res. load)			
Max. Switching Voltage	125VAC / 110VDC	250VAC / 220VDC	250VAC/220VDC
Max. Switching Power	62.5VA / 60W	62.5VA / 60W	125VA/90W
Rated Load (Resistive load)	0.5A 125VAC 1A 30VDC 2A 30VDC	0.5A 125VAC 1A 30VDC	0.3A 125VAC 1A 15VAC 2A 30VDC 3A 30VDC
Coil Ratings			
Rated Voltage	(1.5 ~ 24)VDC	(1.5 ~ 24)VDC	(1.5 ~ 24)VDC
Nominal Operating Power	0.1W, 0.14W, 0.2W	0.1W, 0.14W, 0.2W	0.1W, 0.14W, 0.2W
Specifications			
Insulation Resistance	1000MΩ	1000MΩ	1000MΩ
Dielectric Strength (Between coil and contacts)	1000VAC	1600VAC	1600VAC
Ambient Temperature	-40℃ ~ 70℃	-40℃ ~ 85℃	-40℃ ~ 85℃
Operate / Release Time max.	3ms / 3ms	3ms / 3ms	3ms / 3ms
Mechanical Endurance min.	1 x 10 ⁸ OPS	1 x 10 ⁸ OPS	1 x 10 ⁷ OPS
Electrical Endurance min.	1 x 10 ⁵ OPS(0.5A 125VAC)	1 x 10 ⁵ OPS(0.5A 125VAC)	1 x 10 ⁵ OPS (2A 30VDC)
Layout (Bottom view)			
Terminal Type	PCB (DIP, SMT)	PCB (DIP, SMT)	PCB (DIP, SMT)
Approved Standards	UL/CUL	UL/CUL	UL/CUL
File No.	E133481	E133481	E133481
Cross Reference	OMRON: G6H PANASONIC: TQ FUJITSU: A NEC: EA2 AXICOM: FP2	OMRON: G6K PANASONIC: AGQ AXICOM: IM FUJITSU: FTR-B3 NEC: UC2/UD2	PANASONIC:AGQ-TH

SIGNAL RELAY SELECTION CHART

Type	HFD4-V	HFD42	
Appearance			
Dimensions(L x W x H) mm	10.0 x 6.5 x 5.65	10.6 x 5.7 x 9.0	
Features	<ul style="list-style-type: none"> ■ Subminiature high dielectric strength signal relay ■ Surge withstand voltage up to 2500V ■ Meets EN60950/EN41003 ■ gap between open contacts ≥0.4mm ■ Low power consumption ■ Single side stable and latching type available 	<ul style="list-style-type: none"> ■ Surge withstand voltage up to 2500V, meets FCC Part 68 and Telecordia ■ Meets EN60950/EN41003 ■ SMT and DIP types available ■ High contact capacity 1A 30VDC ■ Single side stable and latching type available 	
Contact Ratings			
Contact Form	2C	2C	
Contact Material	AgNi + Au plated	AgNi + Au plated、AgPd + Au plated	
Max. Switching Current (Res. load)	<div> <div>30A</div> <div>25A</div> <div>20A</div> <div>15A</div> <div>10A</div> <div>5A</div> <div>1A</div> </div> <div>1A</div>	<div> <div>4A</div> </div> <div>4A</div>	
Max. Switching Voltage	425VAC / 600VDC	250VAC / 220VDC	
Max. Switching Power	62.5VA / 60W	125VA / 120W	
Rated Load (Resistive load)	0.3A 125VAC 1A 30VDC	0.5A 125VAC 1A 30VDC 2A 30VDC	
Coil Ratings			
Rated Voltage	(1.5 ~ 24)VDC	(1.5 ~ 24)VDC	
Nominal Operating Power	0.14W, 0.2W	0.1W, 0.12W, 0.14W, 0.23W	
Specifications			
Insulation Resistance	1000MΩ	1000MΩ	
Dielectric Strength (Between coil and contacts)	1600VAC	1500VAC	
Ambient Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	
Operate / Release Time max.	3ms / 3ms	3ms / 3ms	
Mechanical Endurance min.	1 x 10 ⁷ OPS	1 x 10 ⁸ OPS	
Electrical Endurance min.	1 x 10 ⁵ OPS(0.3A 125VAC)	1 x 10 ⁵ OPS(0.5A 125VAC)	
Layout (Bottom view)			
Terminal Type	PCB (DIP, SMT)	PCB (DIP, SMT)	
Approved Standards	UL/CUL TÜV	UL/CUL TÜV	
File No.		E133481 R50317623	
Cross Reference		OMRON:G6J PANASONIC:AGN AXICOM: IM FUJITSU:FTR-B4 NEC:UA2/UB2	

CAUTIONS

- ◆ Some relays are highly sensitive polarized relays. If correct polarity is not applied to the coil terminals, the relays do not operate properly.
- ◆ Please avoid using relays under strong magnetic field which will change the parameters of relays such as pick-up and drop-out voltage.
- ◆ Latching relays are on the "reset" status when ready for shipment, but factors like transportation or relay mounting could change it to "set" status. So when using them (power supply is connected) please firstly reset the relays again to the proper status according to the need.
- ◆ Energizing coil with rated voltage is basic for normal operation of a relay, so please make sure the energized voltage to relay coil has reached the rated voltage. For latching relays, in order to maintain the "set" or "reset" status, impulse width of the rated voltage applied to coil should be more than 5 times of "set" or "reset" time.
- ◆ When the drive voltage for transistor is 5V, we recommend to use 4.5V for coil voltage. And for 3V transistor, please use 2.4V for coil voltage.
- ◆ For 2 coil latching relay, do not energize voltage to "set" coil and "reset" coil simultaneously.
- ◆ For monostable relays, if you need to drop down voltage and hold mode after reliably operating, make sure that the effective value of holding voltage is not less than 60% of the rated voltage.
- ◆ The relay may be damaged because of falling or when shocking conditions exceed the requirement.
- ◆ For SMT products, validation with real application must be done before your series production if the reflow-soldering temperature curve is out of our recommendation. Generally, two-time reflow-soldering is not recommended for the relay. However, if two-time reflow-soldering is unavoidable, a 60-minute interval should be guaranteed and a validation should be done before production.
- ◆ Please use wave soldering or manual soldering for straight-in relay. If you need reflow welding, please confirm the feasibility with us.
- ◆ Please contact us to define suitable relay specification and soldering conditions if a PCB with relays mounted on needs water cleaning or surface treatment.
- ◆ For plastic sealed relays, after soldering they should be naturally cooled to below 40°C before cleaning and surface treatment. The temperature of cleaning solvents and surface treating solvents should also be controlled below 40°C. For cleaning, ultrasonic cleaning and solvents like gasoline, trichloroethane, Freon and so on which would affect relay performances or influence the environment should be avoided.
- ◆ For relays with moisture-proofed package, the package meets MSL-3 requirements. The relays should be stored at ambient conditions of $\leq 30^{\circ}\text{C}$ and $\leq 60\%$ RH after they are removed from their package, and used within 168 hours. If the relays cannot be used within 168 hours please repack them with vacuum packaging, or store them in a drying oven at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$, $\leq 10\%$ RH. If such storage conditions cannot be met, then please make real-application soldering tests for validation, or bake the relays at $50^{\circ}\text{C} \pm 5^{\circ}\text{C}$ $\leq 30\%$ RH for 72 hours before use. When the ordered quantity is less than 100pcs (including 100pcs) for SMT type, we will adopt tube packing if reel tape packing is not specially requested in the order.
- ◆ The specification is for reference only. See to "Terminology and Guidelines (see http://www.hongfa.com/pdf/Guide_power_signal_en.pdf) for more information.