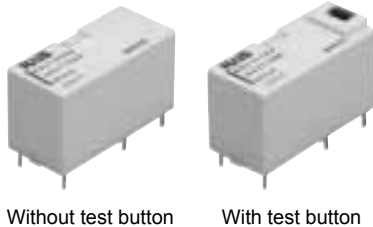


Panasonic
ideas for life

16A, COMPACT AND HIGH INSULATION POWER LATCHING RELAY

DJ RELAYS (ADJ)

FEATURES



Without test button

With test button

1. Variety of contact arrangements

Wide lineup of 1 Form C, 1 Form A, 1 Form B, 2 Form C, 2 Form A, 2 Form B, 1 Form A 1 Form B.

2. Latching operation

Latching via a polarized magnetic circuit structure allows remote operation and lower energy consumption

3. Compact with high capacity

16A (1-pole type) contact rating in a compact 29×13×16.5 mm (L×W×H) size.

4. Low power consumption

1 coil latching: 150mW
2 coil latching, single side stable: 250mW

5. High insulation

Both clearance and creepage distance between coil and contact are at 8 mm min.

5. With operation verification function

A test button (manual lever) type to facilitate circuit checks is also available (1 Form C, 1 Form A, 1 Form B types only).

TYPICAL APPLICATIONS

- FA equipment (brake circuits of industrial machine and robots, etc.)
- Electric power devices (remote surveillance devices, etc.)
- Household appliance networks (Motor control and lighting control, etc.)
- Time switches

SPECIFICATIONS

Contact

Arrangement	1 Form C, 1 Form A, 1 Form B, 1 Form A 1 Form B, 2 Form C, 2 Form A, 2 Form B	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)	100 mΩ	
Contact material	Silver alloy	
Rating (resistive load)	Nominal switching capacity	16 A 250V AC (1 Form C, 1 Form A, 1 Form B) 10 A 250V AC (2 Form C, 2 Form A, 2 Form B, 1 Form A 1 Form B)
	Max. switching power	4,000 V A
	Max. switching voltage	250V AC
	Max. switching current	16 A
	Min. switching capacity ^{#1}	100 mA, 5 V DC
Expected life (min. operations)	Mechanical (at 180 cpm)	5×10 ⁶
	Electrical (Resistive load) ^{*1} (at 20 cpm)	1 Form C, 1 Form A, 1 Form B: 10 ⁵ (at 16A 250V AC) 2 Form C, 2 Form A, 2 Form B, 1 Form A 1 Form B: 10 ⁵ (at 10A 250V AC)

Coil

Nominal operating power	1 coil latching	150mW
	Single side stable, 2 coil latching	250mW

^{#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.

Remarks

- ^{*1} With breathing holes open
- ^{*2} Measurement at same location as "Initial breakdown voltage" section.
- ^{*3} Detection current: 10mA
- ^{*4} Wave is standard shock voltage of ±1.2 × 50μs according to JEC-212-1981
- ^{*5} Excluding contact bounce time.
- ^{*6} By resistive method, max. switching current
- ^{*7} Half-wave pulse of sine wave: 11 ms; detection time: 10 μs
- ^{*8} Half-wave pulse of sine wave: 6 ms
- ^{*9} Detection time: 10 μs
- ^{*10}

Characteristics

Initial insulation resistance ^{*2}		Min. 1,000 MΩ (at 500 V DC)
Initial breakdown voltage ^{*3}	Between open contacts	1,000 Vrms for 1 min.
	Between contacts and coil	4,000 Vrms for 1 min.
Surge voltage between contact and coil ^{*4}		Min. 10,000 V (initial)
Operate time [Set time] ^{*5} (at nominal voltage)		Approx. 10ms
Release time [Reset time] ^{*5} (at nominal voltage)		Approx. 10ms
Temperature rise (at 70°C) ^{*6}		Max. 55°C
Shock resistance	Functional ^{*7}	Min. 200 m/s ² {20 G}
	Destructive ^{*8}	Min. 1,000 m/s ² {100 G}
Vibration resistance	Functional ^{*9}	10 to 55Hz at double amplitude of 2.0mm
	Destructive	10 to 55Hz at double amplitude of 3.0mm
Conditions for operation, transport and storage ^{*10} (Not freezing and condensing at low temperature)	Ambient temperature	-40°C to +70°C -40°F to +158°F
	Humidity	5 to 85% R.H.
Unit weight		Approx. 14 g .49 oz

ORDERING INFORMATION

Ex. ADJ

Contact arrangement	Operating function and protective construction	Auxiliary function	Coil voltage (DC)
1: 1 Form C 2: 1 Form A 3: 1 Form B 4: 1 Form A 1 Form B 5: 2 Form C 6: 2 Form A 7: 2 Form B	1: 1 coil latching, Flux-resistant type 2: 1 coil latching, Sealed type 3: 2 coil latching, Flux-resistant type 4: 2 coil latching, Sealed type 5: Single side stable, Flux-resistant type 6: Single side stable, Sealed type	0: Without test button 1: With test button	05: 5 V 12: 12 V 06: 6 V 24: 24 V 48: 48 V

Note: Standard packing: Carton: 100 pcs, Case: 500 pcs

TYPES

1. Without test button

1) Flux-resistant type

Contact arrangement	Coil voltage, V DC	Single side stable type	1 coil latching type	2 coil latching type
		Part No.	Part No.	Part No.
1 Form C	5	ADJ15005	ADJ11005	ADJ13005
	6	ADJ15006	ADJ11006	ADJ13006
	12	ADJ15012	ADJ11012	ADJ13012
	24	ADJ15024	ADJ11024	ADJ13024
	48	ADJ15048	ADJ11048	ADJ13048
1 Form A	5	ADJ25005	ADJ21005	ADJ23005
	6	ADJ25006	ADJ21006	ADJ23006
	12	ADJ25012	ADJ21012	ADJ23012
	24	ADJ25024	ADJ21024	ADJ23024
	48	ADJ25048	ADJ21048	ADJ23048
1 Form B	5	ADJ35005	Please use 1 Form A.	Please use 1 Form A.
	6	ADJ35006		
	12	ADJ35012		
	24	ADJ35024		
	48	ADJ35048		
1 Form A 1 Form B	5	ADJ45005	ADJ41005	ADJ43005
	6	ADJ45006	ADJ41006	ADJ43006
	12	ADJ45012	ADJ41012	ADJ43012
	24	ADJ45024	ADJ41024	ADJ43024
	48	ADJ45048	ADJ41048	ADJ43048
2 Form C	5	ADJ55005	ADJ51005	ADJ53005
	6	ADJ55006	ADJ51006	ADJ53006
	12	ADJ55012	ADJ51012	ADJ53012
	24	ADJ55024	ADJ51024	ADJ53024
	48	ADJ55048	ADJ51048	ADJ53048
2 Form A	5	ADJ65005	ADJ61005	ADJ63005
	6	ADJ65006	ADJ61006	ADJ63006
	12	ADJ65012	ADJ61012	ADJ63012
	24	ADJ65024	ADJ61024	ADJ63024
	48	ADJ65048	ADJ61048	ADJ63048
2 Form B	5	ADJ75005	Please use 2 Form A.	Please use 2 Form A.
	6	ADJ75006		
	12	ADJ75012		
	24	ADJ75024		
	48	ADJ75048		

DJ (ADJ)

2) Sealed type

Contact arrangement	Coil voltage, V DC	Single side stable type	1 coil latching type	2 coil latching type
		Part No.	Part No.	Part No.
1 Form C	5	ADJ16005	ADJ12005	ADJ14005
	6	ADJ16006	ADJ12006	ADJ14006
	12	ADJ16012	ADJ12012	ADJ14012
	24	ADJ16024	ADJ12024	ADJ14024
	48	ADJ16048	ADJ12048	ADJ14048
1 Form A	5	ADJ26005	ADJ22005	ADJ24005
	6	ADJ26006	ADJ22006	ADJ24006
	12	ADJ26012	ADJ22012	ADJ24012
	24	ADJ26024	ADJ22024	ADJ24024
	48	ADJ26048	ADJ22048	ADJ24048
1 Form B	5	ADJ36005	Please use 1 Form A.	Please use 1 Form A.
	6	ADJ36006		
	12	ADJ36012		
	24	ADJ36024		
	48	ADJ36048		
1 Form A 1 Form B	5	ADJ46005	ADJ42005	ADJ44005
	6	ADJ46006	ADJ42006	ADJ44006
	12	ADJ46012	ADJ42012	ADJ44012
	24	ADJ46024	ADJ42024	ADJ44024
	48	ADJ46048	ADJ42048	ADJ44048
2 Form C	5	ADJ56005	ADJ52005	ADJ54005
	6	ADJ56006	ADJ52006	ADJ54006
	12	ADJ56012	ADJ52012	ADJ54012
	24	ADJ56024	ADJ52024	ADJ54024
	48	ADJ56048	ADJ52048	ADJ54048
2 Form A	5	ADJ66005	ADJ62005	ADJ64005
	6	ADJ66006	ADJ62006	ADJ64006
	12	ADJ66012	ADJ62012	ADJ64012
	24	ADJ66024	ADJ62024	ADJ64024
	48	ADJ66048	ADJ62048	ADJ64048
2 Form B	5	ADJ76005	Please use 2 Form A.	Please use 2 Form A.
	6	ADJ76006		
	12	ADJ76012		
	24	ADJ76024		
	48	ADJ76048		

2. With test button

Flux-resistant type

Contact arrangement	Coil voltage, V DC	Single side stable type	1 coil latching type	2 coil latching type
		Part No.	Part No.	Part No.
1 Form C	5	ADJ15105	ADJ11105	ADJ13105
	6	ADJ15106	ADJ11106	ADJ13106
	12	ADJ15112	ADJ11112	ADJ13112
	24	ADJ15124	ADJ11124	ADJ13124
	48	ADJ15148	ADJ11148	ADJ13148
1 Form A	5	ADJ25105	ADJ21105	ADJ23105
	6	ADJ25106	ADJ21106	ADJ23106
	12	ADJ25112	ADJ21112	ADJ23112
	24	ADJ25124	ADJ21124	ADJ23124
	48	ADJ25148	ADJ21148	ADJ23148
1 Form B	5	ADJ35105	Please use 1 Form A.	Please use 1 Form A.
	6	ADJ35106		
	12	ADJ35112		
	24	ADJ35124		
	48	ADJ35148		

COIL DATA (at 20°C 68°F)

• Single side stable type

Nominal voltage, V DC	Set voltage, max. V DC (initial)	Reset voltage, max. V DC (initial)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
5	3.75	0.5	100	250	6.5
6	4.5	0.6	144		7.8
12	9	1.2	576		15.6
24	18	2.4	2,304		31.2
48	36	4.8	9,216		62.4

• 1 coil latching type

Nominal voltage, V DC	Set voltage, max. V DC (initial)	Reset voltage, max. V DC (initial)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
5	3.5	3.5	167	150	6.5
6	4.2	4.2	240		7.8
12	8.4	8.4	960		15.6
24	16.8	16.8	3,840		31.2
48	33.6	33.6	15,360		62.4

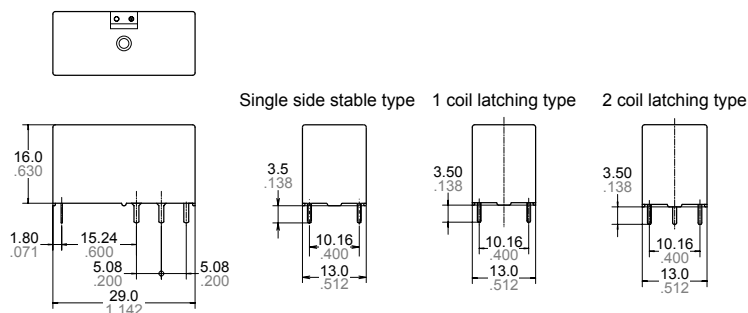
• 2 coil latching type

Nominal voltage, V DC	Set voltage, max. V DC (initial)	Reset voltage, max. V DC (initial)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
5	3.5	3.5	100	250	6.5
6	4.2	4.2	144		7.8
12	8.4	8.4	576		15.6
24	16.8	16.8	2,304		31.2
48	33.6	33.6	9,216		62.4

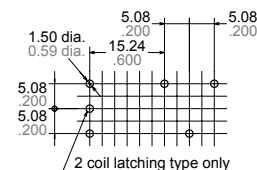
DIMENSIONS

mm inch

1. 1 Form C, without test button



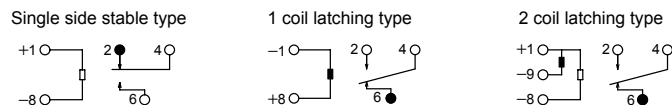
PC board pattern (Bottom view)



Tolerance: ±0.1 ±.004

General tolerance: ±0.3 ±.012

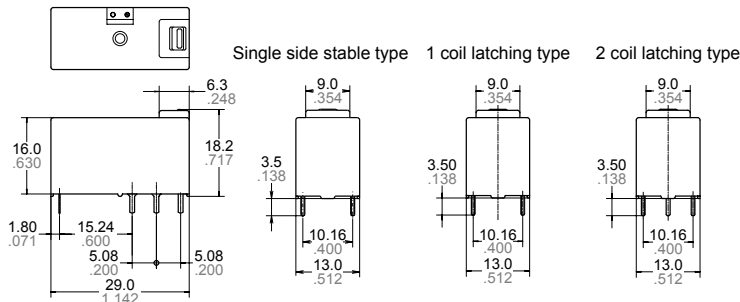
Schematic (Bottom view)



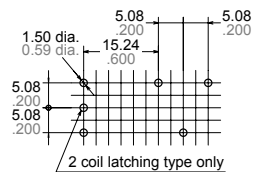
DJ (ADJ)

2.1 Form C, with test button

mm inch



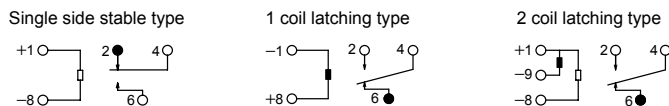
PC board pattern (Bottom view)



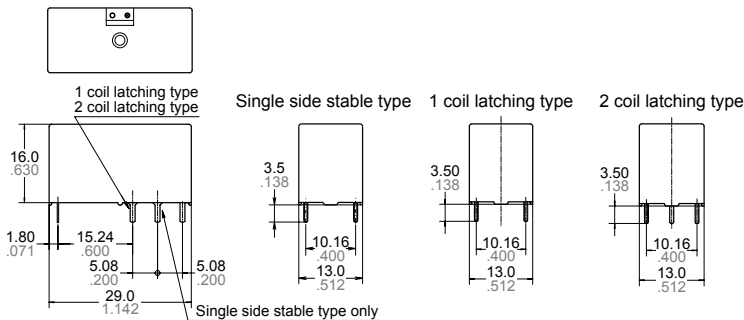
Tolerance: $\pm 0.1 \pm 0.04$

General tolerance: $\pm 0.3 \pm 0.12$

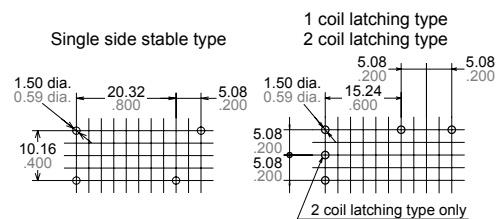
Schematic (Bottom view)



3.1 Form A, without test button



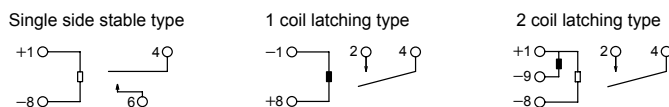
PC board pattern (Bottom view)



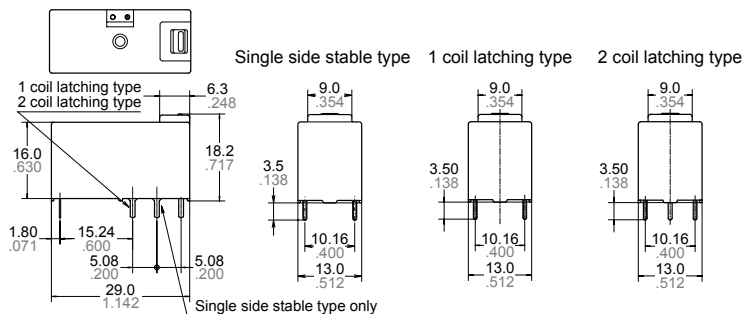
Tolerance: $\pm 0.1 \pm 0.04$

General tolerance: $\pm 0.3 \pm 0.12$

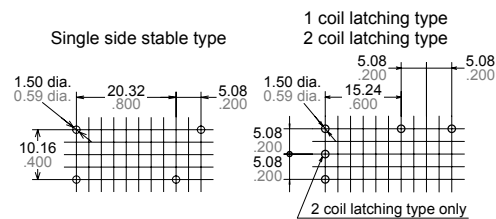
Schematic (Bottom view)



4.1 Form A, with test button



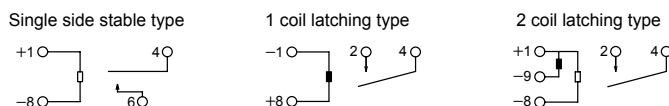
PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm 0.04$

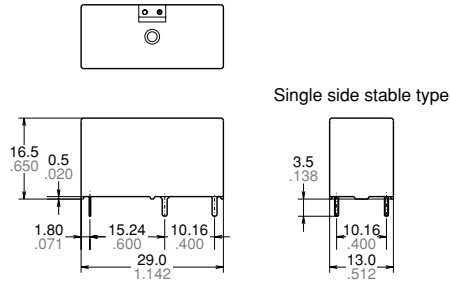
General tolerance: $\pm 0.3 \pm 0.12$

Schematic (Bottom view)



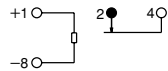
5.1 Form B, without test button

mm inch

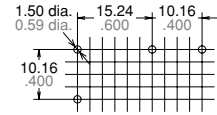


General tolerance: $\pm 0.3 \pm 0.012$

Schematic (Bottom view)

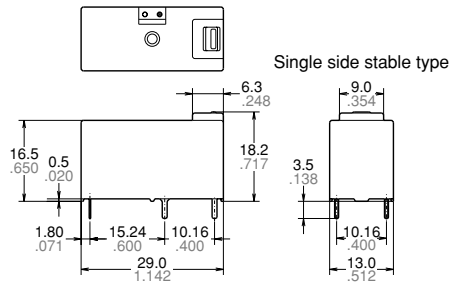


PC board pattern (Bottom view)



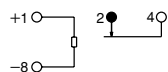
Tolerance: $\pm 0.1 \pm 0.004$

6.1 Form B, with test button

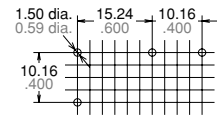


General tolerance: $\pm 0.3 \pm 0.012$

Schematic (Bottom view)

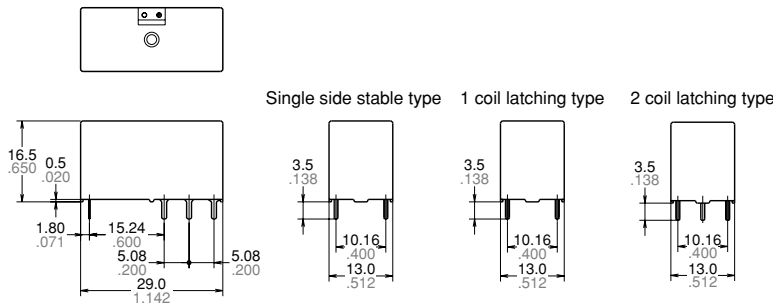


PC board pattern (Bottom view)



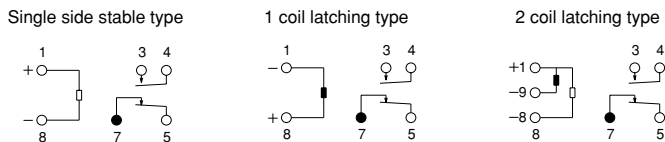
Tolerance: $\pm 0.1 \pm 0.004$

7.1 Form A 1 Form B, without test button

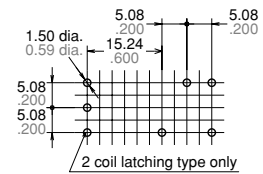


General tolerance: $\pm 0.3 \pm 0.012$

Schematic (Bottom view)



PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm 0.004$