

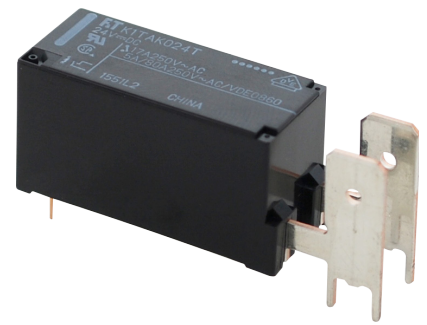
POWER RELAY

1 POLE - 17A Tab Terminal

FTR-K1T Series

■ FEATURES

- SPST 17A
 - Low profile (height: 15.7mm)
 - High insulation
Insulation distance (between coil and contacts):
10mm min. Dielectric strength: 5KV Surge strength: 10KV
 - UF class wire insulation
 - Low coil power (400mW)
 - Cadmium free contacts
 - Safety standards: UL, CSA, VDE
UL, CSA TV-5 rating approved (1 form A type)
 - Flux proof, RTII
 - RoHS compliant
- Please see page 6 for more information



■ Part Numbers

[Example] FTR-K1T A K 012 T - BG
 (a) (b) (c) (d) (e) (f)

(a)	Relay type	FTR-K1T : FTR-K1T series
(b)	Contact configuration, tab terminal	A : 1 form A, vertical B : 1 form B, vertical J : 1 form A, horizontal
(c)	Coil type	K : Standard type (400mW) / Flux proof
(d)	Coil rated voltage	012 : 5..... 110VDC Coil rating table at page 3
(e)	Contact material	T : AgSnO ₂ (1 form A) W : AgSnO ₂ (1 form B)
(f)	Special type	Nil : Standard type (without gold plate) BG : Gold plate

Actual marking does not carry the type name: "FTR"
 E.g.: Ordering code: FTR-K1TAK005T Actual marking: K1TAK012T

FTR-K1T Series

■ Specifications

Item			FTR-K1T (A, J) K () T	FTR-K1TBK()W	Remarks / conditions
Contact data	Configuration		1 form A	1 form B	
	Construction		Single		
	Material		AgSnO ₂		
	Resistance		Max. 100mΩ at 1A, 6VDC		Initial
	Contact rating		17A, 250VAC		Resistive
	Max. carrying current *1		20A		
	Max. inrush current		80A, 250VAC	-	
	Max. switching voltage		440VAC		
	Max. switching power		4,250VA		
	Min. switching load *2		100mA, 5VDC		
Coil	Rated power (20°C)		400mW (430mW at 48V coil), 420mW at 60V/110V coil		
	Operate power (20°C)		200mW (210mW at 48V coil), 206mW at 60V/110V coil		
	Operating temperature range		-40°C ~ +105°C		No frost
Timing data	Operate		Max. 15ms		without bounce, no diode
	Release		Max. 5ms		without bounce, no diode
Life	Mechanical		Min. 20 x 10 ⁶ operations		
	Electrical	AC contact rating	Min. 100 x 10 ³ ops.	Min. 50 x 10 ³ ops.	
		Peak inrush	Min. 10 x 10 ³ ops.	-	80A 250 VAC
		Lamp (UL TV-5)	Min. 25 x 10 ³ ops.	-	
Insulation	Insulation resistance		Min. 1000MΩ at 500VDC		Initial
	Dielectric strength	Open contacts	1000VAC (50/60Hz), 1 minute		
		Coil contact	5000VAC (50/60Hz), 1 minute		
	Surge strength	Coil to contacts	10,000V / 1.2 x 50μs standard wave		
	Clearance		10mm		
	Creepage		10mm		
	EN61810-1, VDE0435	Voltage	250V		
		Pollution	3		
Material group		III a			
Other	Vibration resistance	Misoperation ≥1us	10 to 55 to 10Hz single amplitude 0.75mm	10 to 55 to 10Hz single amplitude 0.35mm	
		Endurance	10 to 55 to 10Hz single amplitude 0.75mm		
	Shock resistance	Misoperation ≥1us	Min. 100m/s ² (11 ± 1ms)		
		Endurance	Min. 1,000m/s ² (6 ± 1ms)		
	Dimensions / weight		12.7 x 44.5 x 15.7 mm / approx. 14.8g		FTR-K1TJK()T
	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

FTR-K1T Series

■ Coil Data

Coil code	Rated Coil Voltage (VDC)	Coil Resistance +/-10% (Ω)	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Rated Power (mW)
005	5	62	3.5	0.5	400
006	6	90	4.2	0.6	
009	9	202	6.3	0.9	
012	12	360	8.4	1.2	
018	18	810	12.6	1.8	
022	22	1,210	15.4	2.2	
024	24	1,440	16.8	2.4	
028	28	1,960	19.6	2.8	
048	48	5,360	33.6	4.8	430
060	60	8,570	42.0	6.0	420
110	110	28,800	77.0	11.0	

Note: All values in the table are valid at 20°C and zero contact current, unless otherwise specified.

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

Note: Please use at rated coil voltage. Please refer to characteristic data and set up adequate voltage in case of use at over voltage.

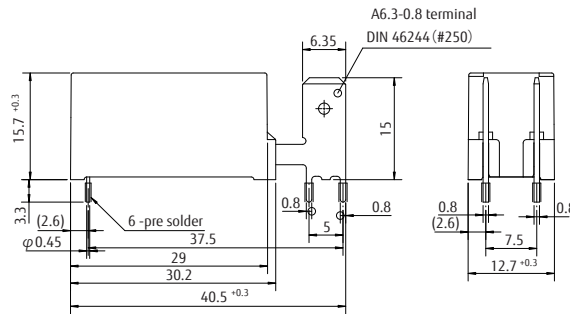
■ Safety Standards

Type	Compliance	Contact rating	
		FTR-K1T (A, J) K () T	FTR-K1TBK()T
UL	UL 508	Flammability: UL 94-V0 (plastics)	
	E63614	17A, 277VAC (resistive) 1 HP, 277VAC	17A, 277VAC (resistive)
CSA	C22.2 No. 14	1/2 HP, 125VAC TV-5, 120VAC Pilot duty: A300	
	LR 40304		
VDE	IEC/EN61810-1 EN60065 clause 14.6.1 (1a only) EN60335-1 clause 15.3; 16.3; 29.1; 29.2; 29.3 EN60730-1 clause 12.2; 13.2; 20.1; 20.2; 20.3	17A, 250VAC ($\cos\phi=1$), 105°C 3.5A, 250VAC ($\cos\phi=0.4$), 105°C 12A, 250VAC ($\cos\phi=1$), 125°C 5A/80A 250VAC	17A, 250VAC ($\cos\phi=1$), 105°C 16A, 250VAC ($\cos\phi=1$), 125°C

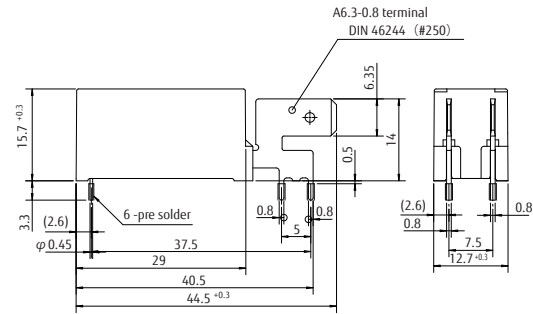
FTR-K1T Series

■ Dimensions

- Dimensions (FTR-K1TAK and FTR-K1TBK)

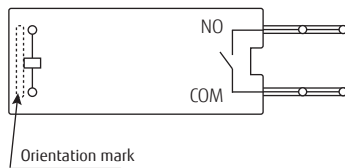


- Dimensions (FTR-K1TJK)

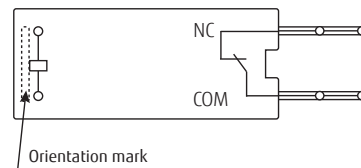


*Dimensions of the terminals do not include thickness of pre-solder.

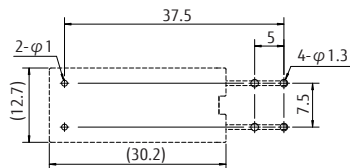
- Schematics (BOTTOM VIEW) (FTR-K1TAK and FTR-K1TJK)



- Schematics (BOTTOM VIEW) (FTR-K1TBK)



- PC Board Mounting Hole Layout (BOTTOM VIEW) (FTR-K1TAK, FTR-K1TJK and FTR-K1TBK)



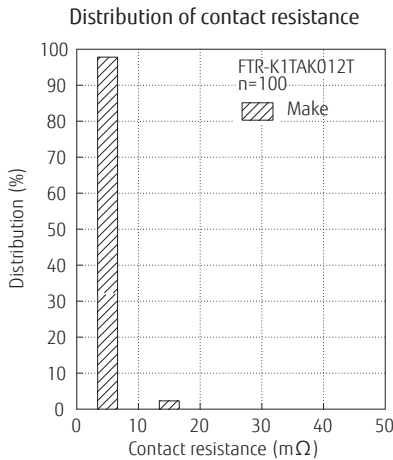
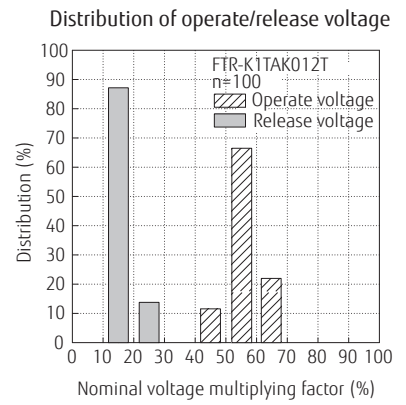
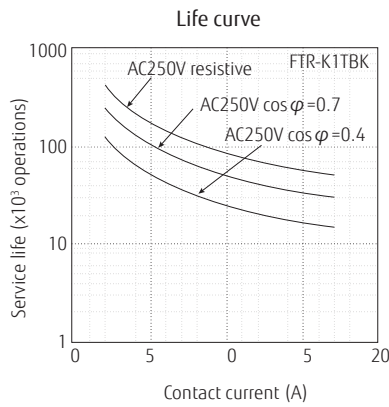
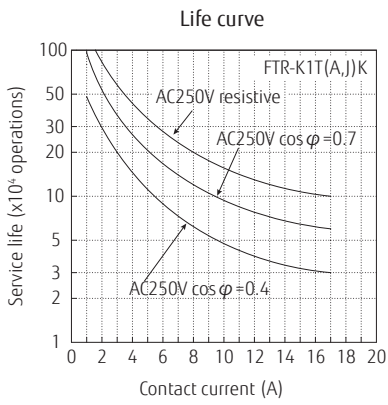
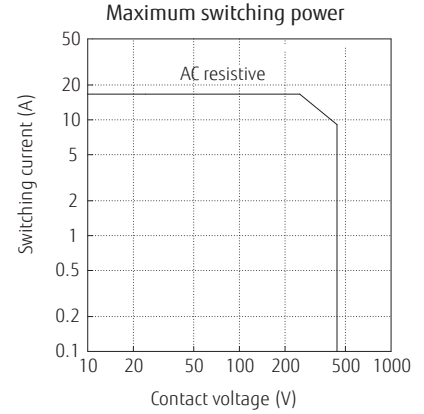
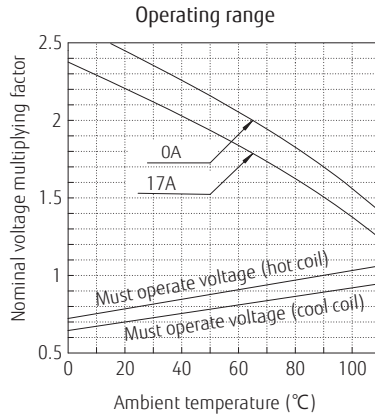
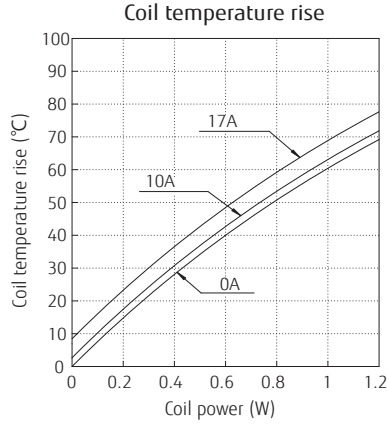
*Dimensions of the terminals do not include thickness of pre-solder.

(): Reference value
Unit: mm

FTR-K1T Series

■ Characteristic Data (Reference)

* Characteristic data is not guaranteed value but measured values of samples from production line.



FTR-K1T 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>
- Characteristic data is not guaranteed values, but measured values of samples from production line.

2. Recommended lead free solder condition

- 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.
- Recommended solder for assembly: Sn-3.0Ag-0.5Cu.

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

Solder by Soldering Iron:

Soldering Iron: 30-60W
Temperature: maximum 340-360°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.

FTR-K1T Series

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