

POWER RELAY

1 POLE - 120A Latching relay

FTR-V3 Series

■ FEATURES

- Switching current 120A, 1 form A
 - Carrying current 200A
 - Contact resistance < 0.3mOhm
 - High current carry by wide terminal
 - Plastic materials
 - Flammability: UL94 V-0
 - Contains no lead and features cadmium-free contacts for eco-program
 - Sealed, cat III
 - RoHS compliant
- Please see page 5 for more information



■ PARTNUMBER INFORMATION

[Example] FTR-V3 P C 012 W - S
 (a) (b) (c) (d) (e) (f)

(a)	Relay type	FTR-V3 : FTR-V3-Series
(b)	Contact configuration	P : 1 form A
(c)	Coil sensitive	C : Double winding latching type
(d)	Coil rated voltage	012 : 12 VDC Coil rating table at page 3
(e)	Contact material	W : Silver-tin oxide alloy
(f)	Power terminal	S : Short terminal L : Long terminal

Actual marking does not carry the type name : "FTR"
 E.g.: Ordering code: FTR-V3PC012W-S Actual marking: V3PC012W-S

■ SPECIFICATION

Item	FTR-V3	
Contact Data	Configuration	1 form A
	Construction	Single
	Material	Silver-tin oxide alloy
	Resistance (initial)	Max. 0.3mOhm at 100A
	Switching current	120A
	Max. carrying current	200A
	Max. switching voltage	440VAC
	Max. switching power	33,240VA (Resistive load 120A-277VAC)
	Min. switching load *	1A, 6VDC (reference)
	Max. inrush current	1,200A
	Short circuit	3kA rms 50Hz to IEC 62053-21
Life	Mechanical	Min. 200x 10 ³ operations
	Electrical	Min. 1,000 operations 250VAC-120A (resistive load) Min. 120 x 10 ³ operations inrush 230A - 1A cut off
Coil Data	Rated Power (at 20 ° C)	6.0W
	Max. voltage	16VDC
	Operating temperature range	-40 to +85 °C (no frost)
Timing Data	Operate (at nominal voltage)	Max. 20ms (without bounce)
	Release (at nominal voltage)	Max. 20ms (without bounce)
Insulation	Resistance (Initial)	Min. 1,000MOhm at 500VDC
	Dielectric strength	Open contacts 2,000VAC (50/60Hz) 1min.
		Coil and contacts 4,000VAC (50/60Hz) 1min.
	Surge strength	Coil and contacts 12kV / 1.2 x 50µs standard wave
Other	Vibration Resistance	Misoperation 10 to 55Hz double amplitude 1.5mm
		Endurance 10 to 55Hz double amplitude 1.5mm
	Shock	Misoperation Min. 200m/s ² (11 ± 1ms)
		Endurance Min. 1,000m/s ² (6 ± 1ms)
	Weight	Approximately 120 g
	Sealing	Cat III

* 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.

■ COIL RATING

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 5% (Ohm)	Must Set Voltage (VDC) *	Must Reset Voltage (VDC) *	Pulse width (ms)	Rated Power (W)
012	12	24	9.3	9.3	20 to 1000	6.0

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

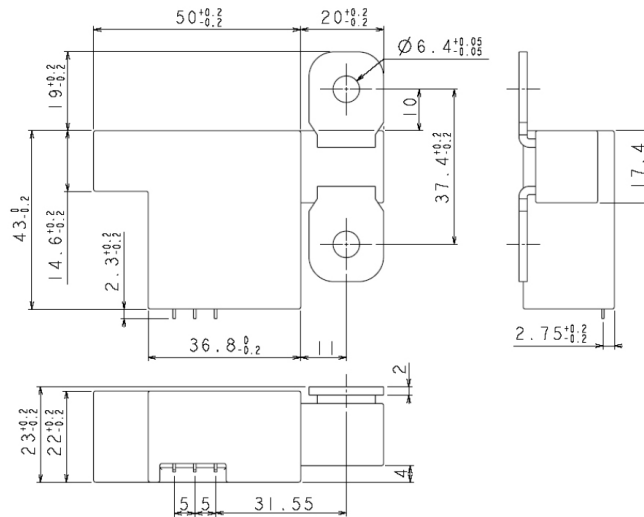
Type	Compliance	Contact rating
UL	Plan	Flammability: UL 94-V0 (plastics)
CSA	Plan	
VDE	Plan	

FTR-V3 SERIES

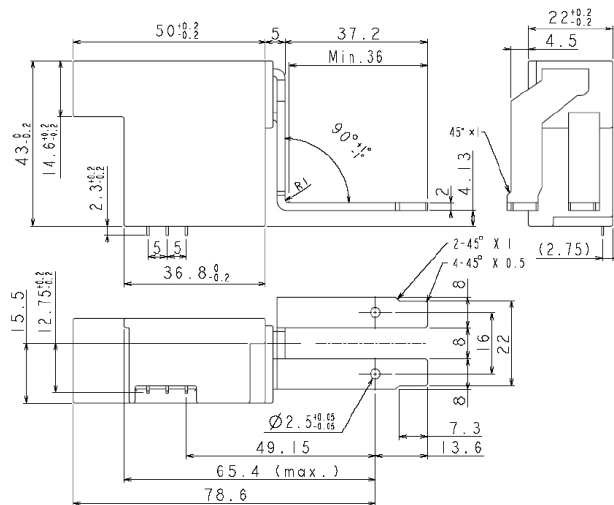
■ DIMENSIONS

- **Dimensions**

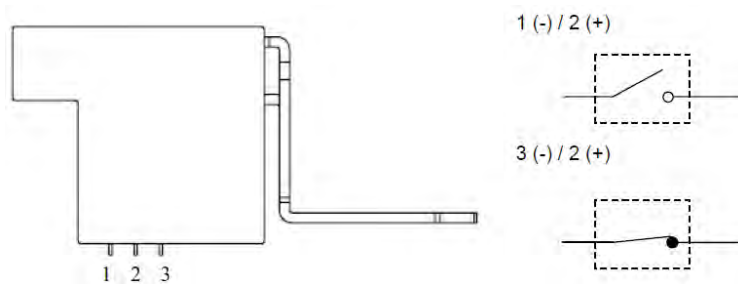
S-type



L-type



- **Schematics**
(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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