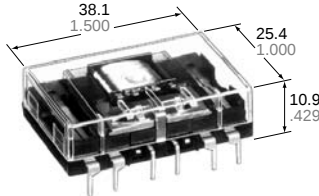


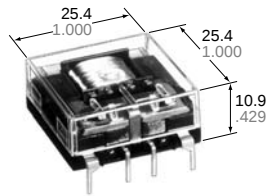
Panasonic
ideas for life

FLAT/VERTICAL TYPE HIGH POWER BIFURCATED CONTACT

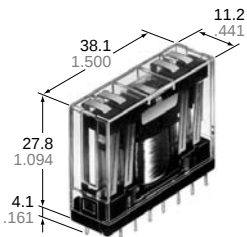
NC RELAYS



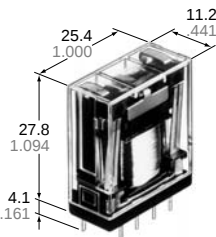
4C Flat type



2C Flat type



4C Vertical type (PC board)



2C Vertical type (PC board)

mm inch

FEATURES

- Space saver — Flat series and vertical series
- High contact reliability due to bifurcated contacts
— 2C: 5 A 250 V AC, 4C: 5 A 125 V AC, 4 A 250 V AC
- Latching types available
- Low operating power
— 2C: 200 mW, 4C: 400 mW (Single side stable)
- Soldering flux inflow prevented by terminal location
- Amber sealed types available
- High breakdown voltage for transient protection
— 1,000 Vrms between open contacts, contact sets

SPECIFICATIONS

Contacts

Types		Standard	Amber sealed
Arrangement		2 Form C, 4 Form C	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)		50 mΩ	
Rating (resistive load)	Max. switching power	2C: 1,250 VA 150 W 4C: 1,000 VA 150 W	2C: 750 VA 150 W 4C: 500 VA 150 W
	Max. switching voltage	250 V AC	
	Max. switching current	5 A	
	Max. switching carrying current	5 A	
	Min. switching capacity ^{#1}	100 μA 1 V DC	
Expected life (minimum)	2C	10 ⁵ at 5 A 250 V AC 5×10 ⁵ at 5 A 30 V DC	10 ⁵ at 3 A 250 V AC 5×10 ⁵ at 5 A 30 V DC
	4C	10 ⁵ at 4 A 250 V AC 5×10 ⁵ at 5 A 30 V DC	10 ⁵ at 2 A 250 V AC 5×10 ⁵ at 5 A 30 V DC
Contact material		Gold-clad silver nickel	

Coil (Polarized) (at 25°C 77°F)

		Up to 48 V DC	110 V DC
Minimum operating power	2 C single side stable	Approx. 200 mW	500 mW
	4 C single side stable	Approx. 400 mW	500 mW
Nominal operating power	2 C single side stable	Approx. 360 mW	900 mW
	4 C single side stable	Approx. 720 mW	900 mW
Minimum set and reset power	2 C 2 coil latching	Approx. 450 mW	
	4 C 2 coil latching	Approx. 900 mW	
Nominal set and reset power	2 C 2 coil latching	Approx. 800 mW	
	4 C 2 coil latching	Approx. 1,600 mW	

^{#1} This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

Characteristics (at 25°C 77°F 50% Relative humidity)

Max. operating speed		180 cpm	
Initial insulation resistance		Min. 100 MΩ at 500 V DC	
Initial breakdown voltage*1	Between open contacts, contact sets	1,000 Vrms	
	Between contacts and coil	2,000 Vrms	
Operate time (at nominal voltage)		DC: Max. 20 ms, AC: Max. 30 ms	
Release time (at nominal voltage)		DC: Max. 10 ms, AC: Max. 40 ms	
Operate time (latching) (at nominal voltage)		Max. 20 ms	
Reset time (latching) (at nominal voltage)		Max. 20 ms	
Temperature rise (at nominal voltage)		Max. 65°C	
Shock resistance	Functional*2	Min. 98 m/s ² {10 G}	
	Destructive*3	Min. 980 m/s ² {100 G}	
Vibration resistance	Functional*4	58.8 m/s ² {6 G}, 10 to 55 Hz at double amplitude of 1 mm	
	Destructive	117.6 m/s ² {12 G}, 10 to 55 Hz at double amplitude of 2 mm	
Conditions for operation, transport and storage*5 (Not freezing and condensing at low temperature)	(Single side stable)	2 C	up to 48 V DC: -40°C to +70°C -40°F to +158°F 110 V DC: -40°C to +55°C -40°F to +131°F up to 48 V AC: -40°C to +60°C -40°F to +140°F 100 V AC: -40°C to +40°C -40°F to +104°F
		4 C	DC: -40°C to +55°C -40°F to +131°F AC: -40°C to +40°C -40°F to +104°F
	(2 coil latching)		-40°C to +55°C -40°F to +131°F
	Humidity		5 to 85% R.H.
Unit weight		2C/Approx. 16 g .56 oz 4C/Approx. 18 g .63 oz	

Remarks

* Specifications will vary with foreign standards certification ratings.

*1 Detection current: 10 mA

*2 Half-wave pulse of sine wave: 11ms; detection time: 10μs

*3 Half-wave pulse of sine wave: 6ms

*4 Detection time: 10μs

*5 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (see catalog).

TYPICAL APPLICATIONS

Use NC Relays for power control up to 5 A or —
Tape recorders, temperature controls, video tape recorders
Telecommunications equipment, measuring controls, copiers

Date processing equipment, computer peripherals
Automatic vendors, copiers, automatic storage controls, N.C. machines

ORDERING INFORMATION

Ex. NC

2

EB

D

J

P

L2

DC 12V

Contact arrangement	Type classification	Housing	Mounting method	Operating function	Coil voltage
2: 2 Form C 4: 4 Form C	Nil: Standard type EB: Amber sealed type	Nil: Vertical series J: Flat series	Nil: Plug-in P: PC board terminal	Nil: Single side stable L2: 2 coil latching	DC 5, 6, 12, 24, 48, 110 V AC 12, 24, 48, 100 V

- (Notes) 1. Flat series are available in PC board terminal types only.
2. For VDE recognized type, add suffix VDE.
3. Standard packing Carton: 20 pcs. Case: 200 pcs.
4. UL/CSA, approved type is standard.

TYPE AND COIL DATA (at 20°C 68°F) (Coil data for Amber sealed types (DC Coil Only) are same as those for standard types.)

2 Form C Single side stable

Flat series		Vertical series		Coil voltage, V DC			Coil resistance, Ω (±10%)	Nominal operating power, mW
PC board terminal		Plug-in	PC board terminal	Pick-up voltage (max.)	Drop-out voltage (min.)	Maximum allowable voltage		
NC2D-JP-DC5V		NC2D-DC5V	NC2D-P-DC5V	4.0	0.5	6.75	69.4	360
NC2D-JP-DC6V		NC2D-DC6V	NC2D-P-DC6V	4.8	0.6	8.1	100	
NC2D-JP-DC12V		NC2D-DC12V	NC2D-P-DC12V	9.6	1.2	16.2	400	
NC2D-JP-DC24V		NC2D-DC24V	NC2D-P-DC24V	19.2	2.4	32.4	1,600	
NC2D-JP-DC48V		NC2D-DC48V	NC2D-P-DC48V	38.4	4.8	64.8	6,400	
NC2D-JP-DC110V		NC2D-DC110V	NC2D-P-DC110V	88.0	11.0	121	13,500	900

2 Form C Single side stable

Flat series		Vertical series		Coil voltage, V AC			Nominal operating power, VA
PC board terminal		Plug-in	PC board terminal	Pick-up voltage (max.)	Drop-out voltage (min.)	Maximum allowable voltage	
NC2D-JP-AC12V		NC2D-AC12V	NC2D-P-AC12V	9.6	1.2	13.2	0.50
NC2D-JP-AC24V		NC2D-AC24V	NC2D-P-AC24V	19.2	2.4	26.4	0.54
NC2D-JP-AC48V		NC2D-AC48V	NC2D-P-AC48V	38.4	4.8	52.8	0.67
NC2D-JP-AC100V		NC2D-AC100V	NC2D-P-AC100V	80	10	110	1.05

2 Form C 2 coil latching

Flat series		Vertical series		Coil voltage, V DC			Coil resistance, Ω (±10%)	Nominal operating power, mW
PC board terminal		Plug-in	PC board terminal	Pick-up voltage (max.)	Reset voltage (max.)	Maximum allowable voltage		
NC2D-JPL2-DC5V		NC2D-L2-DC5V	NC2D-PL2-DC5V	4.0	4.0	5.5	31.3	800
NC2D-JPL2-DC6V		NC2D-L2-DC6V	NC2D-PL2-DC6V	4.8	4.8	6.6	45.0	
NC2D-JPL2-DC12V		NC2D-L2-DC12V	NC2D-PL2-DC12V	9.6	9.6	13.2	180	
NC2D-JPL2-DC24V		NC2D-L2-DC24V	NC2D-PL2-DC24V	19.2	19.2	26.4	720	
NC2D-JPL2-DC48V		NC2D-L2-DC48V	NC2D-PL2-DC48V	38.4	38.4	52.8	2,880	
NC2D-JPL2-DC110V		NC2D-L2-DC110V	NC2D-PL2-DC110V	88.0	88.0	121	15,125	

4 Form C Single side stable

Flat series		Vertical series		Coil voltage, V DC			Coil resistance, Ω (±10%)	Nominal operating power, mW
PC board terminal		Plug-in	PC board terminal	Pick-up voltage (max.)	Drop-out voltage (min.)	Maximum allowable voltage		
NC4D-JP-DC5V		NC4D-DC5V	NC4D-P-DC5V	4.0	0.5	5.5	34.7	720
NC4D-JP-DC6V		NC4D-DC6V	NC4D-P-DC6V	4.8	0.6	6.6	50	
NC4D-JP-DC12V		NC4D-DC12V	NC4D-P-DC12V	9.6	1.2	13.2	200	
NC4D-JP-DC24V		NC4D-DC24V	NC4D-P-DC24V	19.2	2.4	26.4	800	
NC4D-JP-DC48V		NC4D-DC48V	NC4D-P-DC48V	38.4	4.8	52.8	3,200	
NC4D-JP-DC110V		NC4D-DC110V	NC4D-P-DC110V	88.0	11.0	121	13,500	900

4 Form C Single side stable

Flat series		Vertical series		Coil voltage, V AC			Nominal operating power, VA
PC board terminal		Plug-in	PC board terminal	Pick-up voltage (max.)	Drop-out voltage (min.)	Maximum allowable voltage	
NC4D-JP-AC12V		NC4D-AC12V	NC4D-P-AC12V	9.6	1.2	13.2	1.10
NC4D-JP-AC24V		NC4D-AC24V	NC4D-P-AC24V	19.2	2.4	26.4	1.08
NC4D-JP-AC48V		NC4D-AC48V	NC4D-P-AC48V	38.4	4.8	52.8	1.08
NC4D-JP-AC100V		NC4D-AC100V	NC4D-P-AC100V	80	10	110	1.30