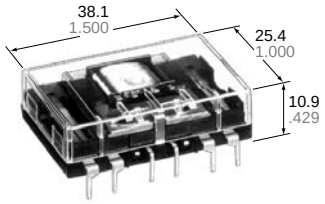
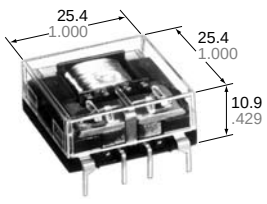
Panasonic
ideas for life

FLAT/VERTICAL TYPE HIGH POWER BIFURCATED CONTACT

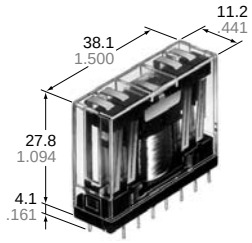
NC RELAYS



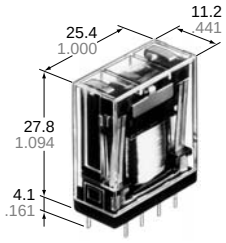
4C Flat type



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/s² {10 G}
	Destructive*3		Min. 980 m/s² {100 G}
Vibration resistance	Functional*4		58.8 m/s² {6 G}, 10 to 55 Hz at double amplitude of 1 mm
	Destructive		117.6 m/s² {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 termial	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