

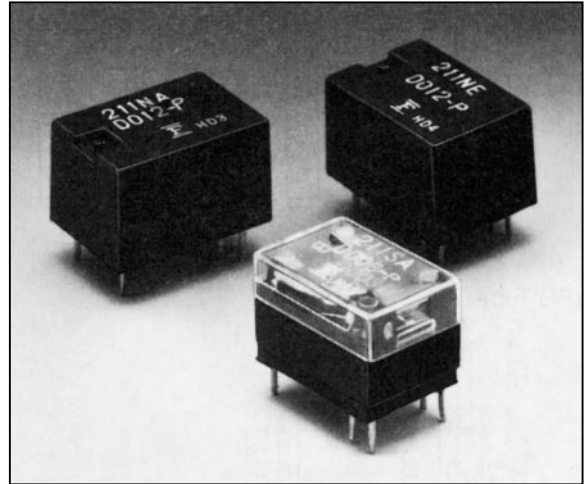
MINIATURE RELAY

1 POLE-1 to 3 A (FOR AUTOMOTIVE APPLICATIONS)

FBR210 SERIES

■ FEATURES

- Suitable for automotive applications of solenoid load controls, Car audio, etc.
- Capable of 3 A/1 Hr maximum carrying current in the contact.
- Superior sensitive gold-overlay contact.
P type: Gold-overlay silver-palladium contacts.
- High sensitive, high temperature types also available.
Standard type : -30°C ~ +60°C (A or B type)
High sensitive type: -30°C ~ +80°C (C or E type)



■ ORDERING INFORMATION

[Example] $\frac{\text{FBR211}}{\text{(a)}} \frac{\text{S}}{\text{(b)}} \frac{\text{A}}{\text{(c)}} \frac{\text{D012}}{\text{(d)}} - \frac{\text{P}}{\text{(e)}} \frac{\text{**}}{\text{(f)}}$

(a)	Series Name	FBR211: FBR210 Series
(b)	Enclosure	S : Flux Free Type N : Plastic sealed Type
(c)	Coil Specification and Schematics	A : Standard A Type } (Coil Nominal power 0.45 W type) B : Standard B Type } C : High sensitive C Type } (Coil Nominal power 0.2 W type) E : High sensitive E Type }
(d)	Nominal Voltage	D09 : 9 VDC D12 : 12 VDC
(e)	Contact Material	P : Gold overlay silver palladium
(f)	Custom Designation	To be assigned custom specification

■ SPECIFICATIONS

Item		Specifications	
Contact	Arrangement	1 Form C (SPDT)	
	Material	Gold-overlay silver-Palladium	
	Resistance	Max. 100 mΩ (at 0.1 A 6 VDC)	
	Voltage Drop (Resistance)	Max. 100 mV (at 2 A 12 VDC)	
	Rating	14 VDC 2 A (Locked Motor Load) 14 VDC Inrush 8 A (Condenser, Lamp Load)	
	Max. Carrying Current	2 A 3 A/1 Hr	
	Max. Switching Current	2 A 16 VDC (Referece)	
Coil	Operating Temperature	Standard Type: -30°C ~ + 60°C High sensitive Type: -30°C ~ + 80°C (No frost)	
Time Value	Operate (at nominal voltage)	Max. 5 ms	
	Release (at nominal voltage)	Max. 5 ms	
Life	Mechanical	5 × 10 ⁶ ops. min.	
	Electrical	100 × 10 ³ ops. min. (14 VDC, Max. Switching Current, resistive load)	
Other	Vibration Resistance	10 to 55 Hz (double amplitude of 1.5 mm)	
	Shock Resistance	Misoperation	100 m/s ²
		Endurance	1,000 m/s ²
	Unit Mass	Approx. 4 g	

FBR210 SERIES

■ COIL RATINGS

1. STANDARD Type

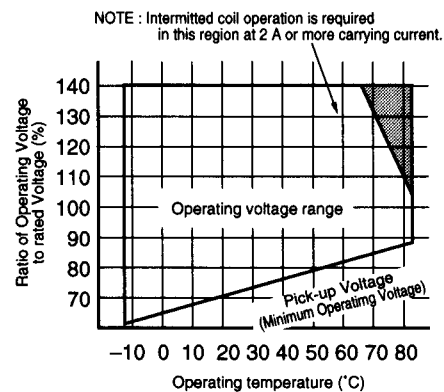
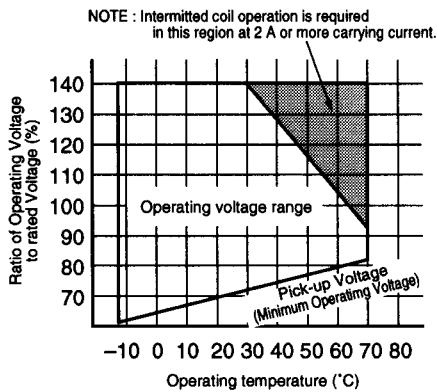
MODEL				Nominal Voltage	Coil Resistance (±10%)	Must operate voltage	Nominal Power	Coil Temperature rise	Thermal Resistance
A type		B type							
Flux Free Type	Plastic Sealed Type	Flux Free Type	Plastic Sealed Type						
FBR211SAD009-P	FBR211NAD009-P	FBR211SBD009-P	FBR211NBD009-P	9 VDC	180 Ω	6.3 V (20°C) 7.3 V (60°C)	Approx. 450 mW	Approx. 45 deg	100°C/W
FBR211SAD012-P	FBR211NAD012-P	FBR211SBD012-P	FBR211NBD012-P	12 VDC	320 Ω	8.4 V (20°C) 9.7 V (60°C)			

2. HIGH SENSITIVE Type

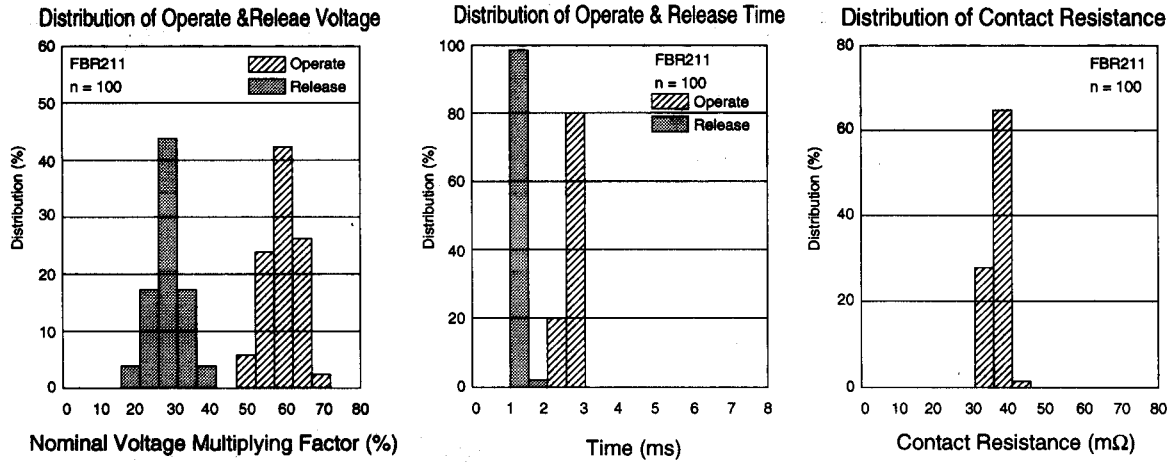
MODEL				Nominal Voltage	Coil Resistance (±10%)	Must operate voltage	Nominal Power	Coil Temperature rise	Thermal Resistance
C type		E type							
Flux Free Type	Plastic Sealed Type	Flux Free Type	Plastic Sealed Type						
FBR211SCD009-P	FBR211NCD009-P	FBR211SED009-P	FBR211NED009-P	9 VDC	400 Ω	6.3 V (20°C) 7.3 V (60°C)	Approx. 200 mW	Approx. 25 deg	125°C/W
FBR211SCD012-P	FBR211NCD012-P	FBR211SED012-P	FBR211NED012-P	12 VDC	700 Ω	8.4 V (20°C) 9.7 V (60°C)			

Note: All values in these tables are measured at 20°C.

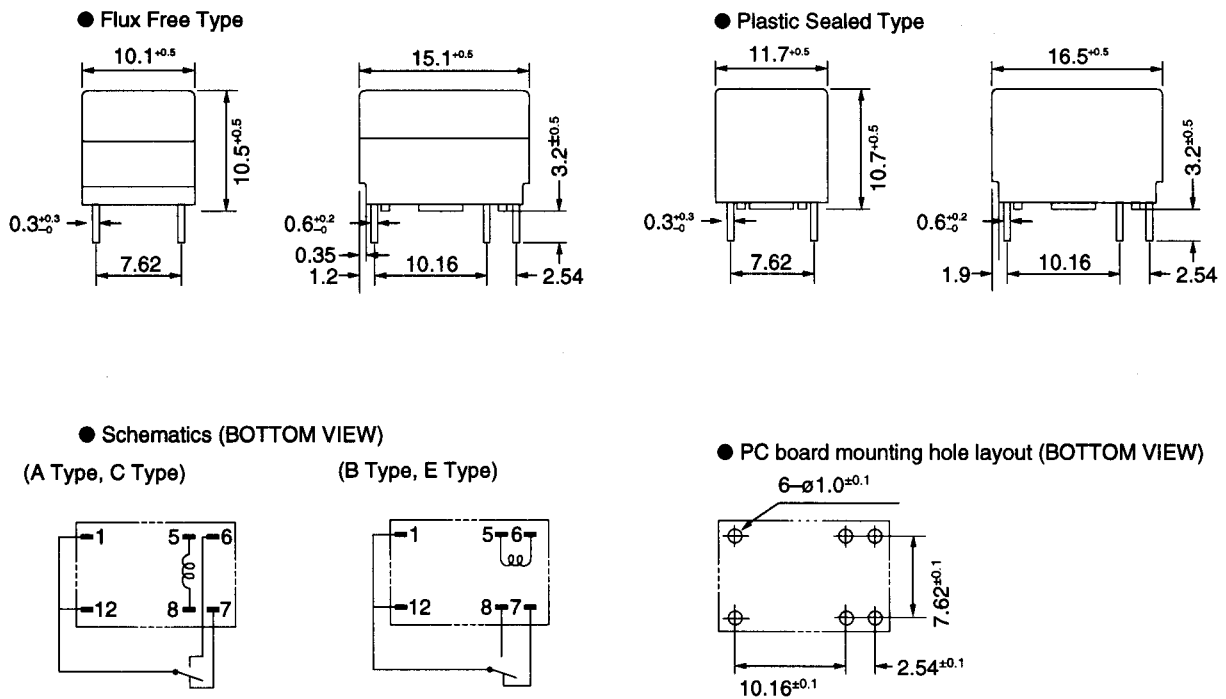
■ CHARACTERISTIC DATA



REFERENCE DATA



DIMENSIONS



Unit: mm