



## Автомобильные реле серии FBR57

### Технические характеристики

Архангельск (8182)63-90-72	Ижевск (3412)26-03-58	Магнитогорск (3519)55-03-13	Пермь (342)205-81-47	Сургут (3462)77-98-35
Астана (7172)727-132	Иркутск (395)279-98-46	Москва (495)268-04-70	Ростов-на-Дону (863)308-18-15	Тверь (4822)63-31-35
Астрахань (8512)99-46-04	Казань (843)206-01-48	Мурманск (8152)59-64-93	Рязань (4912)46-61-64	Томск (3822)98-41-53
Барнаул (3852)73-04-60	Калининград (4012)72-03-81	Набережные Челны (8552)20-53-41	Самара (846)206-03-16	Тула (4872)74-02-29
Белгород (4722)40-23-64	Калуга (4842)92-23-67	Нижний Новгород (831)429-08-12	Санкт-Петербург (812)309-46-40	Тюмень (3452)66-21-18
Брянск (4832)59-03-52	Кемерово (3842)65-04-62	Новокузнецк (3843)20-46-81	Саратов (845)249-38-78	Ульяновск (8422)24-23-59
Владивосток (423)249-28-31	Киров (8332)68-02-04	Новосибирск (383)227-86-73	Севастополь (8692)22-31-93	Уфа (347)229-48-12
Волгоград (844)278-03-48	Краснодар (861)203-40-90	Омск (3812)21-46-40	Симферополь (3652)67-13-56	Хабаровск (4212)92-98-04
Вологда (8172)26-41-59	Красноярск (391)204-63-61	Орел (4862)44-53-42	Смоленск (4812)29-41-54	Челябинск (351)202-03-61
Воронеж (473)204-51-73	Курск (4712)77-13-04	Оренбург (3532)37-68-04	Сочи (862)225-72-31	Череповец (8202)49-02-64
Екатеринбург (343)384-55-89	Липецк (4742)52-20-81	Пенза (8412)22-31-16	Ставрополь (8652)20-65-13	Ярославль (4852)69-52-93
Иваново (4932)77-34-06	Киргизия (996)312-96-26-47	Казахстан (772)734-952-31	Таджикистан (992)427-82-92-69	

Единый адрес для всех регионов: [fst@nt-rt.ru](mailto:fst@nt-rt.ru) || [www.fujitsu.nt-rt.ru](http://www.fujitsu.nt-rt.ru)

# COMPACT HIGH POWER RELAY

## 1 POLE—12 A (28 VDC)

### (FOR 24 V BATTERY AUTOMOTIVE APPLICATIONS)

## FBR57 SERIES

#### ■ FEATURES

- High power contact capacity  
(carrying current: 40 A/2 minutes, 30 A/1 hour)
- Suitable for controlling 24 V motors in trucks and other large vehicles
- High heat resistance and extended operating voltage



#### ■ ORDERING INFORMATION

[Example]     $\frac{\text{FBR57}}{\text{(a)}} \frac{\text{N}}{\text{(b)}} \frac{\text{D24}}{\text{(c)}} - \frac{\text{W}}{\text{(d)}} \frac{\text{**}}{\text{(e)}}$

(a)	Series Name	FBR57 : FBR57 Series relay for 24 V battery (contact gap 0.8 mm)
(b)	Enclosure	N     : Plastic sealed type
(c)	Nominal Voltage	D24   : 24 VDC
(d)	Contact Material	W     : Silver-tin oxide indium N     : Silver copper nickel
(e)	Custom Designation	To be assigned custom specification

# FBR57 SERIES

## ■ SPECIFICATIONS

Item		Specifications	
Contact	Arrangement	1 form C	
	Material	Silver-tin oxide indium (-W type) Silver copper nickel (-N type)	
	Voltage Drop (resistance)	Maximum 100 mV (at 2 A 12 VDC)	
	Ratings	28 VDC 12 A (locked motor load) 28 VDC inrush 15 A, break 2.5 A (motor free load)	
	Maximum Carrying Current	40 A/2 minutes, 30 A/1 hour (25°C, 100% rated coil voltage)	
	Maximum Inrush Current	-W type: 60 A (reference) -N Type: 40 A	
	Maximum Switching Current	12 A 28 VDC (reference)	
	Minimum Switching Load*1	-W type: 6 VDC, 1 A -N type: 6 VDC, 2 A (reference)	
Coil	Operating Temperature	-40°C to +85°C (no frost) (refer to the CHARACTERISTIC DATA)	
	Storage Temperature	-40°C to +100°C (no frost)	
Time Value	Operate (at nominal voltage)	Maximum 10 ms	
	Release (at nominal voltage)	Maximum 5 ms	
Life	Mechanical	1 × 10 <sup>6</sup> operations minimum	
	Electrical	1 × 10 <sup>5</sup> operations minimum (locked motor load) 5 × 10 <sup>5</sup> operations minimum (motor free load)	
Other	Vibration Resistance		10 to 55 Hz (double amplitude of 1.5 mm)
	Shock Resistance	Misoperation	100 m/s <sup>2</sup>
		Endurance	1,000 m/s <sup>2</sup>
	Weight		Approximately 9.4 g

\*1 Values when switching a resistive load at normal room temperature and humidity, and in a clean environment.  
The minimum switching load varies with the switching frequency and operating environment.

## ■ COIL DATA CHART

MODEL		Nominal voltage	Coil resistance (±10%) (at 20°C)	Must operate voltage	Thermal resistance
W contact	N contact				
FBR57ND24-W	FBR57ND24-N	24 VDC	384 Ω	14.4 VDC (at 20°C) 18.0 VDC (at 85°C)	67°C/W

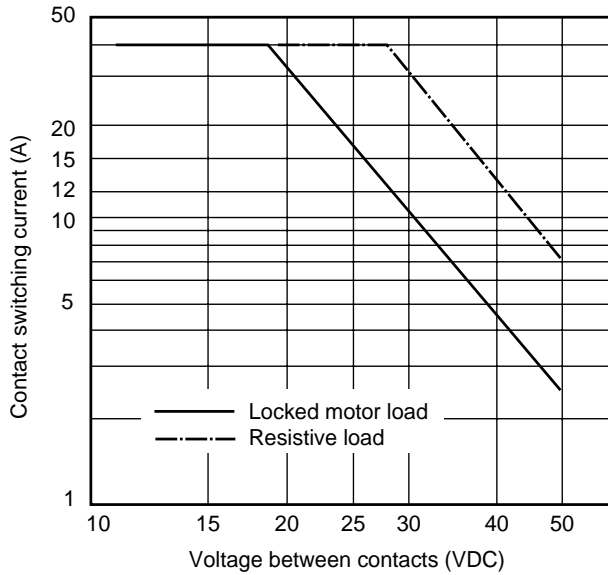
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## ■ PRINCIPAL APPLICATIONS

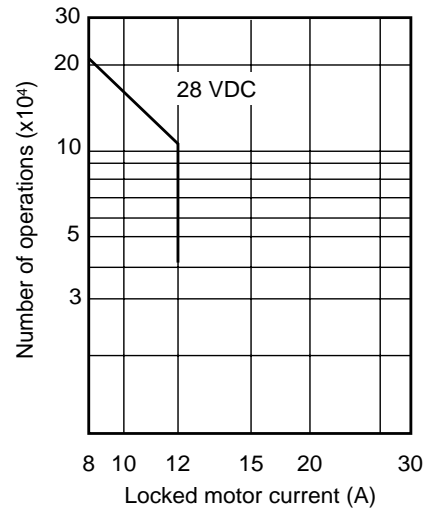
Application		Normal load current	Life x 10 <sup>3</sup>	Recommended model (example)
For 24 V battery	Power Windows	10 to 12 A (switching at motor locking)	100	FBR57N□-W
	Automatic Door Lock	5 A/2 door (switching at motor locking)	100	FBR57N□-W
	Intermittent Wipers	INRUSH 15 to 30 A BREAK 2 to 8 (motor free)	300	FBR57N□-N

## ■ CHARACTERISTIC DATA

### 1. MAXIMUM BREAK CAPACITY



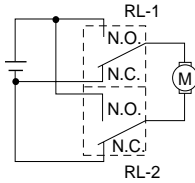
### 2. LIFE



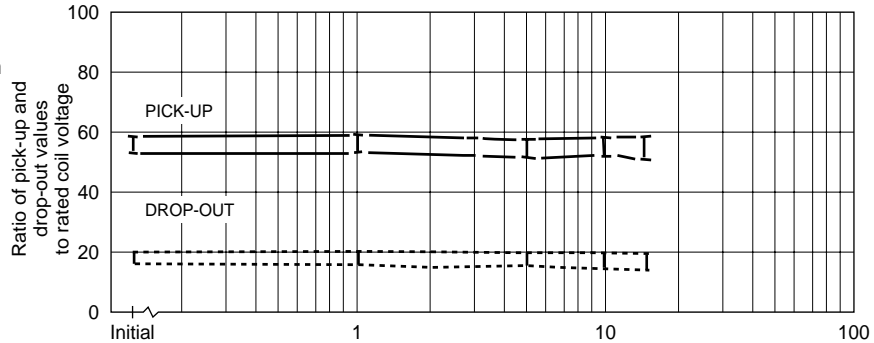
# FBR57 SERIES

## 3. LIFE TEST (EXAMPLE)

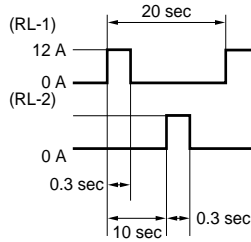
- Test item  
28 V DC-12 A INRUSH  
Motor lock  
100,000 operations minimum  
(FBR57 □-W type)
- Test circuit



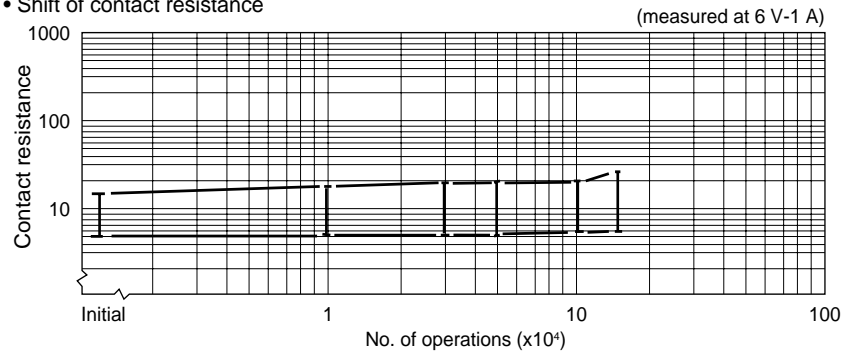
- Shift of pick-up and drop-out voltage



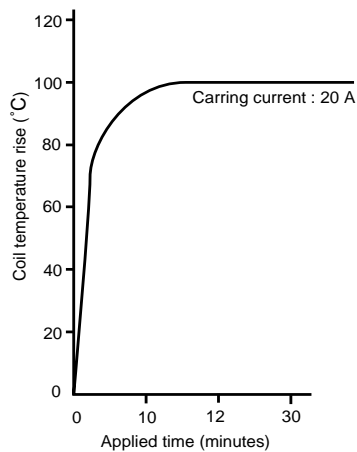
- Current wave form



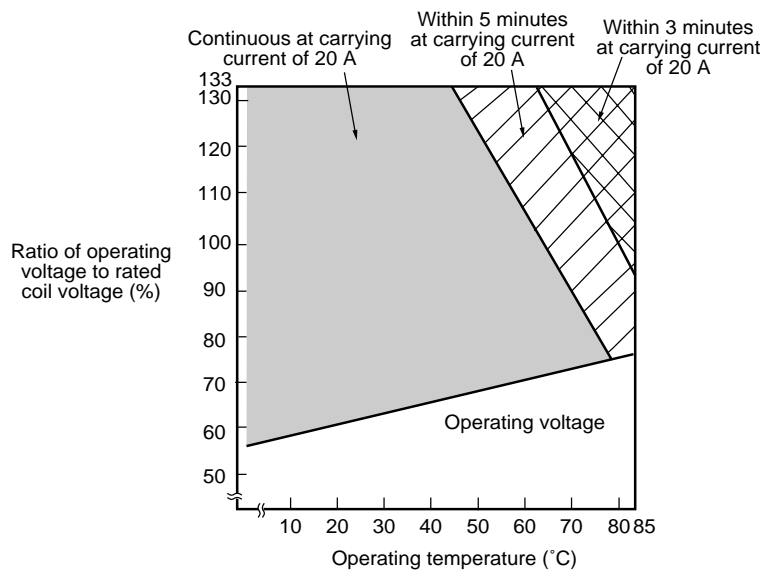
- Shift of contact resistance



## 4. COIL TEMPERATURE RISE

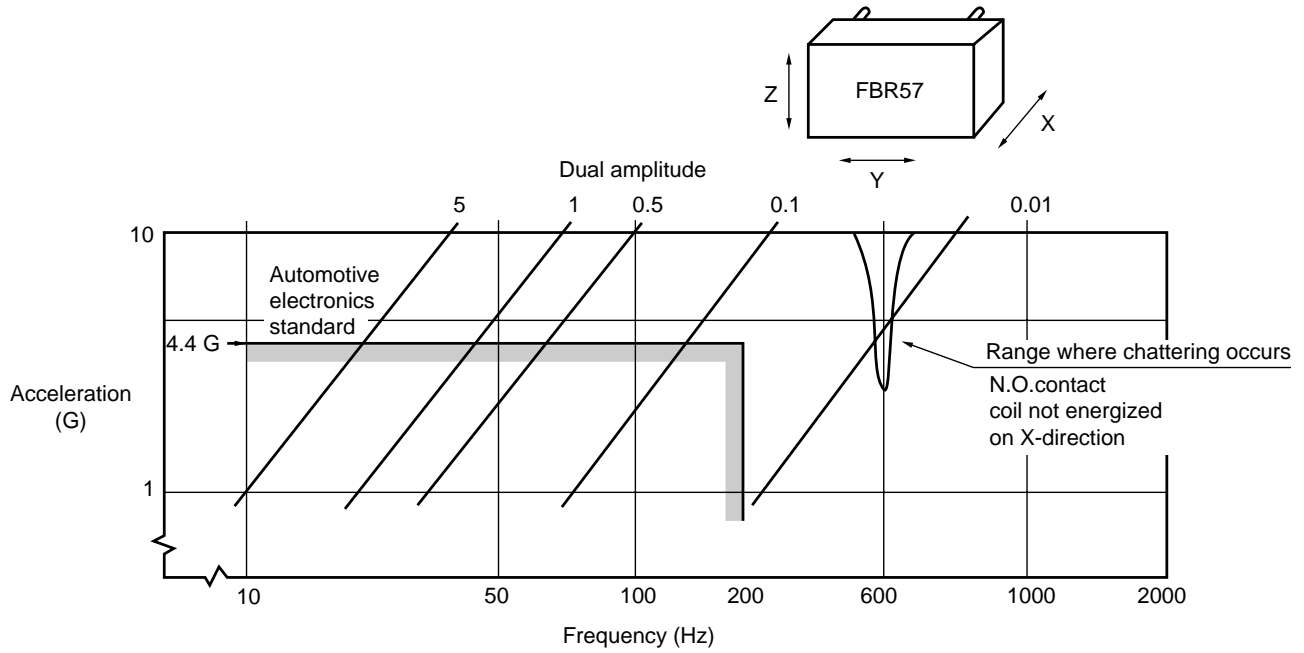


## 5. OPERATING COIL VOLTAGE RANGE (EXAMPLE)

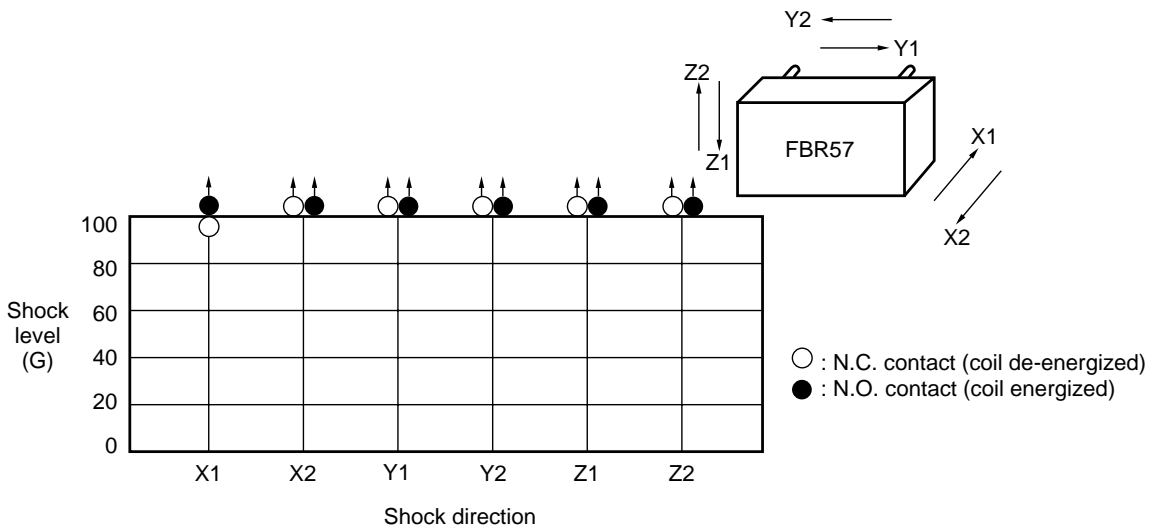


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## 6. VIBRATION RESISTANCE CHARACTERISTICS

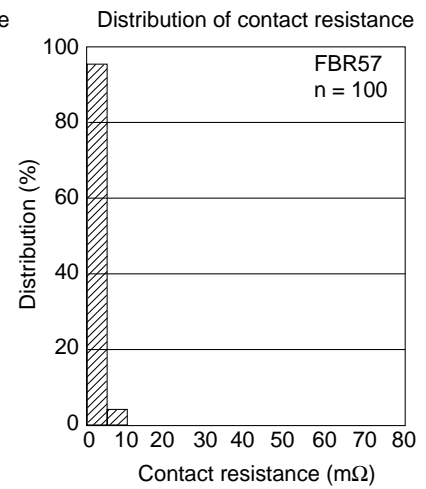
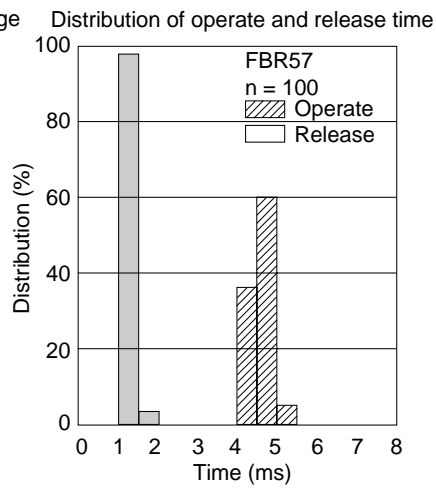
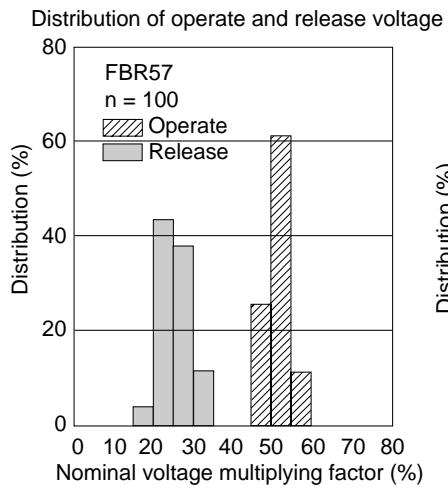


## 7. SHOCK RESISTANCE CHARACTERISTICS



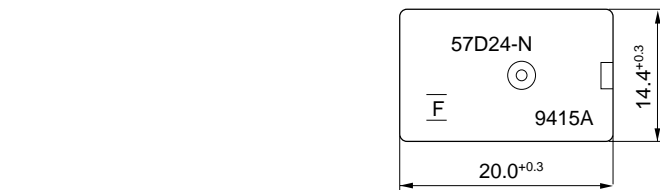
# FBR57 SERIES

## REFERENCE DATA

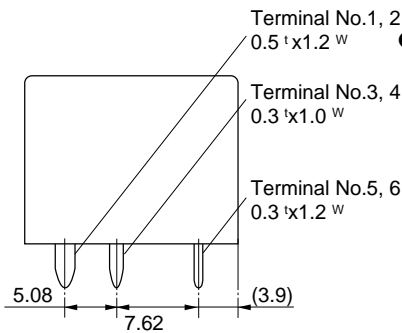
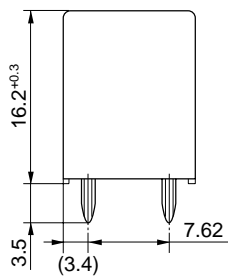
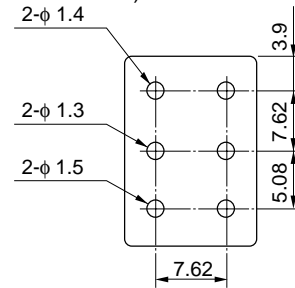


## DIMENSIONS

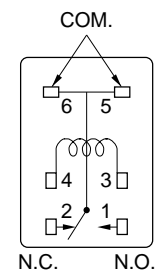
### Dimensions



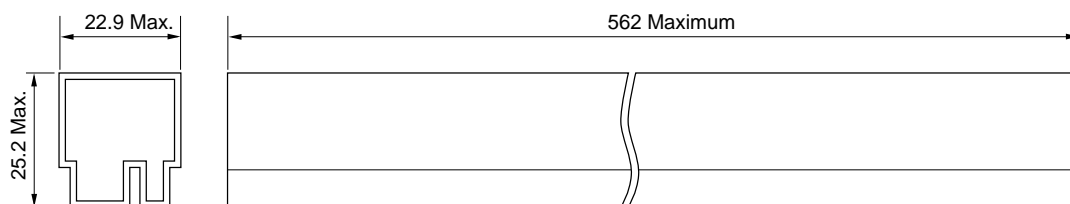
### PC board mounting hole layout (BOTTOM VIEW)



### Schematic (BOTTOM VIEW)



### Tube carrier



35 pieces/tube

Unit : mm

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