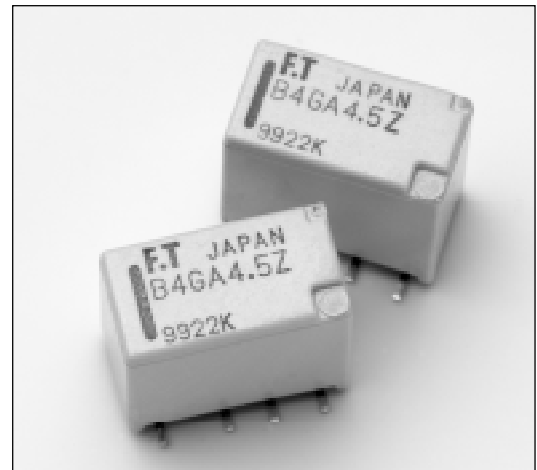


# ULTRA MINIATURE RELAY SLIM SIGNAL RELAY FTR-B4 SERIES

## ■ FEATURES

- Ultra miniature slim type relay for surface mounting  
Height: 9.3 mm maximum (THT)  
10 mm maximum (SMT)  
Weight: Approximately 1.0 g
- UL/CSA recognized
- Conforms to Bellcore & FCC part 68
- Conforms to IEC 60950 / UL1950 / EN60950 spacing and high breakdown voltage  
Clearance: 1.0mm  
Creepage: 1.6mm  
Basic insulation, 150V working voltage, pollution degree 2
- HIGH RELIABILITY  
Bifurcated contacts
- Low power consumption 140 mV (standard), 100 mW (latching)



## ■ ORDERING INFORMATION

[Example] FTR-B4 C A 4.5 Z B -05\*  
(a) (b) (c) (d) (e) (f) (g)

(a)	Series Name	FTR-B4 Series
(b)	Terminal type	C: Through hole type G: surface mount type S: Mounting area reduced surface mount type
(c)	Operation function	A: standard type B: latching type
(d)	Coil Number	Nominal voltage
(e)	Contact material	Z: gold plated silver alloy
(f)	Relay enclosing direction	B: standard enclosing direction
(g)	Number of relays per reel	05: 500 (standard)

Remarks: Actual marking on relay would not carry code FTR and be as below:

Ordering code                      Actual marking

FTR-B4CA4.5Z    →    B4CA4.5Z

\*Only SMT version

# FTR-B4 Series

## ■ COIL DATA CHART

Standard type

MODEL	Rated coil voltage	Coil resistance (±10%)	Operating voltage	Release voltage*	Rated power consumption
FTR-B4( )A1.5Z	1.5VDC	16.1	+1.13V	+0.15V	140mW
FTR-B4( )A003Z	3VDC	64.3	+2.25V	+0.3V	140mW
FTR-B4( )A4.5Z	4.5VDC	145	+3.38V	+0.45V	140mW
FTR-B4( )A012Z	12VDC	1,028	+9.0V	+1.2V	140mW

\* Pulse driven

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

Latching type (1 coil)

MODEL	Rated coil voltage	Coil resistance (±10%)	Set voltage	Release voltage	Rated power consumption
FTR-B4 ( )B1.5Z	1.5VDC	22.5	+1.13V	1.13V	100mW
FTR-B4 ( )B003Z	3VDC	90	+2.25V	2.25V	100mW
FTR-B4 ( )B4.5Z	4.5VDC	203	+3.38V	3.38V	100mW
FTR-B4 ( )B012Z	12VDC	1,440	+9.0V	9.0V	100mW

\* Pulse driven

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

# FTR-B4 Series

## ■ SPECIFICATIONS

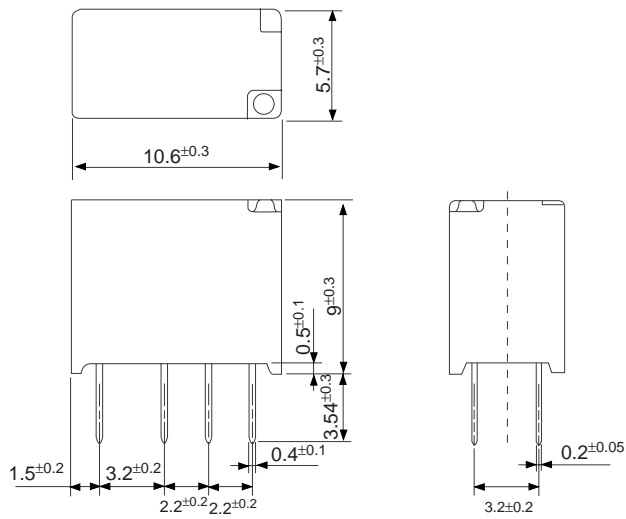
Item		Standard Type	Latching Type
		FTR-B4CA ( ) Z FTR-B4GA ( ) Z FTR-B4SA ( ) Z	FTR-B4CB ( ) Z FTR-B4GB ( ) Z FTR-B4SB ( ) Z
Contact	Arrangement	2Form C	
	Contact material	Gold overlay silver alloy	
	Contact resistance (initial value)	100m    maximum at 6VDC 1A	
	Maximum switching current	1A	
	Maximum switching power	62.5 VA / 30W	
	Maximum switching voltage	250 VAC, 220 VDC	
Coil	Operating temperature (no frost)	-40° C to +85° C	
Time Value	Operate (at nominal voltage, without bounce)	3ms maximum	
	Release (at nominal voltage, without bounce)	3ms maximum	
Insulation	Resistance (at 500VDC)		Minimum 1,000 M
	Dielectric Strength	between open contacts	1,000 VAC 1 minute
		between adjacent contacts	1,000 VAC 1 minute
		between coil and contacts	1,500 VAC 1 minute
	Surge Strength	between open contacts	1,500V (at 10 x 160µs) [FCC Part 68]
		between adjacent contacts	1,500V (at 10 x 160µs) [FCC Part 68]
between coil and contacts		1,500V (at 10 x 160µs) [FCC Part 68] 2,500V (at 2 x 10µs) [Bellcore]	
Life	Mechanical	50 x 10 <sup>6</sup> operations (at 3 Hz)	
	Electrical (resistive load)	100 x 10 <sup>3</sup> ops. min. at 1 A, 30 VDC (at .5 Hz) 100 x 10 <sup>3</sup> ops. min. at .3 A, 30 VAC (at .5 Hz)	
Vibration Resistance	Misoperation	10 to 55 Hz at double amplitude of 3 mm	
	Endurance	10 to 55 Hz at double amplitude of 5 mm	
Shock Resistance	Misoperation	Min. 750 m/s <sup>2</sup>	
	Endurance	Min. 1000 m/s <sup>2</sup>	
Weight		Approximately 1.0 g	
UL/CSA	Contact Rating	.5 A, 125 VAC; 1A, 30 VDC; .3 A, 110 VDC	

\*1 Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

# FTR-B4 Series

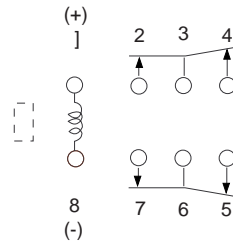
## ■ DIMENSIONS AND SCHEMATICS

Through hole type

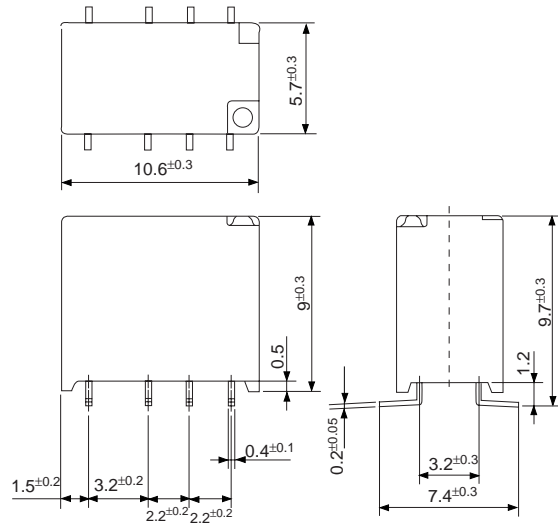


Recommended mounting pad  
(Tolerance:  $\pm 0.1\text{mm}$ )

Terminal designations  
(Bottom view de-energized position)

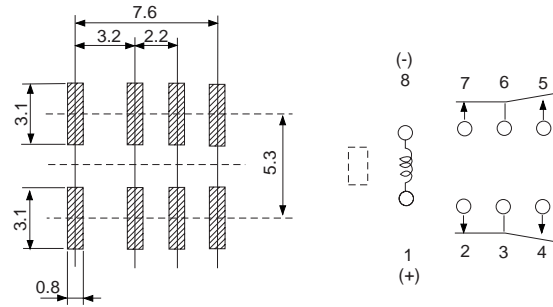


Surface mount type (standard)



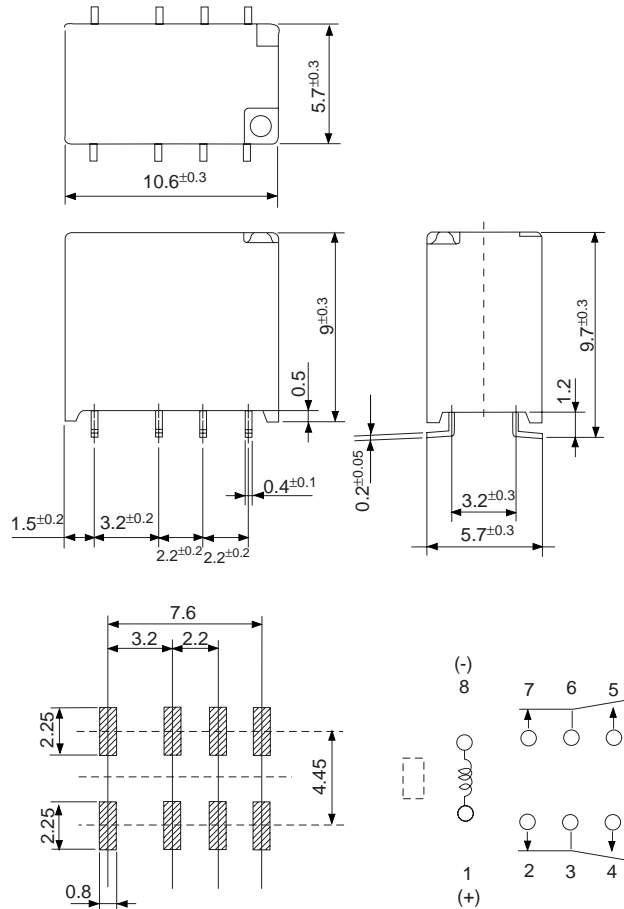
Recommended mounting pad  
(Tolerance:  $\pm 0.1\text{mm}$ )

Terminal designations  
(Bottom view de-energized position)



## ■ DIMENSIONS AND SCHEMATICS

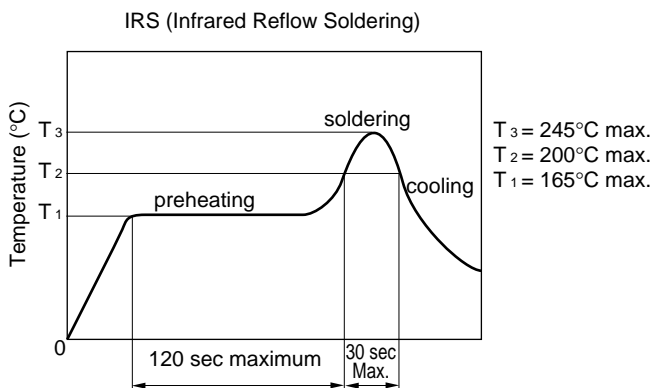
### Mounting area reduced mount type



Recommended mounting pad  
(Tolerance:  $\pm 0.1$ mm)

Terminal designations  
(Bottom view de-energized position)

## ■ RECOMMENDED SOLDERING CONDITIONS (TEMPERATURE PROFILE)



- Note:
1. Temperature profiles show the temperature of PC board surface.
  2. Please perform soldering test with your actual PC board before mass production, since the temperatures of PC board surfaces vary according to the size of PC board, status of parts mounting and heating method.

## ■ PRECAUTIONS

- For details on general precautions, refer to the section on technical descriptions.
- Since this is a polar relay, follow the instructions of the internal wiring diagram for the +- connections of the coil.
- Note that the terminal array and internal wiring of the surface mount relay are a top view.

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