

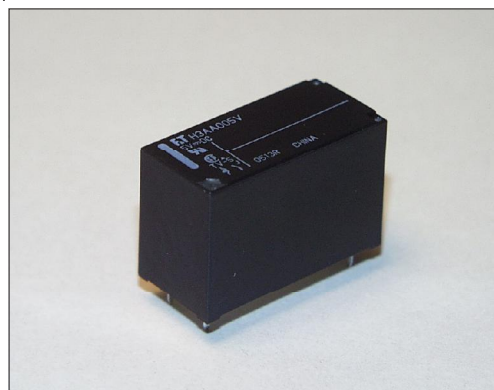
SILENT POWER RELAY

1 POLE—10 A LOW PROFILE TYPE FTR-H3 SERIES

RoHS compliant

■ FEATURES

- Pin compatible with widely used VS and FTR-H1 series power relays
- Ultra silent relay with patented unique U-shape spring. Noise level is about 50dB at 5cm.
- Low profile (height 16.5 mm)/ cadmium free contacts
- High isolation in small package
 - Insulation distance : 8 mm (between coil and contacts)
 - Dielectric strength : 5,000 VAC
 - Surge strength : 10,000 V
- An electric life of 100,000 operations at rated load (10A, 250VAC, cos Phi 1) and satisfy at TV-5 standard.
- Plastic materials —UL94 flame class V-0
- UL (conforms to UL508, 873), CSA (conforms to CSA22.2 No.14), VDE (conforms to VDE 0435, 0631, 0700, 0860)
- Conforms to FIMKO, DEMKO
- Lead free and cadmium free contacts
- Sealed type relay



■ ORDERING INFORMATION

[Example] FTR-H3 A A 012 V
 (a) (b) (c) (d) (e)

(a)	Series Name	FTR-H3: FTR-H3 Series			
(b)	Contact Arrangement	A : 1 form A			
(c)	Coil Type	A : Standard type			
(d)	Nominal Voltage	005 : 5 VDC	012 : 12 VDC	009 : 9 VDC	024 : 24 VDC
(e)	Contact Material/TV TypeT	V : Gold overlay silver alloy			

Ordering Code Actual Marking
 FTR-H3AA05V H3AA05V

FTR-H3 SERIES

■ SPECIFICATIONS

Item			FTR-H3AA () ()
Contact	Arrangement		1 Form A
	Material		Silver alloy
	Style		Single
	Resistance (initial)		Max. 100 ohms (at 1A 6 VDC)
	Rating		10A 250 VAC / 30 VDC
	Max. carrying current		14A
	Max. switching power		2,500VA/300W
	Max. switching voltage		400VAC/300VDC
	Min. switching load		10mA 5VDC
	Max. inrush current		78A 120VAC (at lamp load)
Coil	Nominal power (at 20° C)		530mW
	Operate power (at 20° C)		260mW
	Operating temperature		-40° C to +75° C (no frost)
Time value	Operate (without diode)		Max. 10ms (at nominal voltage, without bounce)
	Release (without diode)		Max. 5ms (at nominal voltage, without bounce)
Insulation	Resistance (at 500VDC)		Min. 1,000 Mohms
	Dielectric Strength	B/T contacts	1,000VAC, 1 minute
		B/T coil and contacts	5,000VAC, 1 minute
	Surge strength		Standard 10,000V (at1.2x50 μsec.)
Life	Mechanical		2x10 ⁷ operations minimum
	Electrical (resistive load)		1x10 ⁵ operations min. (10A 250VAC/30VDC) 2.5x10 ⁴ operations min. (TV-5 rating)
Vibration resistance	Misoperation		10 to 55 Hz at double amplitude of 1.65mm
	Endurance		10 to 55 Hz at double amplitude of 3.3mm
Shock resistance	Misoperation		Min. 100m/s ² (11±1ms)
	Endurance		Min. 1,000m/s ² (6±1ms)
Weight			Approx. 12g
Average sound pressure			Approx. 50dB at 5cm

FTR-H3 SERIES

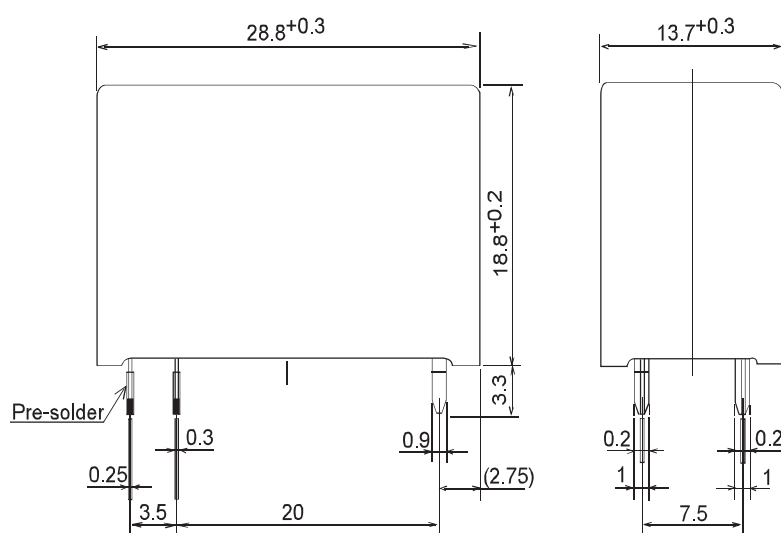
■ COIL DATA CHART

Coil Number	Nominal Voltage	Coil Resistance ($\pm 10\%$)	Operate Voltage	Release Voltage	Nominal Power ($\pm 10\%$)
005	5	47 Ω	3.5 VDC	0.5 VDC	530mW
009	9	155 Ω	6.3 VDC	0.9 VDC	
012	12	270 Ω	8.4 VDC	1.2 VDC	
024	24	1,100 Ω	16.8 VDC	2.4 VDC	

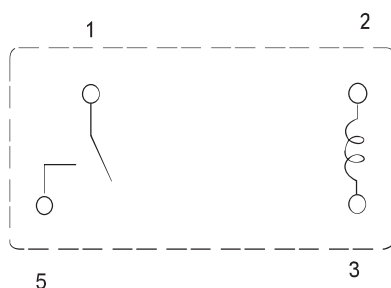
Note: All values in the table are measured at 20°C.

FTR-H3 SERIES

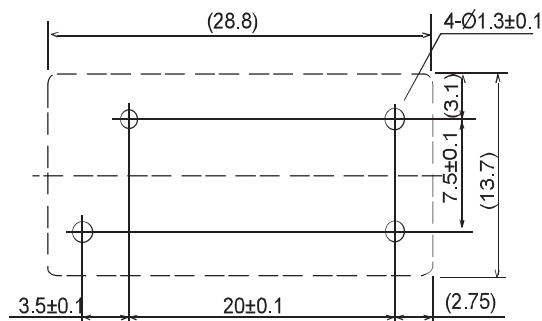
■ DIMENSIONS



- Schematics (BOTTOM VIEW)



● **PC board mounting hole layout (BOTTOM VIEW)**



Unit: mm

FTR-H3 SERIES

RoHS Compliance and Lead Free Relay Information

1. General Information

- Relays produced after the specific date code that is indicated on each data sheet are lead-free now. Most of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (<http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf>)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu.
- All signal and most power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 5 hazardous materials that are restricted by RoHS directive (lead, mercury, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatible).
- "LF" is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office.
- We will ship leaded relays as long as the leaded relay inventory exists.

Note: Cadmium was exempted from RoHS on October 21, 2005. (Amendment to Directive 2002/95/EC)

2. Recommended Lead Free Solder Profile

- Recommended solder paste Sn-3.0Ag-0.5Cu.

Reflow Solder condition

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.

4. Tin Whisker

- Dipped SnAgCu solder is known as low risk tin whisker. No considerable length whisker was found by our in house test.

FTR-H3 SERIES

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