

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

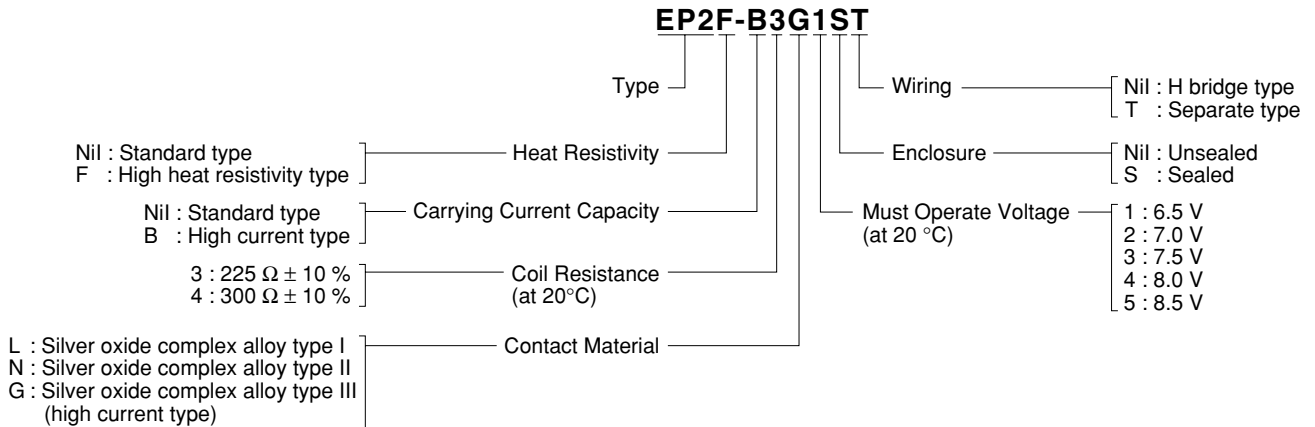
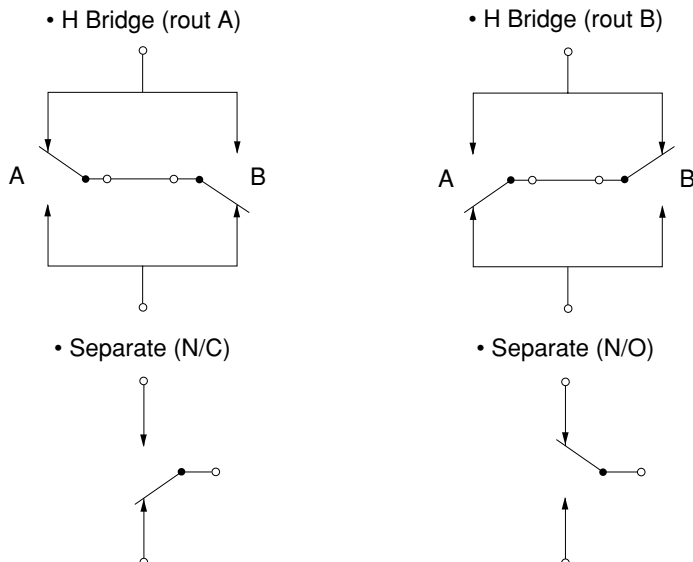
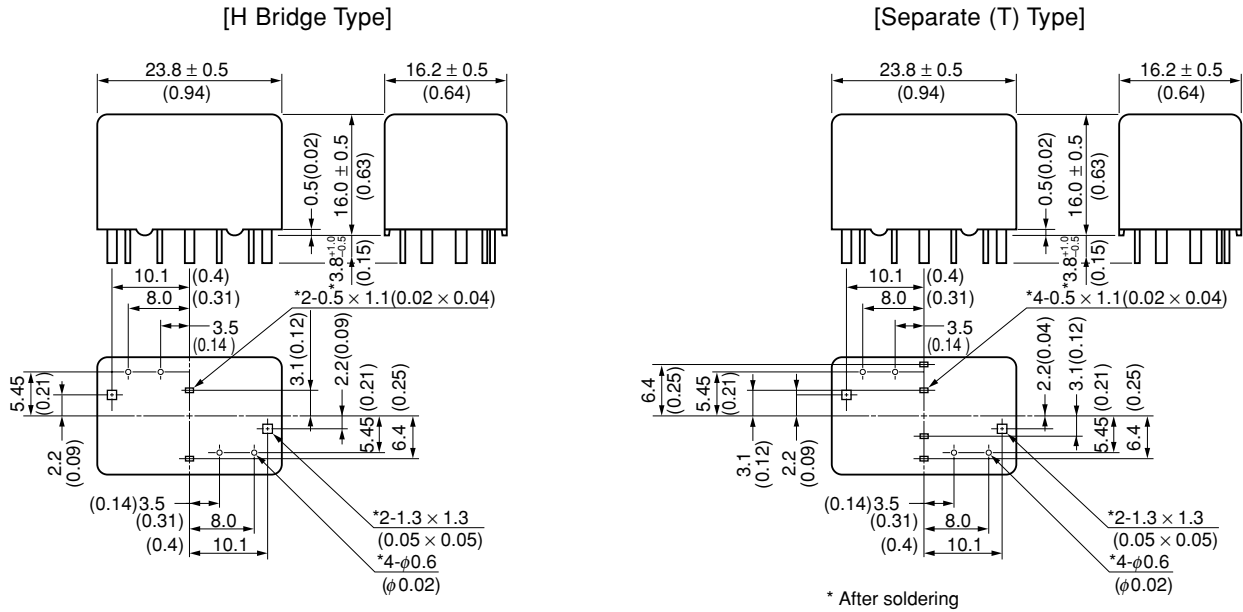


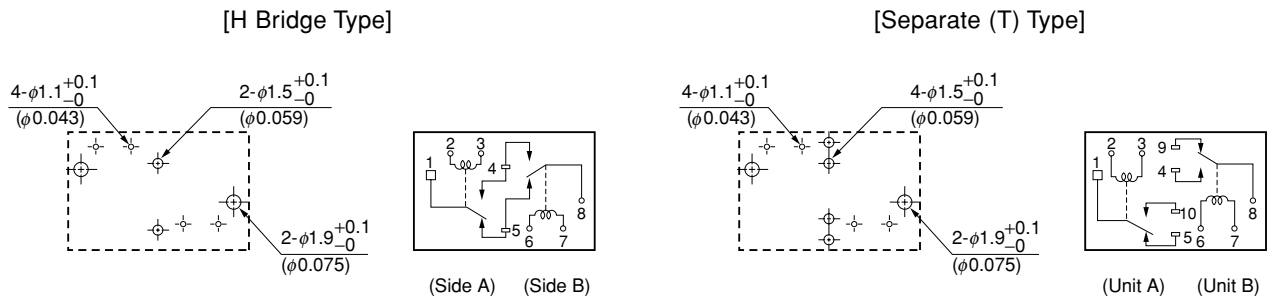
Figure 1 Contact Resistance*



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 ² min. (misoperating) | |
| Vibration Resistance | 10 to 300 Hz, 43 m/s ² 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 ⁶ operations |
| | Electrical | 1 × 10 ⁵ operations (at 14 Vdc, Motor Load 25 A/5 A) |
| Weight | Approx. 15 g | |

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(Note)

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