

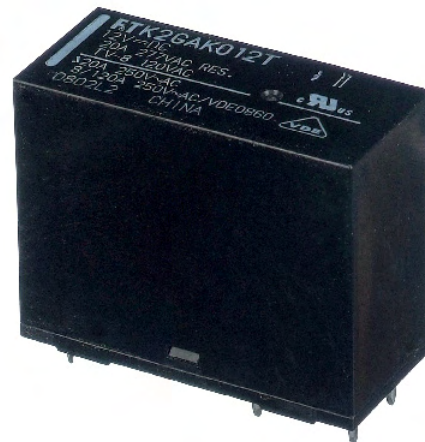
POWER RELAY

1 POLE - 20A, 3.0mm contact gap

FTR-K2G Series

■ FEATURES

- Contact gap min. 3.0mm
- Full disconnection
- 1 Pole, 1 Form A
- Maximum inrush current 120A (TV-8) (UL) (VDE)
- High insulation
Reinforced insulation
Insulation distance between coil and contact:
 - Clearance min. 8.0mm, creepage min. 9.5mm
 - Dielectric strength: 5KV
 - Surge strength: 10KV
- Heat resistance, flammability
Class B (130°C) coil wire class,
flammability UL94V-0 (plastic)
- Safety standards
UL, CSA, VDE approved
- Flux proof type. RT II
- RoHS compliant
Please see page 6 for more information



■ PARTNUMBER INFORMATION

[Example] FTR-K2G A K 012 T
 (a) (b) (c) (d) (e)

(a)	Relay type	FTR-K2G: FTR-K2G Series
(b)	Contact configuration	A : 1 form A
(c)	Coil type	K : Standard type (1,000mW)
(d)	Coil rated voltage	012 : 5.....110VDC Coil rating table at page 3
(e)	Contact material / TV type	T : AgSnO ₂ (TV-5)

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

E.g.: Ordering code: FTR-K2GAK012T Actual marking: K2GAK012T

FTR-K2G SERIES

■ SPECIFICATION

Item			FTR-K2GAK () T
Contact Data	Configuration		1 form A (SPST-NO)
	Construction		Single
	Material		AgSnO2
	Resistance (initial)		Maximum 100mOhm at 1A, 6VDC
	Contact rating (resistive)		20A / 250VAC
	Max. carrying current *1		25A
	Max. inrush current		120A / 250VAC
	Max. switching voltage		440VAC
	Max. switching power		5,000VA
	Min. switching load *2		100mA, 5VDC (reference value)
Life	Mechanical		1 x 10 ⁶ operations minimum
	Electrical	Resistive	100 x 10 ³ operations minimum
		Lamp load (TV-8)	25 x 10 ³ operations minimum
Coil Data	Rated power		Approximately 1,000mW
	Operate power		Approximately 420mW
	Operating temperature range		-40 °C to +70 °C (no frost)
Timing Data	Operate (at nominal voltage)		Max. 30ms (without bounce)
	Release		Max. 15ms (without diode)
Insulation	Resistance (initial)		Min. 1,000MOhm at 500VDC
	Dielectric strength	Open contacts	2,000VAC (50/60Hz) 1min
		Coil to contacts	5,000VAC (50/60Hz) 1min
	Surge strength	Coil to contacts	10,000V / 1.2 x 50µs standard wave
	Clearance		8 mm
	Creepage		9.5 mm
	EN61710-1, VDE0435	Voltage	250V
		Pollution degree	3
		Material group	III a
		Category	B / 250V
Other	Vibration resistance	Misoperation>1us	10 to 55Hz double amplitude 1.5mm
		Endurance	10 to 55Hz double amplitude 1.5mm
	Shock	Misoperation>1us	100m/s ² (11 ± 1ms)
		Endurance	1,000m/s ² (6 ± 1ms)
	Weight		Approximately 34g
	Sealing		Flux proof, RT II

* 1 Need to consider the heat when mounted on PCB at carry currents > 10A. Please confirm actual condition.

* 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.

FTR-K2G SERIES

■ 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	25	3.25	0.25	8.5	1,000
006	6	36	3.9	0.3	10.2	
009	9	81	5.85	0.45	15.3	
012	12	145	7.8	0.6	20.4	
018	18	325	11.7	0.9	30.6	
022	22	485	14.3	1.1	37.4	
024	24	580	15.6	1.2	40.8	
048	48	2,200	31.2	2.4	81.6	1,050
060	60	3,600	39	3	102	1,000
110	110	13,000	71.5	5.5	187	930

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

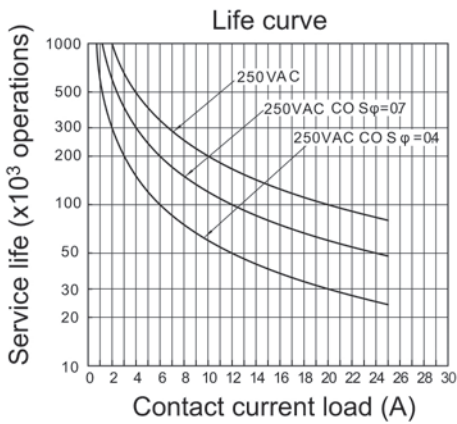
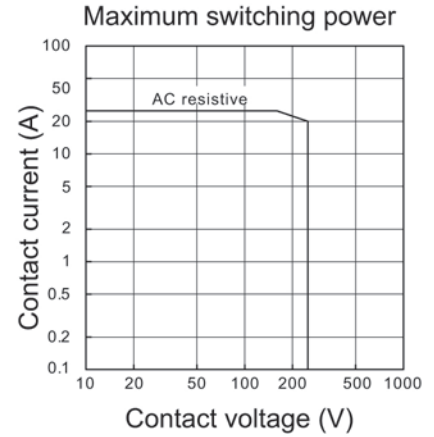
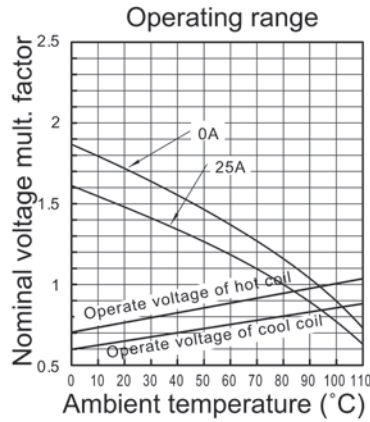
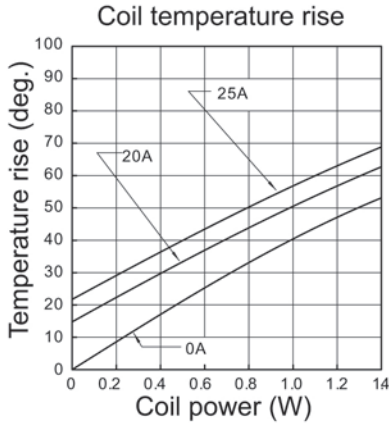
* Specified operate values are valid for pulse wave voltage.

■ SAFETY STANDARDS

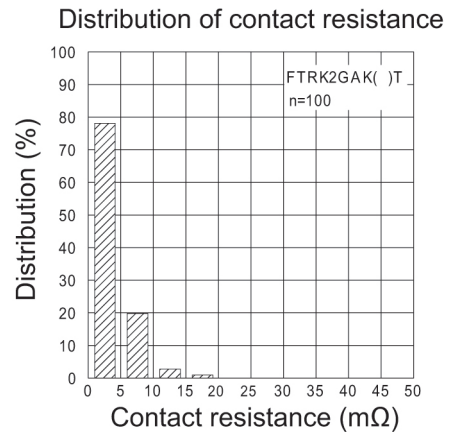
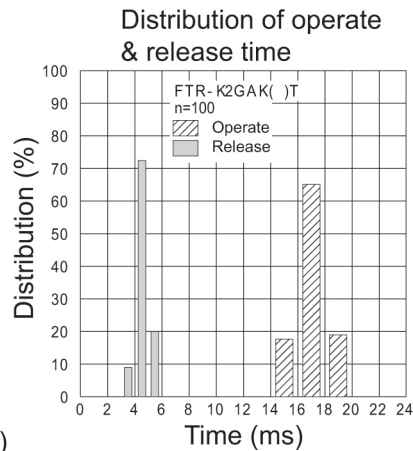
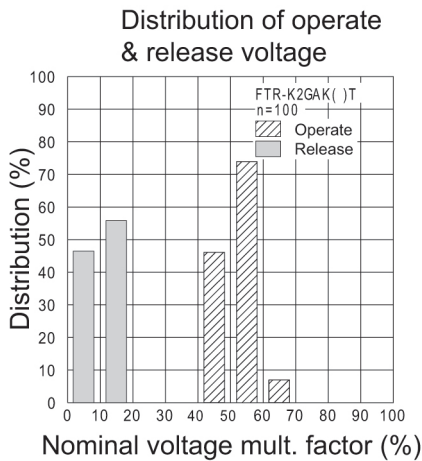
Type	Compliance	Contact rating
UL	UL 508 CSA22.2 No.14 UL/CSA60950-1 E63614	Flammability: UL 94-V0 (plastics)
		20A, 277VAC (resistive) TV-8, 120 VAC
VDE	0435, 0631, 0700, 0860 400 22822	20A, 250 VAC (cosφ=1) 70°C 100k operations 8/120A, 250VAC 70°C 30k operations

FTR-K2G SERIES

CHARACTERISTIC DATA



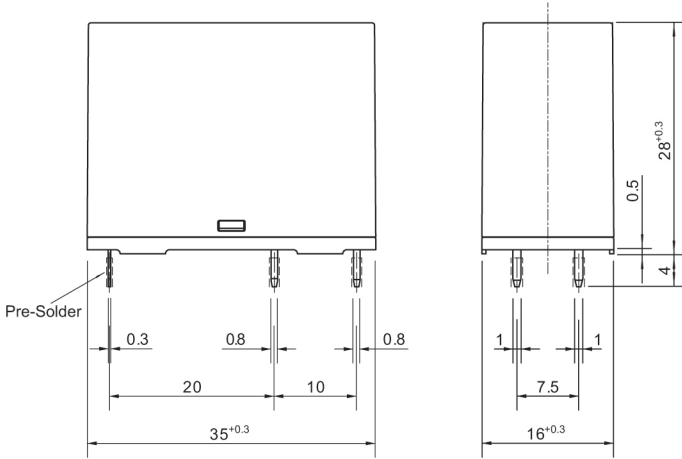
REFERENCE DATA



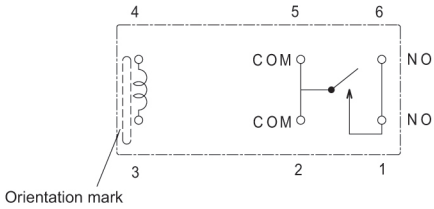
FTR-K2G SERIES

■ DIMENSIONS

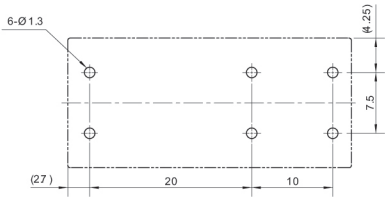
- Dimensions



- 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)
- 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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