

# POWER RELAY

## 1 POLE - 30A DC Relay

### 2 x 3.2mm contact gap

## FTR-K2W Series

#### ■ FEATURES

- Contact rating: 60VDC, 30A
- Wide contact gap: 2 x 3.2mm
- Compact size: 36.5 (L) x 34.9 (W) x 30.2 (H) mm
- 1 Form A
- High insulation (between coil and contact)
  - Insulation distance: Clearance > 8.0mm  
Creepage > 9.5mm
  - Dielectric strength: 5,000VAC
  - Surge strength: 10,000V
- Flammability UL94V-0 (plastics)
- RoHS compliant  
Please see page 6 for more information



#### ■ PARTNUMBER INFORMATION

[Example]      FTR-K2W   A   K   012   W  
                          (a)   (b)   (c)   (d)   (e)

(a)	Relay type	FTR-K2W: FTR-K2W Series
(b)	Contact configuration	A : 1 form A
(c)	Coil type	K : Standard (2,000mW)
(d)	Coil rated voltage	012 : 5....48 VDC Coil rating table at page 3
(e)	Contact material	W : Silver alloy

Actual marking does not carry the type name : "FTR"

E.g.: Ordering code: FTR-K2WAK012W      Actual marking: K2WAK012W

# FTR-K2W SERIES

## ■ SPECIFICATION

Item	FTR-K2W		
Contact Data	Configuration	1 form A	
	Material	Silver alloy	
	Resistance (initial)	≤ 100mOhm at 1A, 6VDC	
	Contact rating	30A / 60VDC, 25A / 72VDC (resistive)	
Life	Mechanical	1 x 10 <sup>6</sup> operations minimum	
	Electrical	10 x 10 <sup>3</sup> operations	
Coil Data	Rated power (at 20 °C)	Approximately 2,000mW	
	Nominal voltage	5, 12, 24, 48VDC	
	Operating temperature range	-40 °C to +70 °C (no frost)	
Timing Data	Operate (at nominal voltage)	≤ 30ms (no bounce)	
	Release	≤ 15ms (no diode, no bounce)	
Insulation	Resistance (initial)	≥ 1,000MOhm at 500VDC	
	Dielectric strength	Open contacts	2,000VAC (50/60 Hz) 1min.
		Coil and contacts	5,000VAC (50/60 Hz) 1min.
	Surge strength	Coil to contacts	10,000V / 1.2 x 50μs standard wave
Other	Vibration resistance	Misoperation	10 to 55Hz double amplitude 1.5 mm
		Endurance	10 to 55Hz double amplitude 1.5 mm
	Shock resistance	Misoperation	Min. 100m/s <sup>2</sup> (11 ± 1ms)
		Endurance	Min. 1,000m/s <sup>2</sup> (6 ± 1ms)
	Weight	Approximately 70 g	

Note: Use a varistor as a protective circuit against reverse surge in the relay coil. A varistor is connected parallel to the coil. The reverse blocking voltage should be about 3 times the value of the power surge voltage.

## ■ COIL RATING

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Rated Power +/- 10% (mW)
005	5	12.5	3.25	0.25	Approx. 2,000
012	12	72	7.8	0.6	
024	24	290	15.6	1.2	
048	48	1,160	31.2	2.4	

Note: All values in the table are measured at 20°C and zero contact current

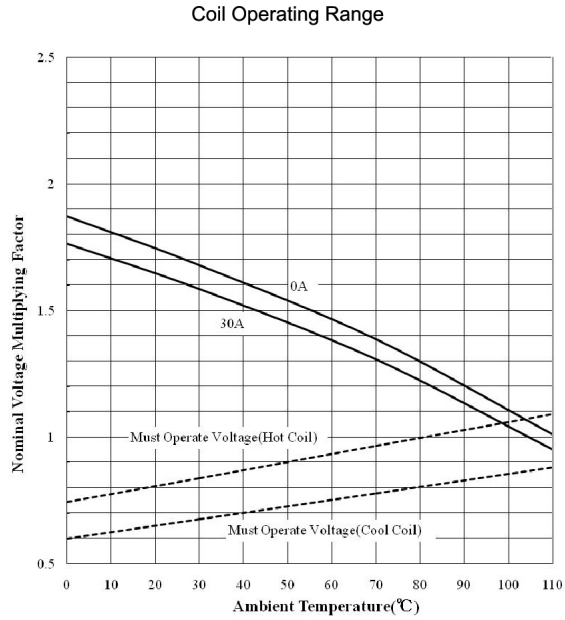
\* Specified values are subject to pulse wave voltage

# FTR-K2W SERIES

## ■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508 CSA22.2 No. 14-05	30A, 60VDC, resistive, 10,000 cycles
TUV	EN61810-1 / IEC61810-1	30A, 60VDC, resistive, 10,000 cycles

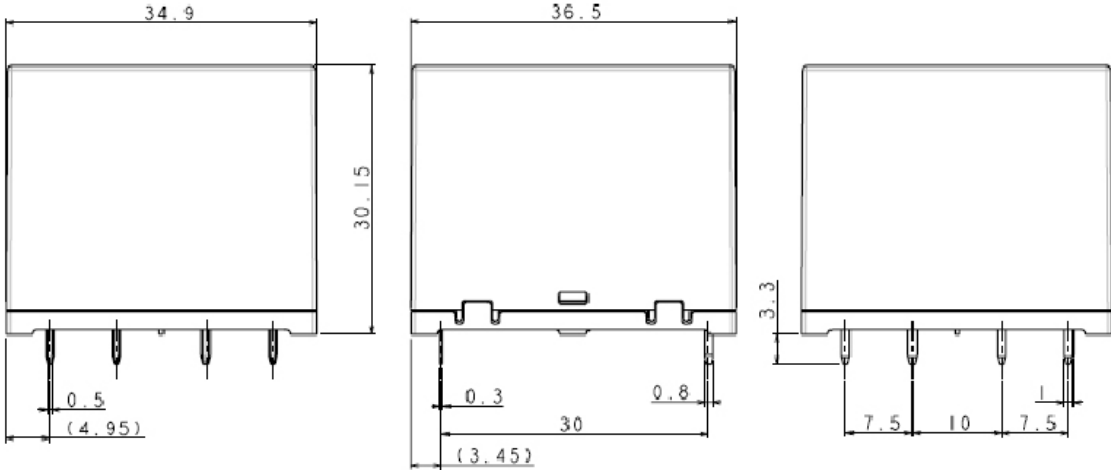
## ■ CHARACTERISTIC DATA



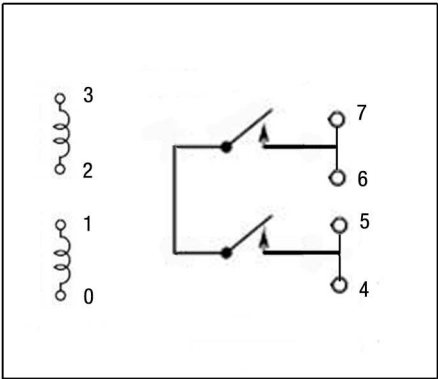
# FTR-K2W SERIES

## ■ DIMENSIONS

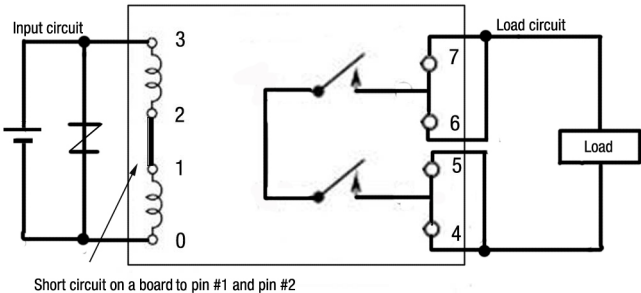
### ● Dimensions



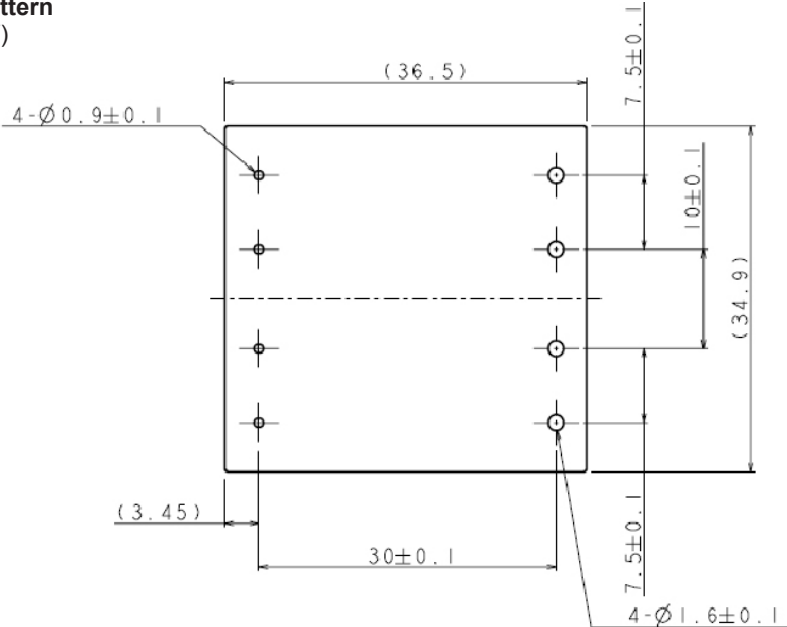
### ● Schematics (BOTTOM VIEW)



### ● Circuit (BOTTOM VIEW)



### ● PC board pattern (BOTTOM VIEW)



Unit: mm

## RoHS Compliance and Lead Free Information

### 1. General Information

- All signal and power relays produced by Fujitsu Components are compliant with RoHS directive 2002/95/EC including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives on October 21st, 2005. (Amendment to Directive 2002/95/EC)
- All of our signal and power relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: <http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf>
- Lead free solder plating on relay terminals is Sn-3.0Ag-0.5Cu, unless otherwise specified. This material has been verified to be compatible with PbSn assembly process.

### 2. Recommended Lead Free Solder Profile

- Recommended solder Sn-3.0Ag-0.5Cu.

**Flow Solder condition:**

Pre-heating: maximum 120°C  
Soldering: dip within 5 sec. at  
260°C solder bath

**Solder by Soldering Iron:**

Soldering Iron  
Temperature: maximum 360°C  
Duration: maximum 3 sec.

**We highly recommend that you confirm your actual solder conditions**

### 3. Moisture Sensitivity

- Moisture Sensitivity Level standard is not applicable to electromechanical relays, unless otherwise indicated.

### 4. Tin Whiskers

- Dipped SnAgCu solder is known as presenting a low risk to tin whisker development. No considerable length whisker was found by our in house test.

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