

## EP2 SERIES

### FEATURES

- Twin relay for motor and solenoid reversible control
- 50% less relay space than conventional two relays
- Contact switching current of 30 A max.
- High performance and productivity by unique symmetrical structure
- Flux tight housing
- Delivered in stick-tube for automatic insertion machine
- Washable type available



### PART NUMBERS AND COIL RATINGS

At 20°C (68°F)

Part Number		Nominal Voltage (Vdc)	Coil Resistance ( $\Omega \pm 10\%$ )	Nominal Current (mA)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Nominal Operate Power (W)
H bridge Type	Separate Type						
EP2-3N1S	EP2-3N1ST	12	225	53.3	6.5	0.9	0.64
EP2-3N2S	EP2-3N2ST	12	225	53.3	7.0	0.9	0.64
EP2-3N3S	EP2-3N3ST	12	225	53.3	7.5	0.9	0.64
EP2-4N3S	EP2-4N3ST	12	300	40.0	7.5	0.9	0.48
EP2-4N4S	EP2-4N4ST	12	300	40.0	8.0	0.9	0.48
EP2-4N5S	EP2-4N5ST	12	300	40.0	8.5	0.9	0.48

### PART NUMBER SYSTEM

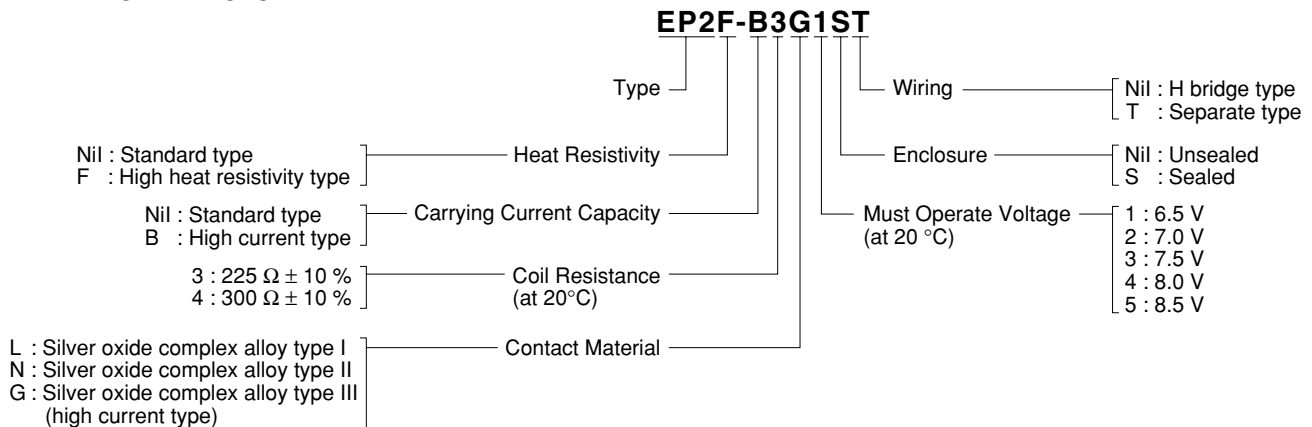
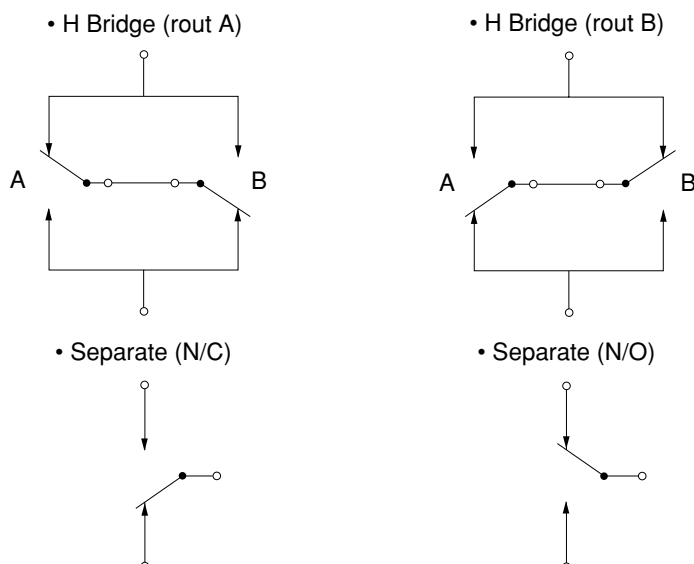
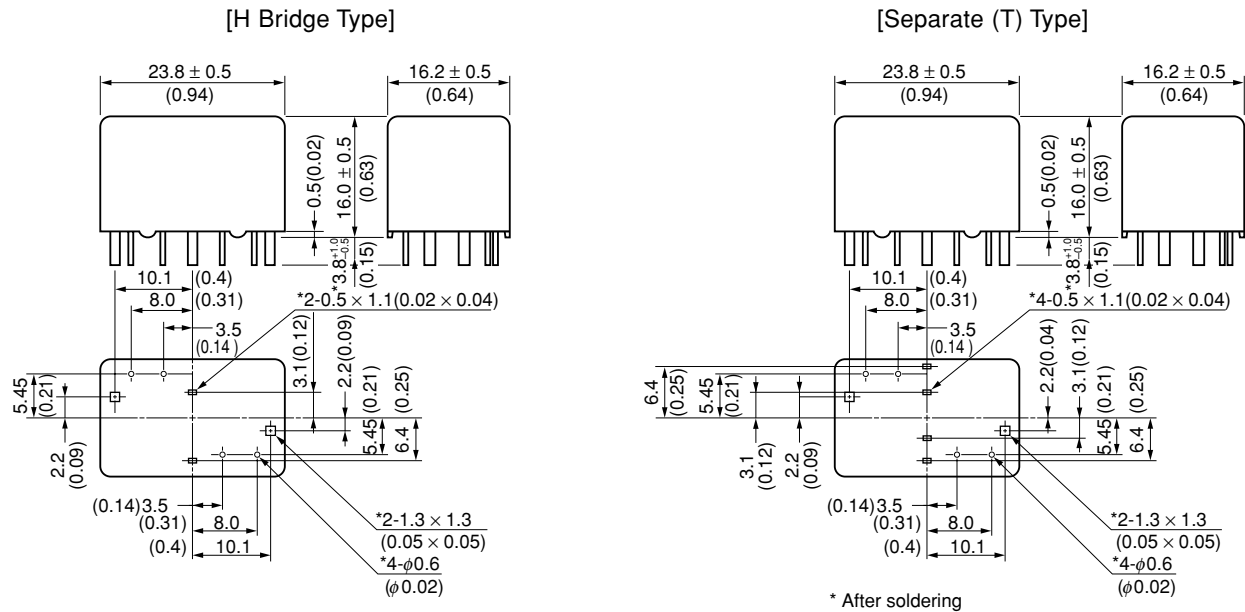


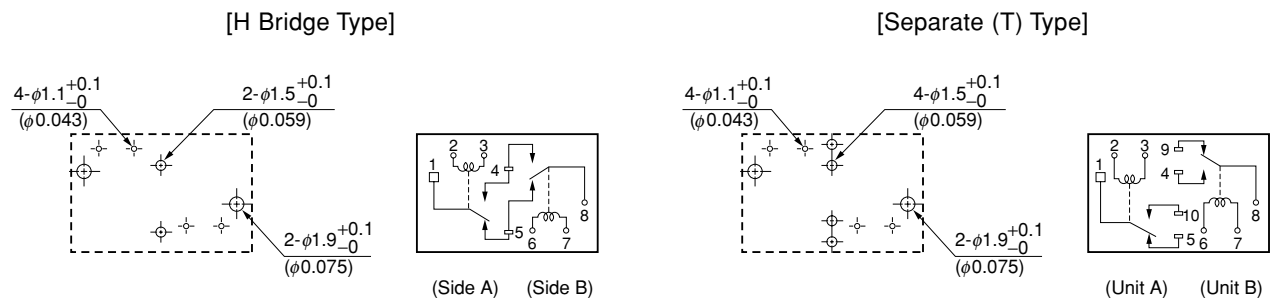
Figure 1 Contact Resistance\*



**DIMENSIONS** mm (inch)



**PCB PAD LAYOUT and SCHEMATICS** (bottom view) mm (inch)



**SPECIFICATIONS**

At 20°C (68°F)

Items	Specification	
	EP2- (Standard)	EP2-B (High Current)
Contact Form	1 Form c × 2 (H Bridge Type or Separate Type)	
Contact Material	Silver oxide complex alloy (Special types available)	
Contact Resistance (* figure 1) (measured by voltage drop at 6Vdc, 7A)	H Bridge (rout A): 10.7 mΩ typ. H Bridge (rout B): 10.4 mΩ typ. Separate (N/C): 5.2 mΩ typ. Separate (N/O): 5.2 mΩ typ.	H Bridge (rout A): 6.7 mΩ typ. H Bridge (rout B): 6.4 mΩ typ. Separate (N/C): 3.2 mΩ typ. Separate (N/O): 3.2 mΩ typ.
Contact Switching Voltage	16 Vdc max. 5 Vdc min.	
Contact Switching Current	30A max. (at 16 Vdc) 1A min.	
Contact Carrying Current (2 minutes max.)	25A (12 Vdc, 20°C) 20A (12 Vdc, 85°C)	30A (12Vdc, 20°C) 25A (12Vdc, 85°C)
Operate Time	Approx. 5 ms (at 12 Vdc)	
Release Time	Approx. 7 ms (at 12 Vdc), with diode	
Nominal Operate Power	0.48 W/0.64 W (at 12 Vdc)	
Insulation Resistance	100 MΩ min. at 500 Vdc, Initial	
Breakdown Voltage	500 Vac min. for 1 minute, Initial	
Shock Resistance	98 m/s <sup>2</sup> min. (misoperating)	
Vibration Resistance	10 to 300 Hz, 43 m/s <sup>2</sup> min. (misoperating)	
Ambient Temperature	-40°C to +85°C (-40°F to +185°F)	
Coil Temperature Rise	50°C/W (Contact Carrying Current 0 A)	
Life Expectancy	Mechanical	1 × 10 <sup>6</sup> operations
	Electrical	1 × 10 <sup>5</sup> operations (at 14 Vdc, Motor Load 25 A/5 A)
Weight	Approx. 15 g	

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"Standard," "Special," and "Specific". The Specific quality grade applies only to devices developed based on a customer designated "quality assurance program" for a specific application. The recommended applications of a device depend on its quality grade, as indicated below. Customers must check the quality grade of each device before using it in a particular application.

Standard: Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots

Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

Specific: Aircrafts, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

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(Note)

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