

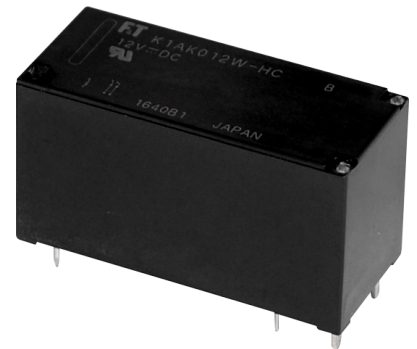
FTR-K1 HIGH CAPACITY 20A TYPE

1 POLE - Power Relay

FTR-K1 Series

■ FEATURES

- High capacity 20A (1 form A type)
- Low profile (height: 15.7mm)
- High insulation.
 - Insulation distance: min. 10mm between coil and contact.
 - Dielectric strength: 5,000VAC.
 - Surge strength: 10,000V.
- Class F coil wire
- Low coil power (Approx. 400mW)
- Safety standards: UL
- Flux proof, RT II
- RoHS compliant



■ Applications

- Oven controls
- Electric heating controls
- Power supplies
- Air conditioning

■ Part Numbers

[Example] FTR-K1 A K 012 W - HC
 (a) (b) (c) (d) (e) (f)

(a)	Relay type	FTR-K1 : FTR-K1 series
(b)	Contact configuration	A : 1 form A
(c)	Coil type	K : Standard Sensitive
(d)	Coil voltage	012 : 5.....18VDC See coil data chart
(e)	Contact material	W : Silver alloy
(f)	Special type	HC : High capacity type (20A)

Actual marking does not carry the type name: "FTR"
 E.g.: Ordering code: FTR-K1AK012W-HC Actual marking: K1AK012W-HC

FTR-K1 Series

■ Specifications

Item			FTR-K1AK()W-HC	Remark
Contact data	Configuration		1 form A (SPST-NO)	
	Material		Silver alloy	
	Construction		Single	
	Contact rating		20A, 250VAC	Resistive
	Max. carrying current		24A	
	Max. switching power		5.000VA	
	Max. switching voltage		440VAC	
	Min. switching load		100mA 5VDC	
Coil	Rated power consumption		400mW	At 20°C
	Operate power consumption		196mW	At 20°C
	Operating temperature range		-40°C ~ +85°C	No frost, no condense dew
Time	Operate		Max. 15ms (without diode)	Nominal voltage, without bounce
	Release		Max. 5ms (without diode)	Nominal voltage, without bounce
Life	Mechanical		Min. 20 x 10 ⁶ operations	
	Electrical		Min. 100 x 10 ³ operations	At room temperature
Insulation	Insulation resistance		Min. 1.000MΩ	At 500VDC
	Dielectric withstanding voltage	Open con-tacts	1.000VAC (50/60 Hz), 1 minute	
		Coil contact	5.000VAC (50/60 Hz), 1 minute	
	Surge strength		10,000V (1.2 × 50 μs)	Between coil and contacts
	Clearance / Creepage		10.0 / 10.0mm	Between coil and contacts
	Insulation (IEC/ EN61810-1)	Voltage	250V	
		Pollution degree	3	
		Material group	IIIa	
Other	Vibration resistance	Misoperation	10 to 55 Hz at single amplitude of 0.75mm	
		Endurance	10 to 55 Hz at single amplitude of 0.75mm	
	Shock resistance	Misoperation	100m/s ² (11±1ms)	
		Endurance	1.000m/s ² (6±1ms)	

FTR-K1 Series

■ Coil Data

Coil code	Rated Coil Voltage (VDC)	Coil Resistance +/-10% (Ω)	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Nominal Power (mW)
005	5	62	3.5	0.5	Approx. 400
006	6	90	4.2	0.6	
012	12	360	8.4	1.2	
018	18	810	12.6	1.8	

Note: All values in the table are valid for 20degC and zero contact current unless otherwise specified.

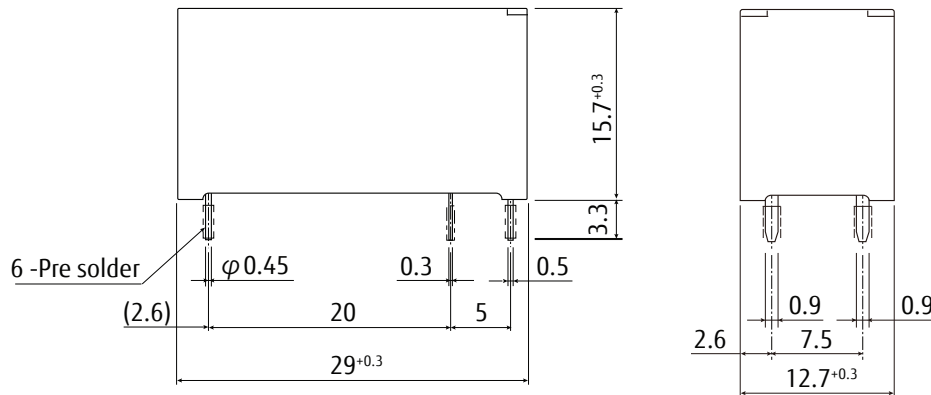
*: Specified operated values are valid for pulse wave voltage.

■ Safety Standards

Type	Compliance	Contact Rating
UL	UL 508 E63614	Flammability: UL 94-V0 (plastics)
		20A, 277VAC , Resistive 100k operations at 85°C

■ Dimensions

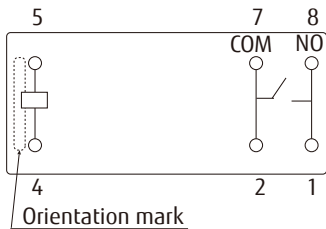
- Dimensions



Note: Dimensions of the terminals do not include thickness of pre-solder.

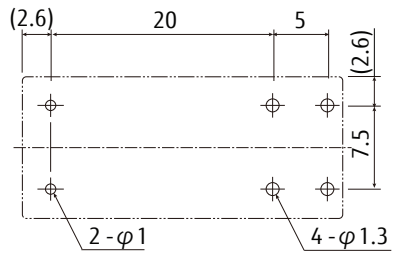
FTR-K1 Series

- Schematics
(BOTTOM VIEW)



Connect terminals #2 and #7,
#1 and #8 on the PCB

- PC Board Mouting Hole Layout
(BOTTOM VIEW)



Tolerance: ± 0.1 unless otherwise specified.
(): Reference value
Unit: mm

FTR-K1 Series

GENERAL INFORMATION

1. ROHS Compliance

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Use of Cadmium in electrical contacts is exempted as per Annex III of the RoHS directive 2001/65/EU. Please consider expiry date of exemption. Relays with Cadmium containing contacts are not to be used for new designs.
- All relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: <http://www.fujitsu.com/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 for assembly: Sn-3.0Ag-0.5Cu.

Solder by Soldering Iron:

Soldering Iron 30-60W
Temperature: maximum 350-360 °C
Duration: maximum 3 sec.

Flow Solder condition:

Pre-heating: maximum 120 °C
within 90 sec.
Soldering: dip within 5 sec. at
255 °C ± 5 °C solder bath
Relay must be cooled by air immediately
after soldering

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.

FTR-K1 Series

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