

# POWER RELAY

## 20A type Relay

### FTR-K3 Series

**RoHS Compliant**

**■ FEATURES**

- Heavy duty 20A power relay for compressor loads and inverter loads.
- High sensitivity in small package - Nominal power 780mW.
- High insulation with reinforced insulation system (between coil and contact).
  - Clearance distance 8mm, Creepage distance 9.5mm
  - Dielectric strength 5,000 VAC
  - Surge strength 8,500 V
- Plastic materials conform to UL94 flame class V-0 and CTI>250 (UL CTI level class 2).
- Contains no lead and features cadmium-free contacts.
- Conforms to UL, CSA, VDE, CQC safety standards.
- RoHS Compliant since production



**■ ORDERING INFORMATION**

[Example]     $\frac{\text{FTR-K3}}{\text{(a)}}$      $\frac{\text{J}}{\text{(b)}}$      $\frac{\text{B}}{\text{(c)}}$      $\frac{\text{012}}{\text{(d)}}$      $\frac{\text{W}}{\text{(e)}}$

(a)	Series Name	FTR-K3: FTR-K3 Series			
(b)	Contact Arrangement	A	: 1 form A (PCB terminal)		
		J	: 1 form A (TAB terminal (#250) + PCB terminal)		
(c)	Coil Type	B	: Standard type (780mW)		
(d)	Nominal Voltage	005	: 5 VDC,	006 : 6VDC,	009 : 9VDC
		012	: 12VDC,	018 :18 VDC	024 : 24VDC    048 : 48VDC
(e)	Contact Material	W	: AgSnO2		

Actual marking does not carry the type name : "FTR"  
 E.g.: Ordering code: FTR-K3JB024W      Actual marking: K3JB024W

**■ COIL DATA CHART**

Standard type

MODEL	Nominal Voltage	Coil Resistance (± 10%)	Must Operate Voltage	Must Release Voltage	Nominal Power (± 10%)
<b>FTR-K3 Series</b>					
FTR-K3( )B005W	5VDC	32	3.5VDC	0.5VDC	780
FTR-K3( )B006W	6VDC	46	4.2VDC	0.6VDC	780
FTR-K3( )B009W	9VDC	105	6.3VDC	0.9VDC	780
FTR-K3( )B012W	12VDC	185	8.4VDC	1.2VDC	780
FTR-K3( )B018W	18VDC	415	12.6VDC	1.8VDC	780
FTR-K3( )B024W	24VDC	740	16.8VDC	2.4VDC	780
FTR-K3( )B048W	48VDC	2955	33.6 VDC	4.8 VDC	780

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

# FTR-K3 SERIES

## ■ SPECIFICATIONS

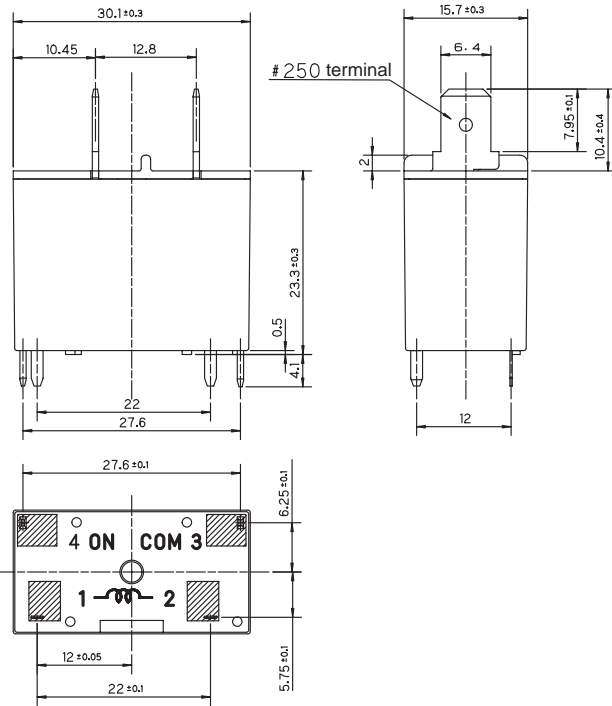
Item		FTR-K3 Series		
		FTR-K3 (A, J) B ( ) W		
Contact	Arrangement	1M (1 Form A)		
	Material	AgSnO <sub>2</sub>		
	Resistance (initial)	100m (at 1A 6VDC)		
	Rating (resistive)	250VAC, 20A		
	Maximum Carrying Current	25A		
	Maximum Switching Power	6,250 VA		
	Maximum Switching Voltage	250VAC		
	Maximum Switching Current	25A		
	Minimum Switching Load (reference value)	100 mA, 5VDC		
Coil	Nominal Power	780mV		
	Nominal Voltage	5, 6, 9, 12, 18, 24, 48 V		
	Operate Power (at 20° C)	Maximum 70% of Nominal Voltage		
	Release Voltage (at 20° C)	Minimum 10% of Nominal Voltage		
	Operating Temperature	-40° C to +60° C (no frost)		
Time Value	Operate (nominal coil voltage, without diode)	Maximum 20ms		
	Release (nominal coil voltage, without diode)	Maximum 20ms		
Insulation	Resistance	Minimum 1,000M , at 500 VDC		
	Dielectric Strength	between open contacts	1,000 VAC (50/60 Hz), 1 min.	
		between open coil-contact	5,000 VAC, (50/60 Hz), 1 min.	
Surge Strength	1.2 x 50μ s Standard wave form	8,500V		
Life	Mechanical	20 x 10 <sup>5</sup> operations minimum (18,000 operations/hr)		
	Electrical	resistive load at nominal voltage (1,200 operations/hr)	1 x 10 <sup>5</sup> operations minimum	
		Motor load (1,200 operations/hr)	Inrush 250VAC 80A (0.3s) cosφ=0.7; steady 20Acosφ=0.9; 2 x 10 <sup>5</sup> operations minimum	
		Inverter load (3 sec. ON, 5 Sec. OFF)	Inrush 100VAC 200A (crest value); steady 20A; 3 x 10 <sup>4</sup> operations minimum	
Other	Vibration Resistance	Misoperation (ref. value detection 1ms)	10 to 55 Hz double amplitude of 1.5mm	
		Endurance (ref. value)	10 to 55 Hz double amplitude of 1.5mm	
	Shock Resistance	Misoperation (ref. value detection 1ms)	200m/s <sup>2</sup> (11±1ms)	
		Endurance (ref. value)	1,000m/s <sup>2</sup> (6±1ms)	
	Weight	Approximately 25g		

# FTR-K3 SERIES

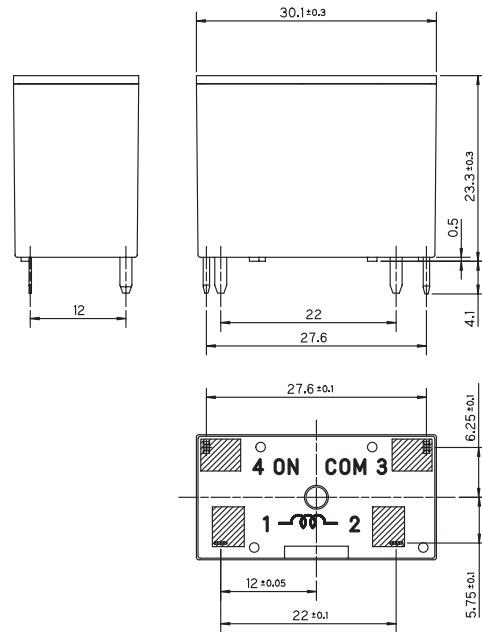
## ■ DIMENSIONS

### ● Dimensions

#### TAB terminal type

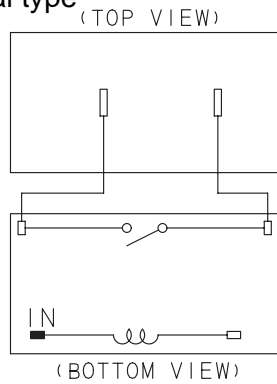


#### PCB mounting type

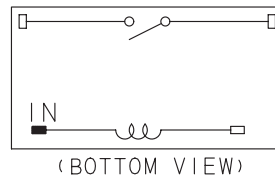


### ● Schematics

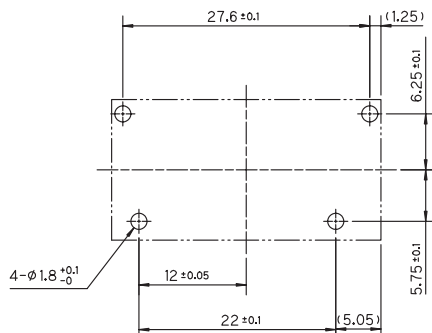
#### TAB terminal type



#### PCB mounting type



#### PC board mounting hole layout



Unit: mm

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