

POWER RELAY

1 POLE - 20A Heavy Load

FTR-K3 Series

■ FEATURES

- SPST 20A and #250 tab terminal type is also available
 - Low coil power (780mW)
 - Type of service: continuous duty
 - Cadmium free contacts
 - SAFETY STANDARDS
UL, CSA, VDE, CQC approved
 - RoHS compliant
- Please see page 7 for more information



■ PARTNUMBER INFORMATION

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

(a)	Relay type	FTR-K3: FTR-K3 Series
(b)	Contact configuration	A : 1 form A (SPST-NO) (PCB terminal) J : 1 form A (SPST-NO) (Tab terminal)
(c)	Coil type	B : Standard type (780mW)
(d)	Coil rated voltage	012 : 5....48VDC Coil rating table at page 3
(e)	Contact material	W : AgSnO ₂
(f)	Option	LS : Improved spacing IEC60950-1, clearance 8mm

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

E.g.: Ordering code: FTR-K3AB012W

Actual marking: K3AB012W

FTR-K3 SERIES

■ SPECIFICATION

Item			FTR-K3
Contact Data	Configuration		1 form A
	Construction		Single
	Material		AgSnO ₂
	Resistance (initial)		Max. 100mOhm at 1A, 6VDC
	Contact rating		20A, 250VAC (resistive)
	Max. carrying current		25A
	Max. switching current *1		25A
	Max. switching voltage		250VAC
	Max. switching power		6,250VA
	Min. switching load *2		100 mA, 5VDC
Life	Mechanical		Min. 2 x 10 ⁶ operations
	Electrical	Resistive load	Min. 100 x 10 ³ operations
		Motor load	Min. 200 x 10 ³ operations
		Inverter load	Min. 30 x 10 ³ operations
Coil Data	Rated power (at 20 °C)		780 mW
	Operate power (at 20 °C)		380 mW
	Operating temperature range		-40 °C to +60 °C (no frost)
Timing Data	Operate (at nominal voltage)		Max. 20ms (no diode, without bounce)
	Release (at nominal voltage)		Max. 10ms (no diode, without bounce)
Insulation	Resistance (initial)		Min. 1,000MOhm at 500VDC
	Dielectric strength	Open contacts	1,000VAC (50/60Hz) 1min
		Contacts to coil	5,000VAC (50/60Hz) 1min
	Surge strength	Coil to contacts	8,500V / 1.2 x 50µs standard wave
	Clearance/creepage distance		6.4/9.5mm (8/9.5mm -LS version)
Other	Vibration resistance	Misoperation	10 to 55Hz double amplitude 0.7 mm
		Endurance	10 to 55Hz double amplitude 1.5 mm
	Shock	Misoperation	Min. 100m/s ² (11 ± 1ms)
		Endurance	Min. 1,000m/s ² (6 ± 1ms)
	Weight		Approximately 25 g
	Sealing		Flux proof, RTII

* 1 Need to consider the heat from PCB when max. current is more than 10A

* 2 Minimum switching loads mentioned above are reference values. Please perform the confirmation test with actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

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■ COIL RATING

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Max. Coil Voltage (VDC) **	Rated Power (mW)
005	5	32	3.5	0.5	9	780
006	6	46	4.2	0.6	10.8	
009	9	105	6.3	0.9	16.2	
012	12	185	8.4	1.2	21.6	
018	18	415	12.6	1.8	32.4	
024	24	740	16.8	2.4	43.2	
048	48	2,955	33.6	4.8	86.4	

Note: All values in the table are valid for 20°C and zero contact current.

* Specified operate values are valid for pulse wave voltage.

** Specified at 0A contact current at 20°C T amb.

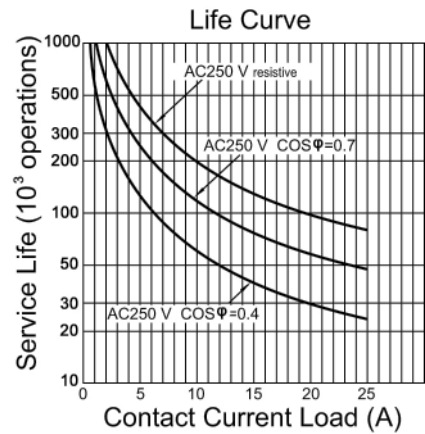
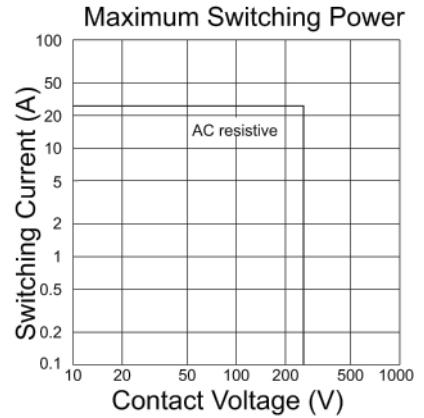
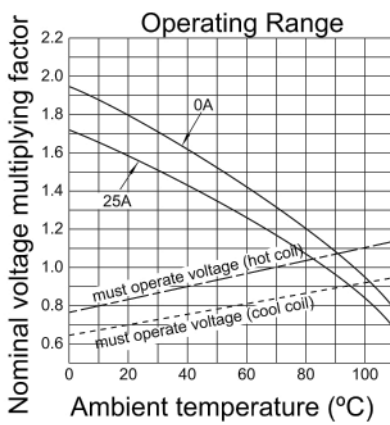
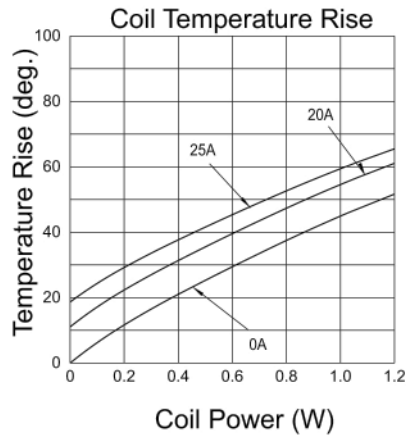
■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508	Flammability: UL 94-V0 (plastics)
	E63614	20A, 277 VAC (resistive) 1 HP, 125VAC 2 HP, 277VAC, 100,000 ops.
CSA	C22.2 No. 14 LR 40304	
VDE	0435 / DIN EN61810-1 40011330	25A, 250VAC, cos φ1 ; 100K ops. (600 ops/h)
CQC	04001009179	20A, 250VAC
SEMKO	609240: EN61058-1: 1992 and A1 EN61095: 1993 and A1+A11	5E4: 20A, 15E3: 20/200A, 1E5: 20 (13, 33A) 40T60

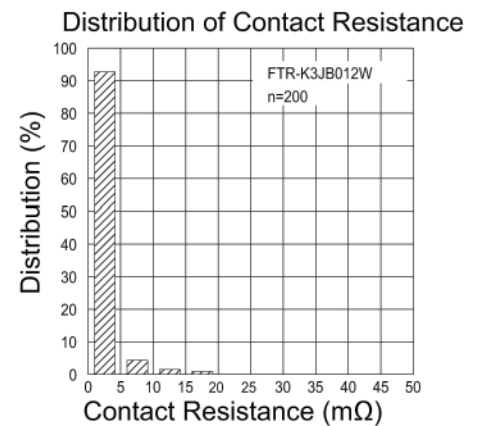
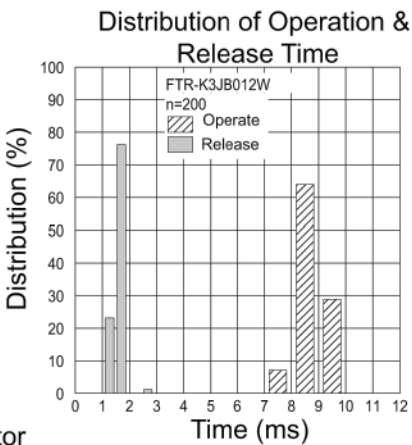
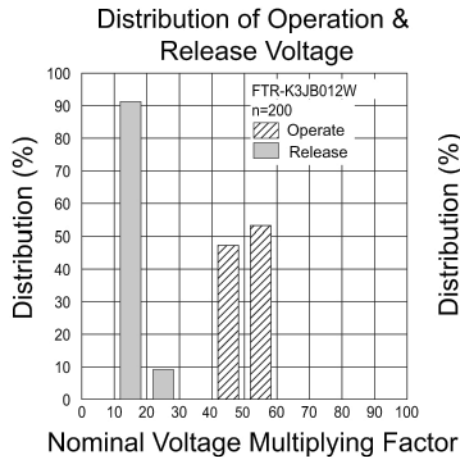
Complies with NEMKO, DEMKO, FIMKO

FTR-K3 SERIES

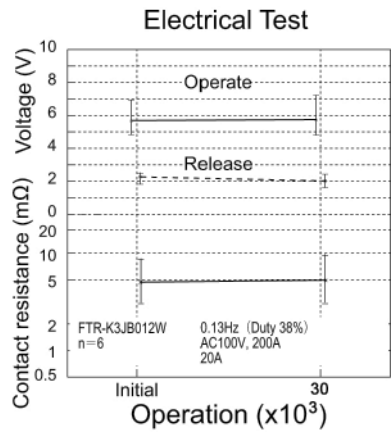
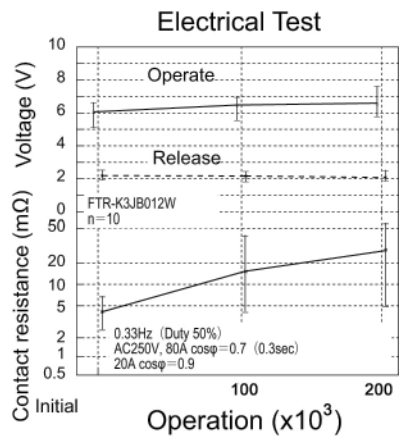
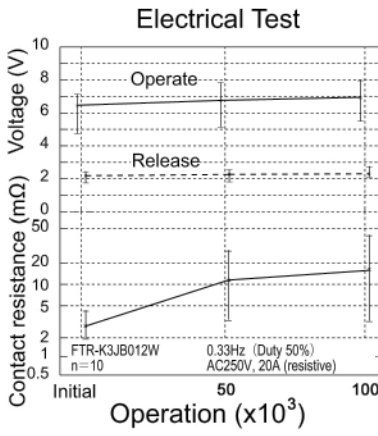
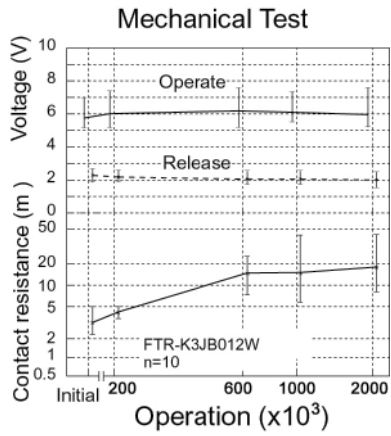
CHARACTERISTIC DATA



REFERENCE DATA



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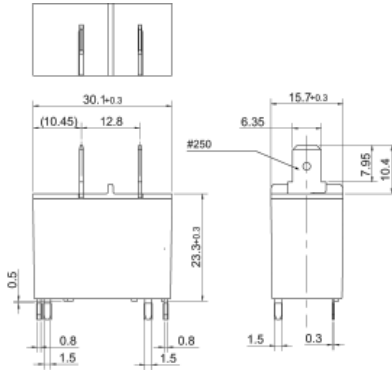


FTR-K3 SERIES

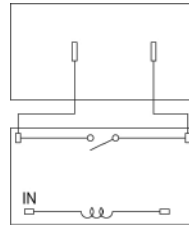
■ DIMENSIONS

● Dimensions

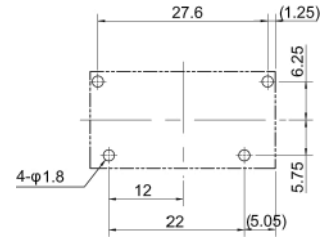
FTR-K3 JB type



● Schematics (BOTTOM VIEW)



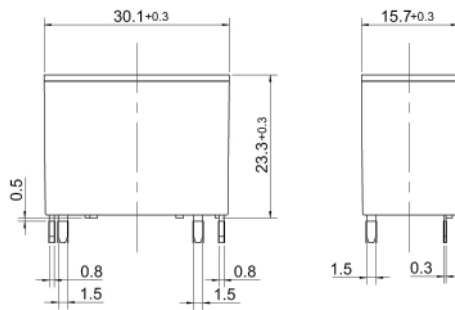
● PC board mounting hole layout (BOTTOM VIEW)



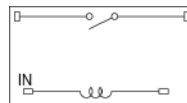
Unit: mm

● Dimensions

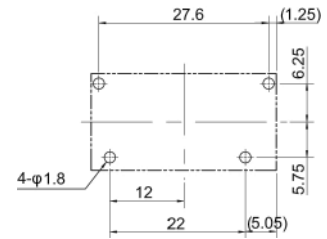
FTR-K3 AB type



● Schematics (BOTTOM VIEW)



● PC board mounting hole layout (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 2002/95EC including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives on October 21st, 2005. (Amendment to Directive 2002/95/EC)
- 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 through hole mounted 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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