

POWER RELAY

1 POLE - 32A, 1.5mm contact gap latching relay

FTR-K3L-PV Series

■ FEATURES

• 1 pole, 32A

• 1 form A contact

Wide contact gap: 1.5mm
 Surge strength (B/T open contacts) 2.5kV
 Compliant with European photovoltaic standard (VDE0126)

• High insulation in small package (between coil and contacts)

- Dielectric strength: AC 4,000V

- Surge strength: 6,000V

Low coil power consumption: 1,200mW
Plastic materials: Flammability; UL94 V-0

• Cadmium-free contacts

• RoHS compliant.

Please see page 5 for more information



■ PARTNUMBER INFORMATION

	FTR-K3L	Α	В	012	W	-	PV
[Example]	(a)	(b)	(c)	(d)	(e)		(f)

(a)	Relay type	FTR-K3L : FTR-K3L-Series	
(b)	Contact configuration	А	: 1 form A / PCB type
(c)	Coil type	В	: Standard sensitive (1,200mW)
(d)	Coil rated voltage	012	: 524 VDC Coil rating table at page 3
(e)	Contact material	W	: Silver alloy
(f)	Version	PV	: High current (32A) / contact gap 1.5mm

E.g.: Ordering code: FTR-K3LAB012W-PV Actual marking: K3LAB012W-PV

1

■ SPECIFICATION

Item			FTR-K3L-PV		
Contact Data	Configuration		1 form A		
	Material		Silver alloy		
	Resistance (initial)		Max. 100 mΩ at 6VDC, 1A		
	Contact rating (resistive)	32A, 250VAC		
	Max. carrying current		32A		
	Max. switching voltage		250VAC		
	Max. switching power		8,000VA		
	Max. switching current		32A		
	Min. switching load *		100mA, 5VDC (reference value)		
Life	Mechanical		Min. 1 x 10 ⁶ operations		
		Resistive	32A / 250VAC, min. 30 x 10 ³ operations		
	Electrical	Inductive	32A, 250VAC (cosφ 0.8), 30 x 10 ³ operations		
		Inductive (overload)	48A, 250VAC (cosφ 0.8), 50 operations		
Coil Data	Rated power (at 20 °C)		1,200mW		
	Operating temperature	range	-40 °C to +85 °C		
Timing Data	Set (at nominal voltage)	Max. 20ms (without bounce, without diode)		
	Reset (at nominal volta	ge)	Max. 20ms (without bounce, without diode)		
	Coil excitation time (at	nominal voltage)	Min. 30ms, max. 1000ms		
Insulation	Contact gap		Min. 1.5mm		
	Resistance		Min. 1,000MΩ at 500VDC		
	Dielectric strength	Open contacts	2,500VAC (50/60Hz) 1min		
		Contacts to coil	4,000VAC (50/60Hz) 1min		
	Surge strength	Contacts to coil	6,000V / 1.2 x 50μs standard wave		
	Clearance		Min. 6.0mm		
	Creepage		Min. 8.0mm		
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. $1,000 \text{m/s}^2 \text{ (6 ± 1ms)}$		
	Weight		Approximately 25g		

^{*} 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 +/- 10% (Ohm)	Must Set Voltage (VDC) *	Must Reset Voltage (VDC) *	Max. Set/Reset Voltage (VDC)	Rated Power (mW)
005	5	P 21	+4.0	-	9.0	
		S 21	-	+4.0		
006	6	P 30	+5.4	-	10.8	
		S 30	-	+5.4		1,200
012	12	P 120	+9.6	-	21.6	
		S 120	-	+9.6		
024	24	P 480	+19.2	-	43.2	
		S 480	-	+19.2		

Note: All values in the table are valid for 20°C and zero contact current. * Specified operate values are valid for pulse wave voltage.

P: Set coil

S: Reset coil

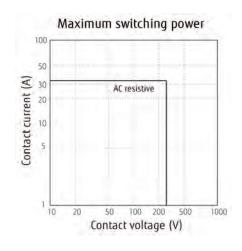
SAFETY STANDARDS

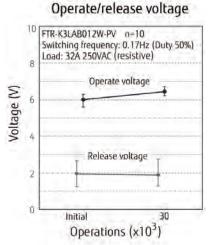
Туре	Compliance	Contact rating	
UL	UL 508	Flammability: UL 94-V0 (plastics)	
		32A, 277VAC (General use at 60 °C)	
	CSA 22.2 No.14 (by cULus)		
VDE	IEC61810-1	32A, 250VAC (cosφ = 0.8) at +85 °C	

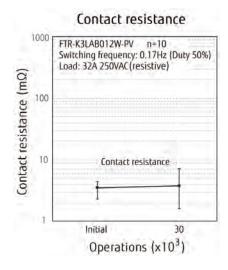
■ CHARACTERISTIC DATA

The graphs are based on measurement data and are typical values.

Electrical life tests (resistive load)

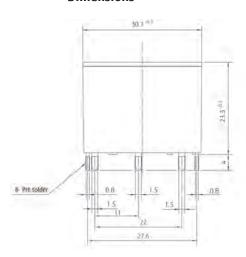






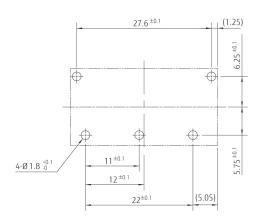
DIMENSIONS

Dimensions

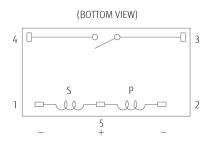




PC board mounting hole layout (BOTTOM VIEW)



Schematics



P: Set coil S: Reset coil

Contacts drawn in reset condition.
To operate (set), apply (+) to pin 5 and (-) to pin 2.
To release (reset), apply (+) to pin 5 and (-) to pin 1.

RoHS Compliance and Lead Free Information

1. General Information

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives. As per Annex III of directive 2011/65/EU.
- 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
- 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 Condition

• Recommended solder Sn-3.0Ag-0.5Cu.

Flow Solder Condition:

Pre-heating: maximum 120°C

within 9 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 350-360°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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