FUJITSU

POWER RELAY
1 POLE - 5A Slim Power Relay
FTR-MY Series

■ FEATURES

- Width 5mm, height 12mm (31% smaller than NY series) area 100 mm^2, super slim , low power, compact and light weight 2.5gr.
- Nominal power: 110mW (8% less than NY series), Operate power: 54mW High sensitive
- High reliable contacts, bifurcated gold overlay silver alloy (cadmium free)
- Conform to UL61010-1, UL61010-2-201, IEC/EN61010-1, IEC/EN61010-2-201 (max. 277VAC)
- Dielectric strength: 3,000VAC
- Surge strength: 5,080V
- Safety standards UL, CSA, VDE, CQC
- RoHS compliant Please see page 6 for more information
- Plastic sealed type, RTIII

■ APPLICATIONS

■ PARTNUMBER INFORMATION

[Example] FTR-MY (a) A (b) A (c) 012 (d) D (e)

(a)	Relay type	FTR-MY	: FTR-MY-Series
(b)	Contact configuration	A	: 1 form A
(c)	Coil type	A	: Standard type (110mW)
(d)	Coil rated voltage	012	: 4.5.....24 VDC Coil rating table at page 3
(e)	Contact material	D	: Gold overlay AgNi

Actual marking does not carry the type name : "FTR"
E.g.: Ordering code: FTR-MYAA012D Actual marking: MYAA012D

■ SPECIFICATION

Item			FTR-MY	Remarks / Conditions
Contact Data	Configuration		1 form A	
	Construction		Bifurcated (cross bar)	
	Material		Gold overlay silver alloy	
	Resistance (initial)		Max. 30 mΩ at 6VDC, 1A	
	Contact rating		5A, 250VAC / 30VDC	
	Max. carrying current		5A	
	Max. switching current		5A	
	Max. switching voltage		277VAC / 125VDC	
	Max. switching power		1,250VA / 150W	
	Min. switching load *		1 mA, 5VDC	
Life	Mechanical		Min. 20 x 10^6 operations	
	Electrical		Min. 100 × 10^3 operations (at 3A 250VAC, 30VDC resistive) Min. 50 × 10^3 operations (at 5A 250VAC, 30VDC resistive)	
Coil Data	Rated power (at 20 °C)		110 mW	
	Operate power (at 20 °C)		54 mW	
	Operating temperature range		-40 °C to +90 °C (no frost)	
Timing Data	Operate (at nominal voltage)		Max. 10 ms (without bounce)	
	Release (at nominal voltage)		Max. 5 ms (without bounce)	
Insulation	Resistance (initial)		Min. 1,000MΩ at 500VDC	
	Dielectric strength	Open contacts	750VAC (50/60Hz) 1min	
		Contacts to coil	3,000VAC (50/60Hz) 1min	
	Surge strength	Coil to contacts	5,080V / 1.2 x 50μs standard wave	
	Clearance		Min. 5.6mm	
	Creepage		Min. 5.6mm	
Other	Vibration resistance	Misoperation	10 to 55 to 10 single amplitude 0.75mm	Coil ON/OFF, 3 axes, total 6 cycles
		Endurance	10 to 55 to 10 single amplitude 2.5mm	Coil OFF, 3 axes, total 6 hours
	Shock	Misoperation	Min. 100m/s² (11 ± 1ms)	Coil ON/OFF, 3 axes, total 36 operations
		Endurance	Min. 1,000m/s² (6 ± 1ms)	Coil OFF, 3 axes, total 18 operations
	Weight		Approximately 2.5 g	
	Sealing		Plastic sealed RTIII	

* 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 Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Rated Power (mW)
4.5	4.5	185	3.15	0.225	110
005	5	230	3.5	0.25	
006	6	330	4.2	0.3	
009	9	740	6.3	0.45	
012	12	1,310	8.4	0.6	
018	18	2,950	12.6	0.9	
024	24	5,240	16.8	1.2	

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

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
UL	UL 508 ANSI/ISA 12.12.01 E63614, E225300	Flammability: UL 94-V0 (plastics) 5A, 277 VAC (resistive) 5A, 30 VDC 1/10 HP, 277VAC /125VAC Pilot duty: D300, C300, R300
CSA	C22.2 No. 14 LR 40304	
VDE	IEC/EN61810-1	5A, 250VAC, cosφ1
CQC	GB15092.1 11001063129, 17001164877	5A 250VAC

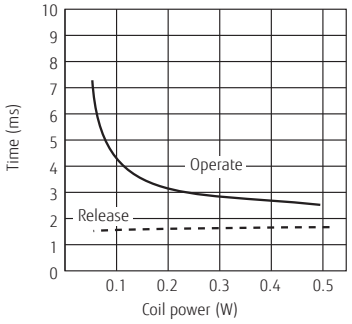
Also conform to UL61010-1, UL61010-2-201, IEC/EN61010-1, IEC/EN61010-2-201 (max. 277VAC)

■ CHARACTERISTIC DATA

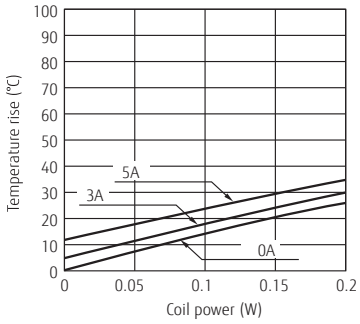
(Characteristic data is not guaranteed value but measured values of samples from production line.)

Operate

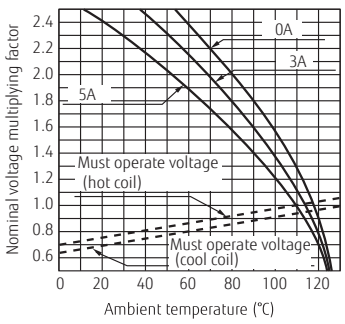
Timing



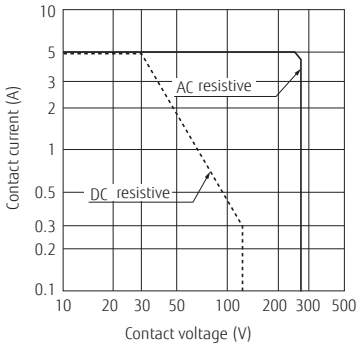
Coil temperature rise



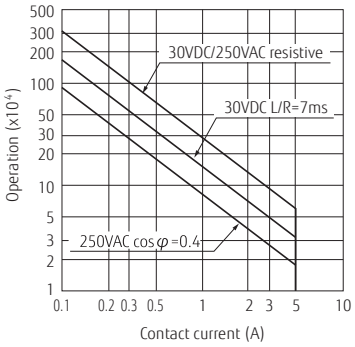
Operating range



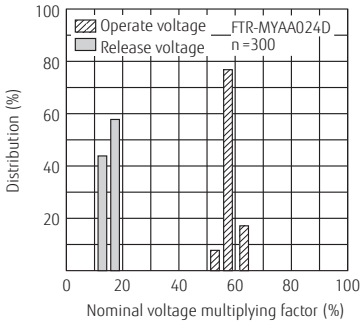
Maximum switching power



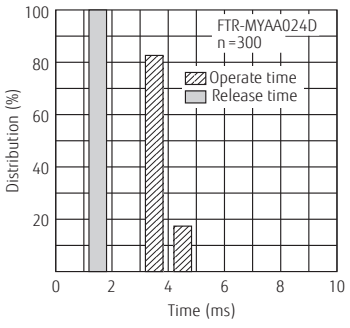
Life curve



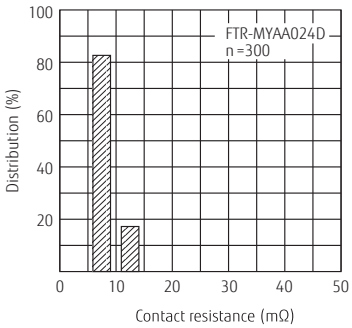
Distribution of operate/relase voltage



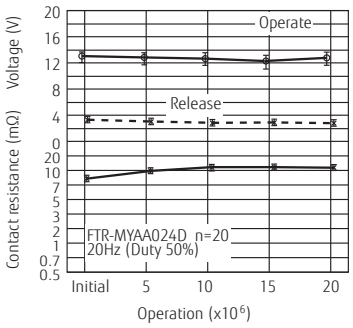
Distribution of operate/relase time



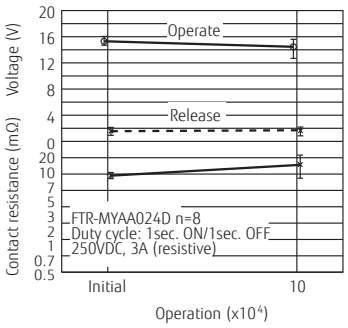
Distribution of contact resistance



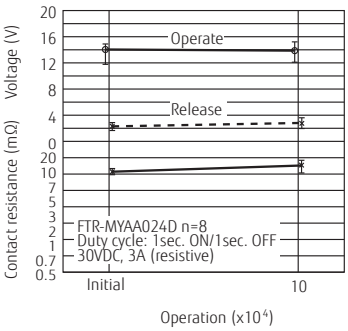
Mechanical life test



Electrical life test

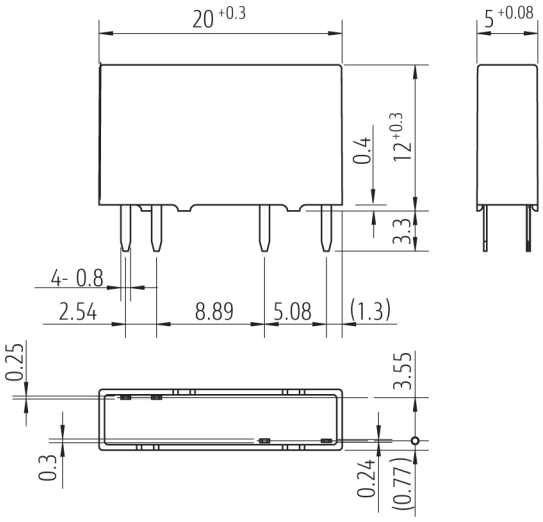


Electrical life test

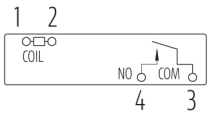


■ DIMENSIONS

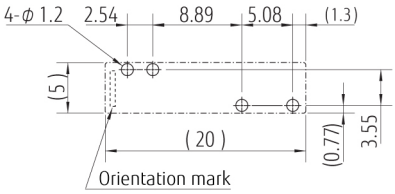
- **Dimensions**



- **Schematics**



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



Unit: mm

* Dimensions of the terminals do not include thickness of pre-solder.
* Tolerance of PC board mounting hole layout : ±0.1 unless otherwise specified.

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 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 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.

Cautions

* All values mentioned in this datasheet are provided under ideal conditions. Please perform the confirmation test before actual use.
* Reflow soldering is prohibited.
* Do not use relays in the atmosphere with sulfide gas, chloride gas or nitric oxide. Contact resistance may increase.
* Do not use silicon or silicon-containing product or materials near relays. It may cause contact failure.

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