FUJITSU THE POSSIBILITIES ARE INFINITE

POWER RELAY

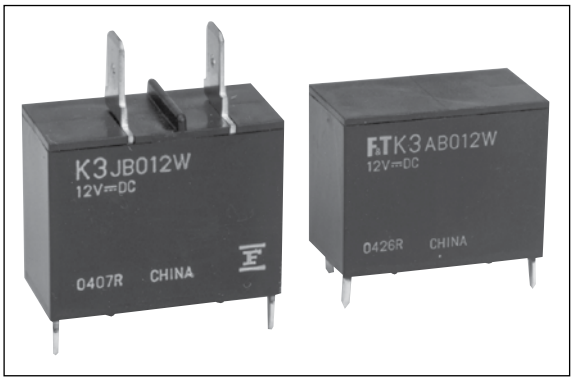
1 POLE - 20A Heavy Load

FTR-K3 Series

RoHS compliant

■ FEATURES

- SPST 20A and #250 tab terminal type is also available
- Low coil power (780mW)
- Cadmium free contacts
- SAFETY STANDARDS
  UL, CSA, VDE,CQC approved
- RoHS Compliant since production



■ ORDERING INFORMATION

[Example] FTR-K3 (a) J (b) B (c) 012 (d) W (e) – ( ) (f)

(a)	Series Name	FTR-K3: FTR-K3 Series
(b)	Contact Arrangement	A : 1 form A (SPST-NO) (PCB terminal) J : 1 form A (SPST-NO) (Tab terminal)
(c)	Coil Type / Enclosure	B : Standard (780 mW)
(d)	Nominal Voltage	005 : 5 VDC, 006 : 6VDC, 009 : 9VDC 012 : 12VDC 018 : 18 VDC 024: 24VDC, 048 : 48VDC
(e)	Contact Material / TV type	W : Silver alloy
(f)	Special Designation	:

Actual marking does not carry the type name : "FTR"
E.g.: Ordering code: FTR-K3AB012W Actual marking: K3AB012W

■ PART NUMBERS

400mW type

Ordering Part Number	Series	Contact	Coil Power	Coil Voltage	Contact Material
FTR-K3AB005W	FTR-K3	A: 1 form A PCB terminal	B: 780 mW	5	W: Silver alloy
FTR-K3AB006W				6	
FTR-K3AB009W				9	
FTR-K3AB012W				12	
FTR-K3AB018W				18	
FTR-K3AB024W				24	
FTR-K3AB048W				48	
FTR-K3JB005W		J: 1 form A Tab terminal		5	
FTR-K3JB006W				6	
FTR-K3JB009W				9	
FTR-K3JB012W				12	
FTR-K3JB018W				18	
FTR-K3JB024W				24	
FTR-K3JB048W				48	

■ COIL DATA CHART

Coil Voltage	Nominal Voltage (VDC)	Coil Resistance (±10%)	Must Operate Voltage*2	Must Release Voltage*2	Nominal Power (mW)
005	5	32 Ω	3.5 VDC	0.5 VDC	780
006	6	46 Ω	4.2 VDC	0.6 VDC	
009	9	105 Ω	6.3 VDC	0.9 VDC	
012	12	185 Ω	8.4 VDC	1.2 VDC	
018	18	415 Ω	12.6 VDC	1.8 VDC	
024	24	740 Ω	16.8 VDC	2.4 VDC	
048	48	2,955 Ω	33.6 VDC	4.8 VDC	

Note: All values in the table are measured at 20°C.
*1: No contact current at 20°C
*2: Specified values are subject to pulse wave voltage

■ SPECIFICATIONS

Item			FTR-K3
Contact	Arrangement		1 form A
	Material		Silver alloy
	Configuration		Single
	Resistance (initial)		Maximum 100 mΩ at 1 A, 6 VDC
	Rating		20 A, 250 VAC (resistive)
	Maximum Carrying Current*1		25A
	Maximum Switching Current		25A
	Maximum Switching Rating		6,250VA
	Maximum Switching Voltage		250 VAC
	Maximum Switching Load*2		100 mA 5VDC
Coil	Nominal Power (at 20ºC)		780mW
	Operate Power (at 20ºC)		380 mW
	Operating Temperature		-40ºC to +60ºC (no frost)
Time Value	Operate (without diode)		Maximum 20ms (at nominal voltage, no bounce)
	Release (without diode)		Maximum 10ms (at nominal voltage, no bounce)
Life	Mechanical		20 x 10^6 operations minimum
	Electrical	Resistive	100 x 10^3 operations min.
		Motor	200 x 10^3 operations min.
		Inverter	30 x 10^3 operations min.
Other	Vibration Resistance	Misoperation	10 to 55 Hz, at double amplitude of 0.7 mm
		Endurance	10-55Hz, at double amplitude of 1.5 mm
	Shock Resistance	Misoperation	Min. 100m/s^2 (11±1ms)
		Endurance	Min. 1,000m/s^2 (6±1ms)
	Weight		Approximately 25g

*1 Need to consider the head from PCB when max. current is more than 10A.
*2 Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

■ INSULATION

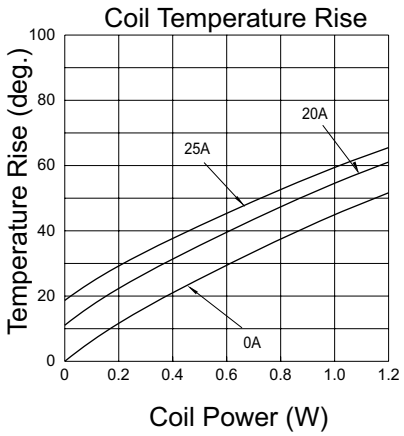
Item		FTR-K1	Note
Resistance (initial)		Minimum 1,000 MΩ 1 min.	at 500 VDC
Dielectric Strength	open contacts	1,000 VAC (50/60 Hz) 1 min.	
	coil and contacts	5,000 VAC (50/60 Hz) 1 min.	
Surge Voltage (coil and contact)		8,500 V	1.2 x 50μs standard wave

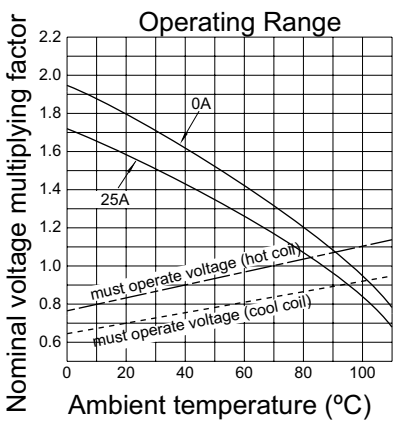
■ SAFETY STANDARDS

Type	Compliance	Contact rating
		FTR-K3
UL	UL 508 E63614	Flammability: UL 94-V0 (plastics)
CSA	C22.2 No. 14 LR 40304	20A, 277 VAC (resistive) 1 HP, 125VAC 2 HP, 277VAC, 100,000 ops.
VDE	0435	
CQC	04001009179	

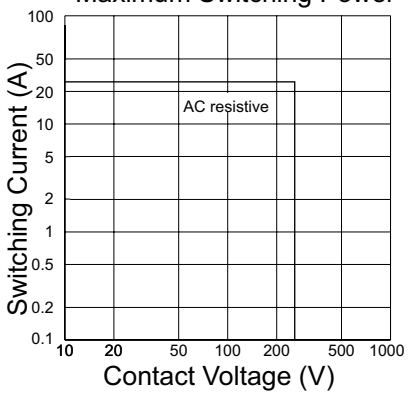
Complies with NEMKO, DEMKO, FIMKO

■ CHARACTERISTIC DATA

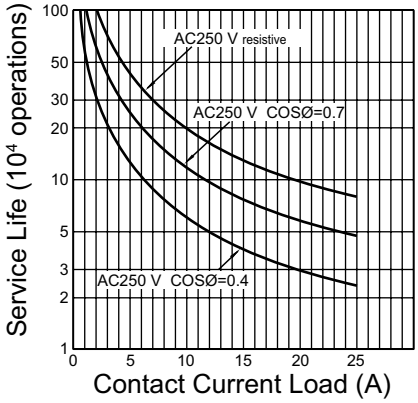




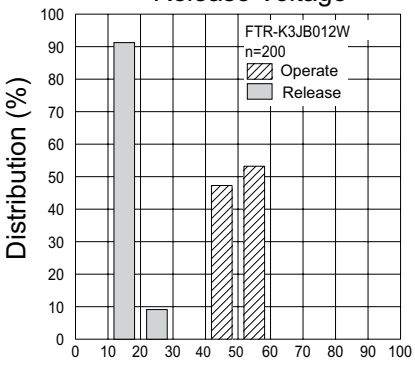
Maximum Switching Power



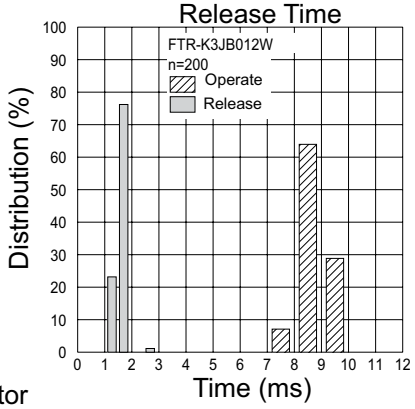
Life Curve



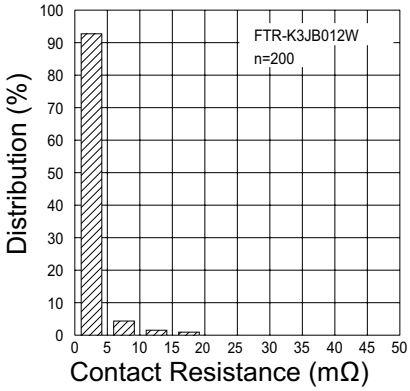
Distribution of Operation & Release Voltage



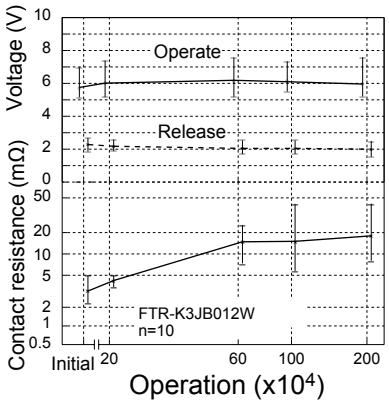
Distribution of Operation & Release Time



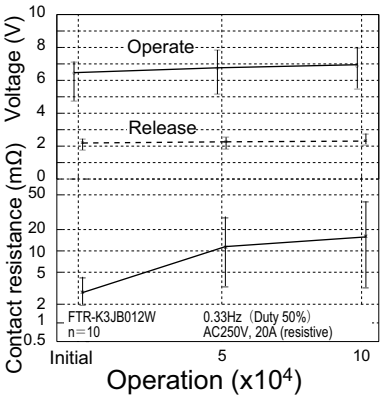
Distribution of Contact Resistance



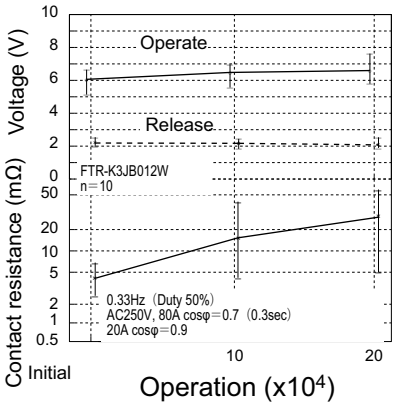
Mechanical Test



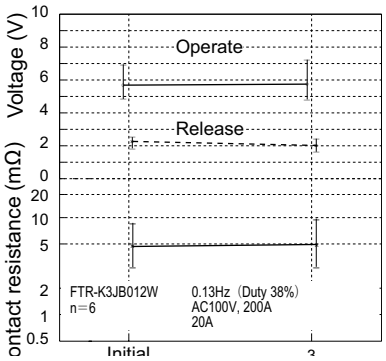
Electrical Test



Electrical Test



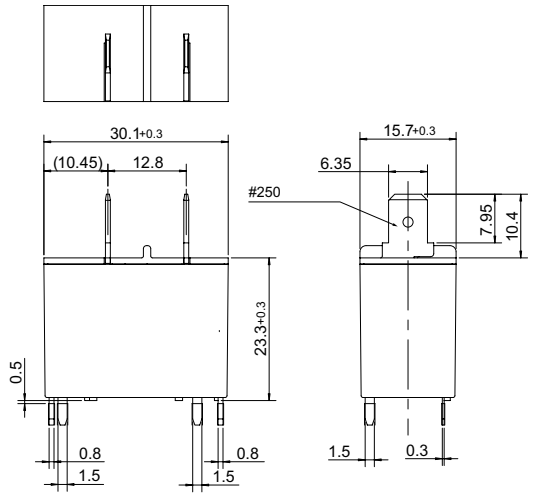
Electrical Test



■ DIMENSIONS

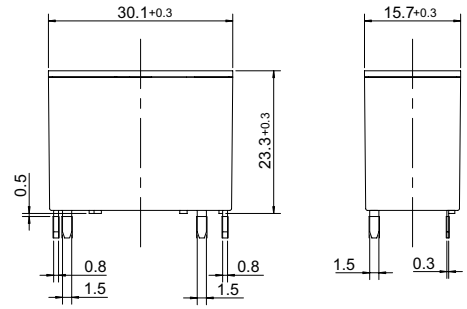
● **Dimensions**

FTR-K3 JB

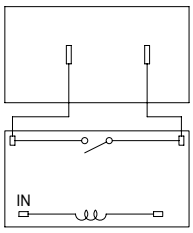


● **Dimensions**

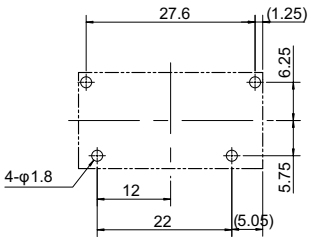
FTR-K3 AB



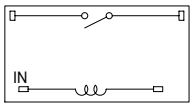
● Schematics
(BOTTOM VIEW)



● **PC board mounting hole layout**
(BOTTOM VIEW)



● Schematics
(BOTTOM VIEW)



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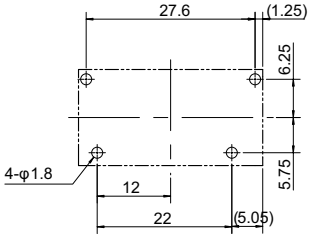

Unit: mm

RoHS Compliance and Lead Free Relay Information

1. General Information

- Relays produced after the specific date code that is indicated on each data sheet are lead-free now. All of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu.
- All signal and power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 5 hazardous materials that are restricted by RoHS directive (lead, mercury, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatible).
- "LF" is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office.
- We will ship leaded relays as long as the leaded relay inventory exists.

Note: Cadmium was exempted from RoHS on October 21, 2005. (Amendment to Directive 2002/95/EC)

2. Recommended Lead Free Solder Profile

- Recommended solder paste Sn-3.0Ag-0.5Cu.

Reflow Solder condition

Flow Solder condition:

Pre-heating:	maximum 120˚C
Soldering:	dip within 5 sec. at 260˚C soler 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 realys.

4. Tin Whisker

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

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Rev. April 16, 2010.

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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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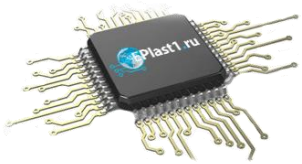
- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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