

POWER RELAY

1 POLE - 120A Inrush current

FTR-F2P Series

■ FEATURES

- SPST 5A
- TV-8 rating capability (120A inrush current)
- High density mounting
Saves space by 26% compared to FTR-H1 type
- High insulation
Insulation distance between coil and contacts: 6mm
Dielectric Strength: 4KV
Surge Strength: 10KV
- Flux proof type. RTII
- Flammability 94V-0
- Cadmium free contact for eco-program
- Safety standards
UL, CSA, VDE, SEMKO approved
UL/CSA TV-8 rating approved
- RoHS Compliant
Please see page 5 for more information



■ PARTNUMBER INFORMATION

[Example] $\frac{\text{FTR-F2P}}{\text{(a)}}$ $\frac{\text{L}}{\text{(b)}}$ $\frac{\text{012}}{\text{(c)}}$ $\frac{\text{T}}{\text{(d)}}$

(a)	Relay type	FTR-F2P : FTR-F2P-Series
(b)	Coil type / enclosure	L : High sensitivity (250mW) * M : High sensitivity (250mW) and high isolation
(c)	Coil rated voltage	012 : 5.....24 VDC Coil rating table at page 3
(d)	Contact material	T : Silver tin oxide

Actual marking does not carry the type name : "FTR"
E.g.: Ordering code: FTR-F2PM012T Actual marking: F2PM012T

* Only available on request, contact Fujitsu for details

FTR-F2P SERIES

■ SPECIFICATION

Item			Open type	
			F2 PL () T	F2 PM () T
Contact Data	Configuration		1A (SPST-NO)	
	Construction		Single	
	Material		Silver tin oxide (AgNi)	
	Resistance (Initial)		Max. 100 mΩ at 6 VDC, 1 A	
	Rated current		5A	
	Rated switching voltage		250VAC, 30VDC	
	Max. carrying current		5A	
	Max. switching voltage		400VAC / 300 VDC	
	Max. switching power		1,250VA / 150W	
	Min. switching load*		100 mA, 5 VDC	
Life	Mechanical		Min. 2 x 10 ⁶ operations	
	Electrical	AC contact rating	Min. 100 x 10 ³ operations	
		DC contact rating	Min. 100 x 10 ³ operations	
		Lamp load (TV-8)	Min. 25 x 10 ³ operations	
Coil Data	Rated power		250mW	
	Operate power		160mW	
	Operating temperature range		-40 °C to +70 °C (no frost)	
Timing Data	Operate		Max. 15ms (no diode, without bounce)	
	Release		Max. 5ms (no diode, without bounce)	
Insulation	Resistance (Initial)		Min. 1,000MΩ @500VDC	
	Dielectric strength	Open contacts	1,000VAC (50/60Hz) 1min	
		Contacts to coil	4,000VAC (50/60Hz) 1min	
	Surge strength	Coil to contacts	10,000V / 1.2 x 50μs standard wave	12,000V / 1.2 x 50μs standard wave
			6mm	
	Clearance		6mm	
	Creepage		6mm	
	EN61810-1, VDE0435	Voltage	250V	
		Pollution degree	2	
	Material group	III a		
Other	Vibration resistance	Misoperation>1us	10 to 55Hz double amplitude 1.5mm	
		Endurance	10 to 55Hz double amplitude 1.5mm	
	Shock	Misoperation>1us	Min. 200m/s ² (11+/-1ms)	
		Endurance	Min. 1,000m/s ² (6+/-1ms)	
	Weight		Approximately 12g	
	Sealing		Flux proof, RTII	

* 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-F2P SERIES

■ COIL RATING

High sensitivity (PL) and high sensitivity / high isolation (PM) (250mW)

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	100	3.5	0.25	8.5	250
006	6	145	4.2	0.3	10.2	
009	9	325	6.3	0.45	15.3	
012	12	575	8.4	0.6	20.4	
018	18	1,245	12.6	0.9	30.6	
024	24	2,310	16.8	1.2	40.8	

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

* Specified operate values are valid for pulse wave voltage.

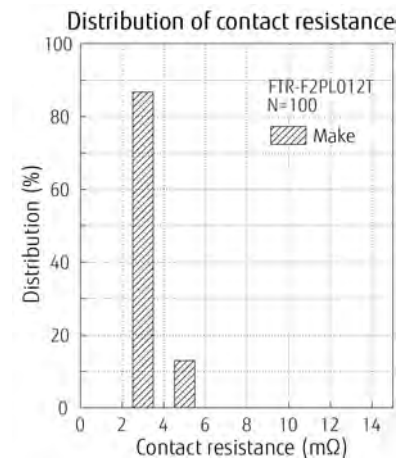
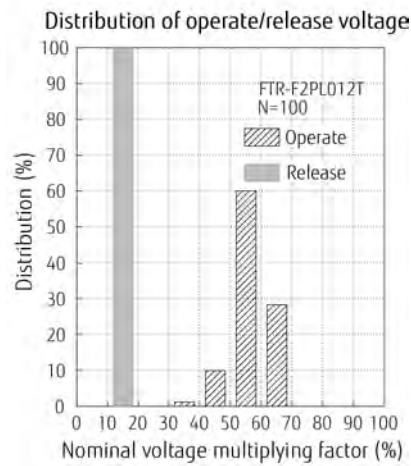
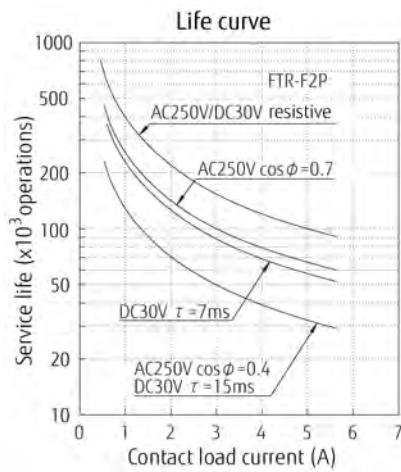
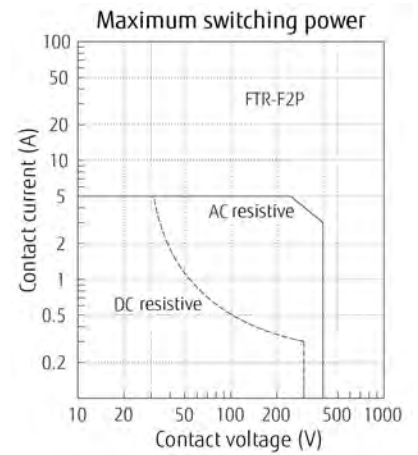
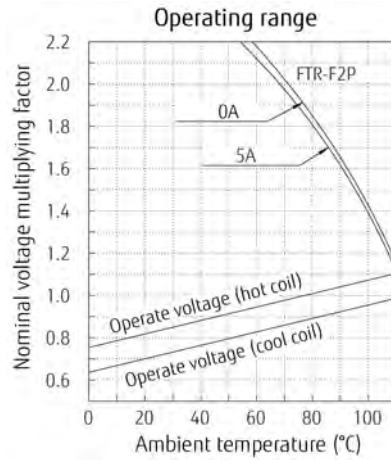
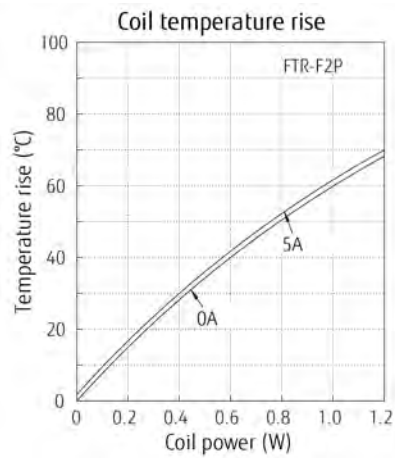
■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508	Flammability: UL 94-V0 (plastics)
	E63614	5A, 30 VDC/250VAC (resistive) 1/6 HP, 125VAC
CSA	C22.2 No. 14 LR 40304	1/2 HP, 250VAC TV-8, 120 VAC Pilot duty: C300
VDE	0435, 0860 40014652	10A, 250VAC (cos φ 1), 5K 10A, 30VDC, 0ms, 25K
SEMKO	EN 61058-1: 1992 AND A1 EN 61095:1993 and A1+A11	250 VAC, 5 (1) or 5/80 40T70

Complies with CQC, NEMKO, DEMKO, FIMKO

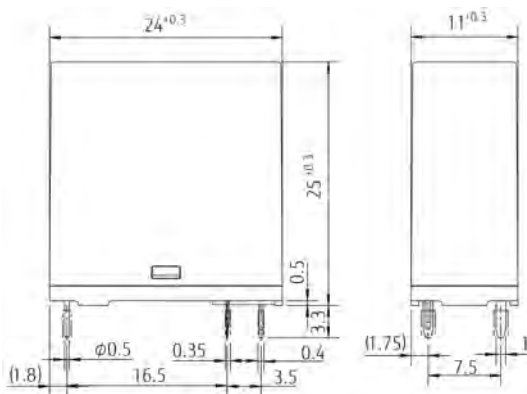
FTR-F2P SERIES

CHARACTERISTIC DATA

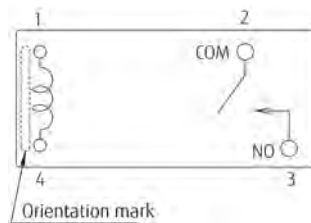


DIMENSIONS Unit: mm

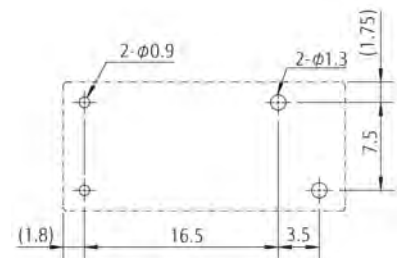
Dimensions



Schematics



PC board mounting hole layout (BOTTOM VIEW)



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.

Fujitsu Components International Headquarter Offices

Japan

Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

North and South America

Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: components@us.fujitsu.com
Web: <http://us.fujitsu.com/components>

Europe

Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: emea.fujitsu.com/components/

Asia Pacific

Fujitsu Components Asia Ltd.
102E Pasir Panjang Road
#01-01 Citilink Warehouse Complex
Singapore 118529
Tel: (65) 6375-8560
Fax: (65) 6273-3021
Email: fcal@fcal.fujitsu.com
Web: <http://www.fujitsu.com/sg/services/micro/components/>

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