

EP1 Series

Non-promotion

Now, these products are corresponding only to specific customers.

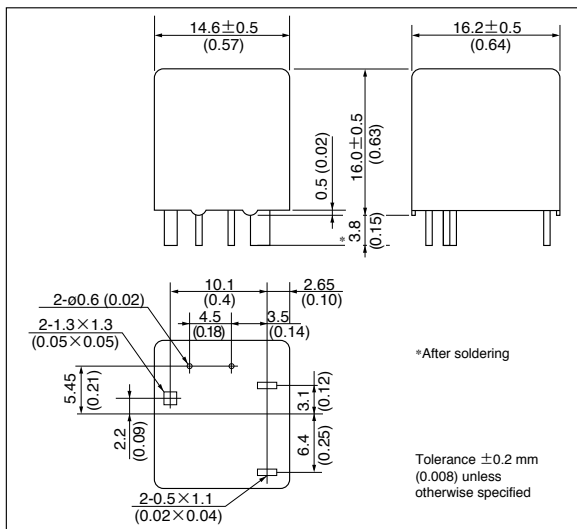


EP1 series is printed-circuit-board-mount-type and the most suitable for various motor controls in automotive applications pursuing quality and performance.

FEATURES

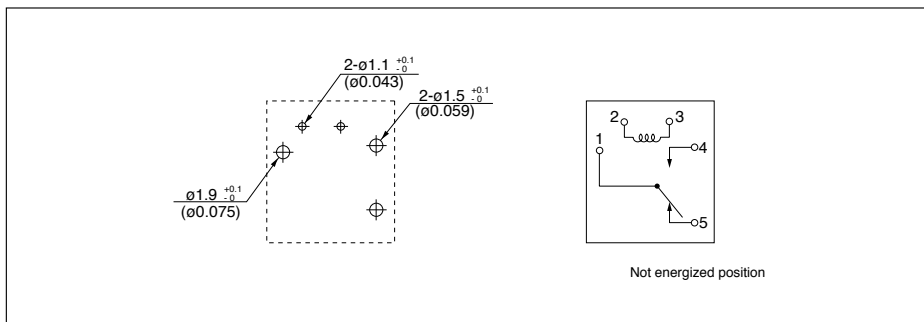
- For motor reversible control
- Two types of contact according to switching current (Standard type: 25 A max, High current type: 30 A max.)
- PC board mounting
- Flux tight housing

DIMENSIONS mm (inch)



RECOMMENDED PCB PAD LAYOUT and SCHEMATICS

(bottom view) mm (inch)



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EP1 Series

■ SPECIFICATIONS

at 20°C

Items	Types (Contact Rating)	EP1	EP1-B
		(Standard)	(High Current)
Contact Form		1 Form C	
Contact Material		Silver oxide complex alloy (Special type available)	
Initial Contact Resistance		5.2 mΩ typ. (measured by voltage drop at 6 VDC, 7A)	
Contact Rating Power		14 VDC, 25A	
Contact Switching Current		30 A max. (at 16 VDC)	
Contact Carrying Current		25 A max. (1 hour max.) 30 A max. (2 minutes max.) at 12 VDC	30 A max. (1 hour max.) 35 A max. (2 minutes max.) at 12 VDC
Operate Time (Excluding bounce)		Approx. 5 ms (at Nominal Voltage)	
Release Time (Excluding bounce)		Approx. 2 ms (at Nominal Voltage, without diode)	
Nominal Operate Power		0.48 W/ 0.64 W (at 12 VDC)	
Insulation Resistance		100 MΩ at 500 VDC	
Withstand Voltage		500 VAC (for 1 minute)	
Shock Resistance		98 m/s ² (misoperation), 980 m/s ² (destructive failure)	
Vibration Resistance		10 to 300 Hz, 43 m/s ² (misoperation), 10 to 500 Hz, 43 m/s ² , 200 hours (destructive failure)	
Ambient Temperature		- 40 to + 85°C (- 40 to + 185°F)	
Coil Temperature Rise		50°C / W (90 °F /W)(Contact Carrying Current: 0A)	
Running Specifications	Non-load	1 × 10 ⁶ operations	
	Load	100 × 10 ³ operations (at 14 VDC, Motor Load 25 A / 5 A)	
Weight		Approx. 8 g (0.28 oz)	

■ COIL RATING

at 20°C

Part Numbers		Nominal Voltage (VDC)	Coil Resistance (Ω) ± 10 %	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Nominal Operate Power (W)
Standard Type	High Current Type					
EP1-3L1	EP1-B3G1	12	225	6.5	0.9	0.64

* Test by pulse voltage



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EP1 Series

*EP1F:High heat resistivity

■ SPECIFICATIONS

at 20°C

Items	EP1F		
Contact Form	1 Form C		
Contact Material	Silver oxide complex alloy (Special type available)		
Initial Contact Resistance	50 mΩ max. (measured by voltage drop at 6 VDC, 7A)		
Contact Rating Power	14 VDC, 25A		
Contact Switching Current	30 A max. (at 16 VDC)		
Contact Carrying Current	30 A (2 minutes max. 12 VDC at 125°C) 35 A (2 minutes max. 12 VDC at 85°C) 40 A (2 minutes max. 12 VDC at 25°C)		
Operate Time (Excluding bounce)	Approx. 5 ms (at Nominal Voltage)		
Release Time (Excluding bounce)	Approx. 2 ms (at Nominal Voltage, without diode)		
Normal Operate Power	0.64 W (at 12 VDC)		
Insulation Resistance	100 MΩ at 500 VDC		
Withstand Voltage	500 VAC (for 1 minute)		
Shock Resistance	98 m / s ² (misoperation), 980 m / s ² (destructive failure)		
Vibration Resistance	10 to 300 Hz, 43 m / s ² (misoperation), 10 to 500 Hz, 43 m / s ² , 200 hours (destructive failure)		
Ambient Temperature	- 40°C to + 125°C (- 40°F to + 257°F)		
Coil Temperature Rise	50°C / W (90°F / W) (Contact Carrying Current: 0 A)		
Running Specifications	Non-load	1 × 10 ⁵ operations	
	Load	Contact G	1 × 10 ⁵ operations (at 14 VDC, Motor Load 25 A / 5 A) at 25°C 1 × 10 ⁵ operations (at 14 VDC, Motor Load 18 A / 3 A) at 125°C
		Contact L or N	1 × 10 ⁵ operations (at 14 VDC, Motor Load 20 A / 4 A) at 25°C 1 × 10 ⁵ operations (at 14 VDC, Motor Load 12 A / 2 A) at 125°C
Weight	Approx. 8 g (0.28 oz)		

■ COIL RATING

• EP1F

at 20°C

	Part Numbers	Nominal Voltage (VDC)	Coil Resistance (Ω) ± 10 %	Must Operate Voltage (VDC max.)	Must Release Voltage (VDC min.)	Nominal Operate Power (W)
Contact G	EP1F-B3G1	12	225	6.5	0.9	0.64
Contact L	EP1F-B3L1	12	225	6.5	0.9	0.64
Contact N	EP1F-B3N1	12	225	6.5	0.9	0.64

* Test by pulse voltage



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