

# FH51/FH51TP

## Power Relay

### Features

- 30A switching capability
- Breakdown voltage (between contacts and coil): 4KV, Creep age distance :8mm
- Installation methods: PCB and Quick-connect terminal
- UL insulation system: Class F
- Environment-friendly product(RoHS compliant)



### CHARACTERISTICS

Specifications	Item		
Contact Data	Contact arrangement		2A, 2C
	Contact resistance		≤50mΩ(24VDC 1A)
	Contact material		AgSnO <sub>2</sub>
Rated value	Rated load(Resistance load)		NO:30A 250/277VAC NC:3A 250/277VAC
	Max.switching voltage		277VAC
	Max.switching current		30A
	Max.switching capacity		8310VA
	Min.allowing load		5VDC 100mA
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)
	Dielectric strength (initial))	Between open contacts	1500VAC,1 min
		Between contact groups	2000VAC,1 min
		Between coil&contacts	4000VAC,1 min
	Set time		≤25ms
Reset time		≤25ms	
Mechanical performance	Shock resistance	Functional	98m/s <sup>2</sup> (10g)
		Destructive	980m/s <sup>2</sup> (100g)
Vibration resistance		10Hz~55Hz 1.65mm DA	
Endurance	Mechanical		5×10 <sup>6</sup> ops
	Electrical(85℃)		NO:30A 277VAC NC:3A 277VAC
Operate condition	Ambient temperature		-40℃~65℃
	Humidity		5% to 85%
Termination			PCB,Quick-connect terminal
Unit weight			Approx.86g
Construction			Flux proofed、Plastic sealed

## COIL DATA(23°C)

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Coil Nominal Power	Max Voltage
DC 5V	≤3.75	≥0.25	340mA	14.7Ω	1.7W	DC 8V
DC 6V	≤4.5	≥0.3	283.3mA	21.2Ω		DC 9.6V
DC 12V	≤9	≥0.6	141.6mA	84.7Ω		DC 19.2V
DC 24V	≤18	≥1.2	70.8mA	338.8Ω		DC 38.4V
DC 48V	≤36	≥2.4	35.4mA	1355.3Ω		DC 76.8V
DC 110V	≤82.5	≥5.5	15.5mA	7117.6Ω		DC 176V

## ORDERING INFORMATION

**FH51 TP -2A S T -XXX DC12V**

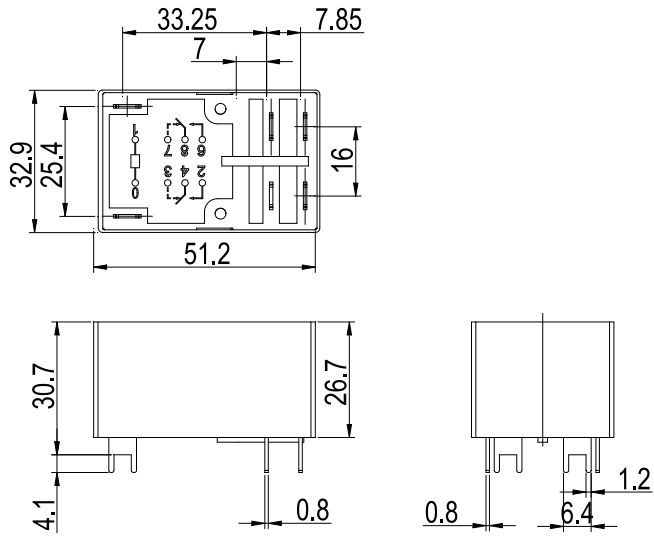
- ① Type
- ② Installation methods: Nil=PCB, TP=Quick-connect terminal
- ③ Contact arrangement: 2A=2open contacts, 2C=2switched contacts
- ④ Construction(1): Nil=Flux proofed, S=Plastic sealed
- ⑤ Contact material: T=AgSnO<sub>2</sub>
- ⑥ Customer special code: numbers or letters denote customer's requirements
- ⑦ Coil specification: DC5/6/12/24/48/110V

- (1) When used in clean environment(excluding H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Plastic sealed.For overall cleaning or surface treatment, please contact us.

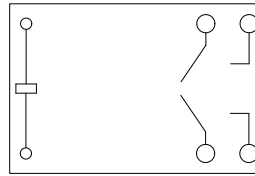
# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT (Unit:mm)

## PCB type

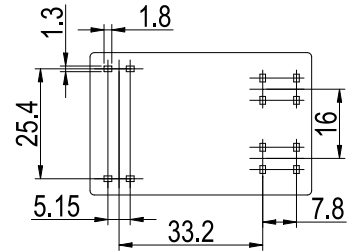
### 2A Outline Dimensions



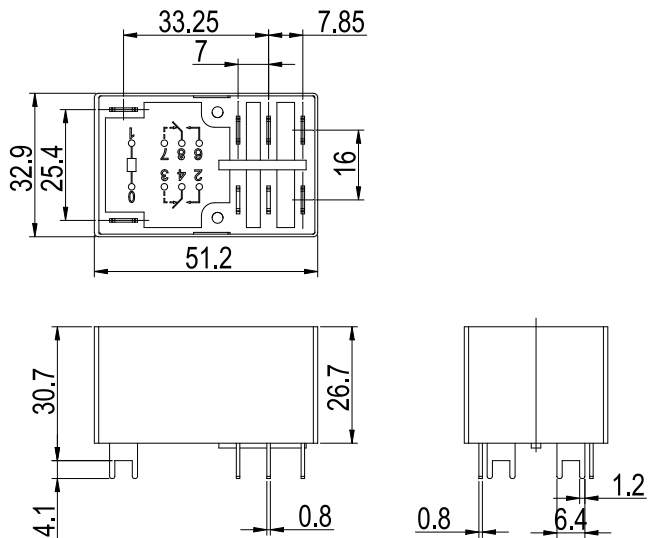
### Wiring Diagram (Bottom view)



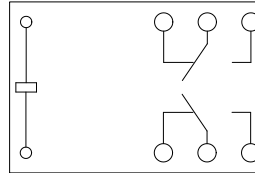
### PCB Layout (Bottom view)



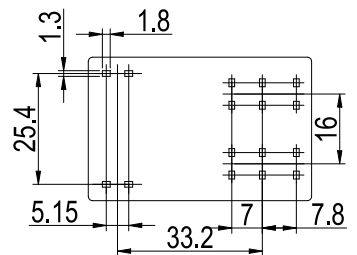
### 2C Outline Dimensions



### Wiring Diagram (Bottom view)

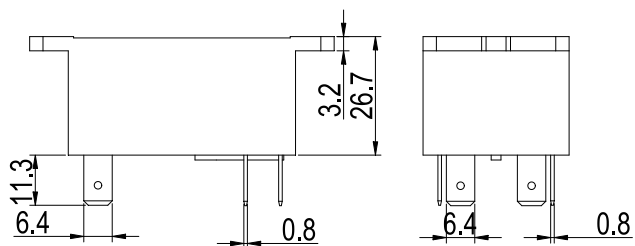


### PCB Layout (Bottom view)

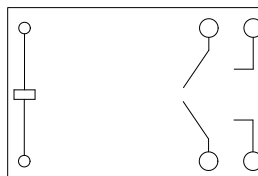


## Quick-connect terminal type

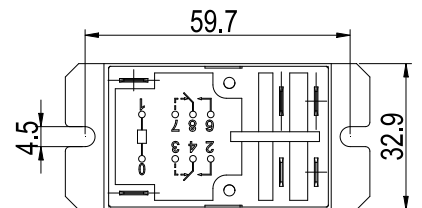
### 2A Outline Dimensions



### Wiring Diagram (Bottom view)



### PCB Layout (Bottom view)



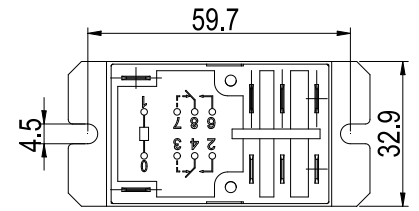
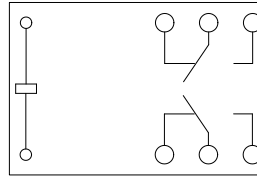
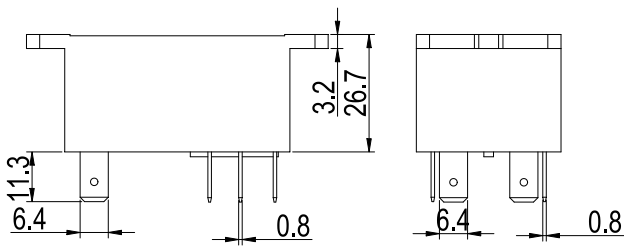
## ■ OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT (Unit:mm)

2C

Outline Dimensions

Wiring Diagram  
(Bottom view)

PCB Layout  
(Bottom view)



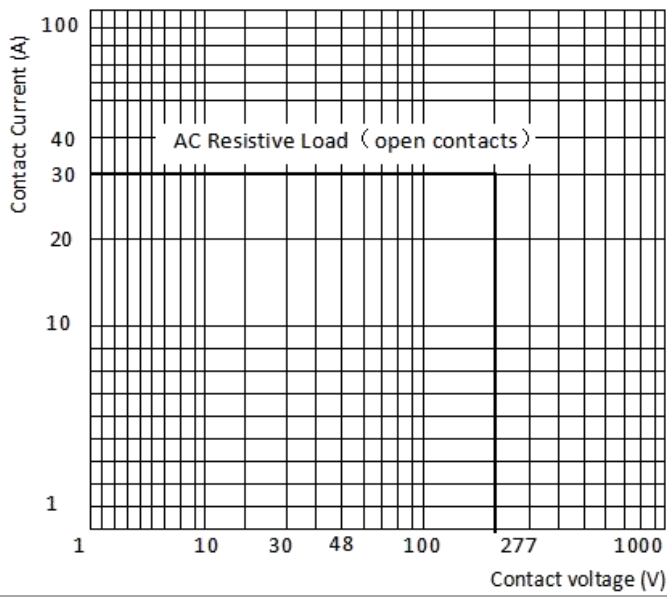
- Remark: (1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $< 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $\geq 5\text{mm}$ , tolerance should be  $\pm 0.5\text{mm}$ .
- (2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

## ■ SAFETY APPROVAL RATINGS

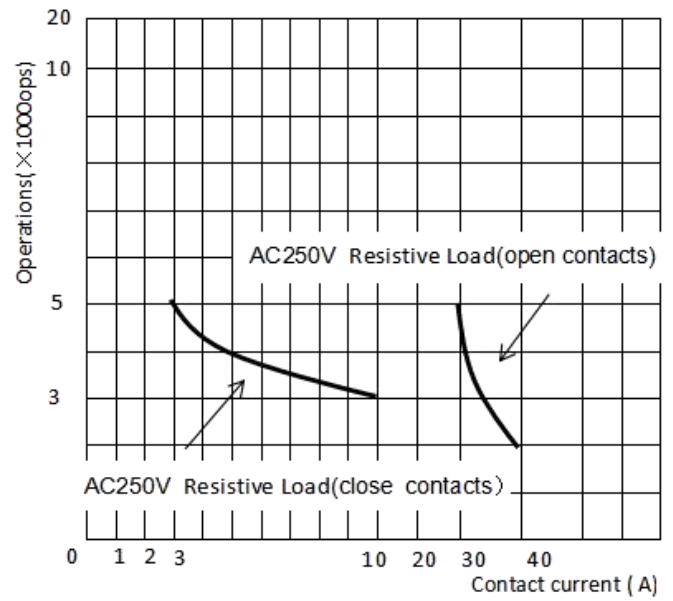
Approval	File No.	Contact arrangement	Contact material	Approved ratings
UL/C-UL	E475405	2A、2C	AgSnO <sub>2</sub>	NO: 50/40A 250/277VAC 85°C 30A 250/277VAC 85°C NC: 3A 250/277VAC 85°C
TUV	R 50604459	2A、2C	AgSnO <sub>2</sub>	NO: 50/40A 250/277VAC 85°C 30A 250/277VAC 85°C NC: 3A 250/277VAC 85°C
CQC	CQC23002409131	2A、2C	AgSnO <sub>2</sub>	NO: 50/40A 250/277VAC 85°C 30A 250/277VAC 85°C NC: 3A 250/277VAC 85°C

## ■ PERFORMANCE CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



## ■ NOTICE

- ① In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;
- ② The specification is for reference only. Specifications subject to change without notice.