

## EA2 Series



The NEC EA2 series relays are low power consumption, low magnetic interference relays. Their compact lightweight design makes them ideal for use in telecommunications equipment. This series also complies with FCC Part 68 1500V surge voltage requirements.

The EA2 series is available in 2 form C (DPDT) contact arrangements for all latch types.

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### FEATURES

- Low power consumption
- Compact and lightweight
- 2 form C contact arrangement
- Low magnetic interference
- Breakdown voltage: 1000 Vac (surge voltage 1500 V), FCC Part 68 compliant
- Tube packaging
- UL recognized (E73266), CSA certified (LR46266)

## SPECIFICATIONS

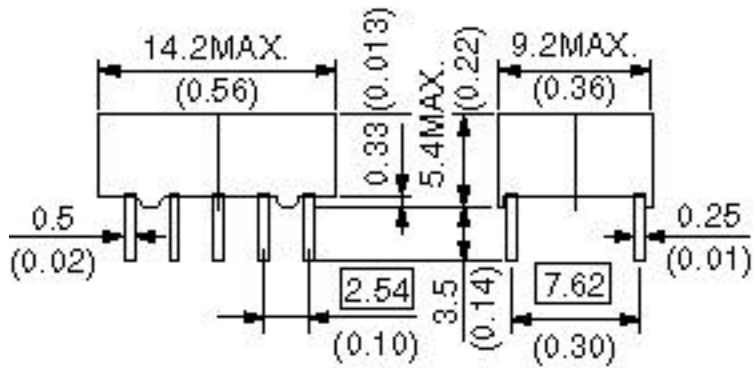
Contact Form		2 form C
Contact Material		Silver alloy with gold alloy overlay
Contact Ratings	Maximum switching power	30 W, 62.5 VA
	Maximum switching voltage	220 Vdc, 250 Vac
	Maximum switching current	1 A
	Maximum carrying current	2 A
Minimum Contact Ratings		100 mVdc, 100 $\mu$ A
Initial Contact Resistance		50 mOhm typical
Nominal Operating Power	Nonlatch type	140 mW (3 to 12 V)
	Double coil latch type	200 mW (24 V)
	Single coil latch type	100 mW (3 to 12 V), 150 mW (24V)
Operate Time (Excluding bounce)		Approximately 2 ms without diode
Release Time (Excluding bounce)		Approximately 1 ms without diode
Insulation Resistance		1000 MOhm at 500 Vdc
Breakdown Voltage	Between open contacts	1000 Vac (for one minute)
	Between adjacent contacts	1500 V surge (10 x 160 $\mu$ s*)
	Between coil to contacts	1000 Vac (for one minute) 1500 V surge (10 x 160 $\mu$ s*)
Shock Resistance		735 m/s <sup>2</sup> (75 G) (misoperating) 980 m/s <sup>2</sup> (100G) (destructive failure)
Vibration Resistance		10 to 55 Hz, double amplitude 3 mm (20 G) (misoperating) 10 to 55 Hz, double amplitude 5 mm (30 G) (destructive failure)
Ambient Temperature		-40 to +85°C
Coil Temperature Rise		18 degrees at nominal coil voltage (140mW)
Running Specifications	Nonload	1 x 10 <sup>7</sup> operations
	Load	50 Vdc, 0.1 A (resistive) 1 x 10 <sup>6</sup> operations at 85°C
		10 Vdc, 10 mA (resistive) 1 x 10 <sup>6</sup> operations at 85°C
Weight		Approximately 1.5 g

\* rise time: 10 $\mu$ s,

fall time: 160 $\mu$ s

## EA2 DIMENSIONS

mm (inch)

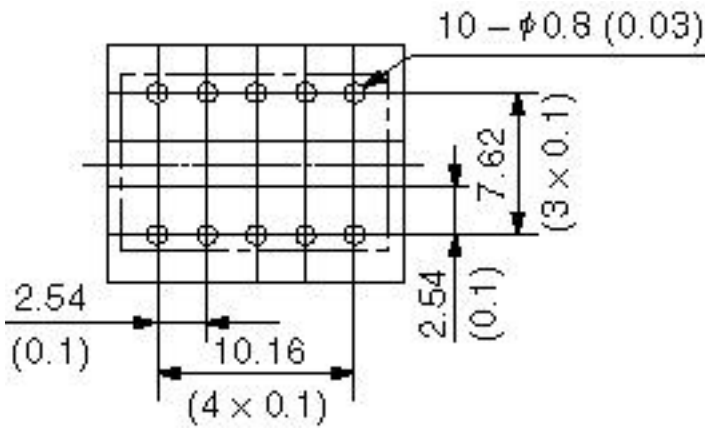


Note: Tolerance  $\pm 0.2$  unless otherwise specified  
NJ: Cover height — 6.25mm, Lead — 2.8mm

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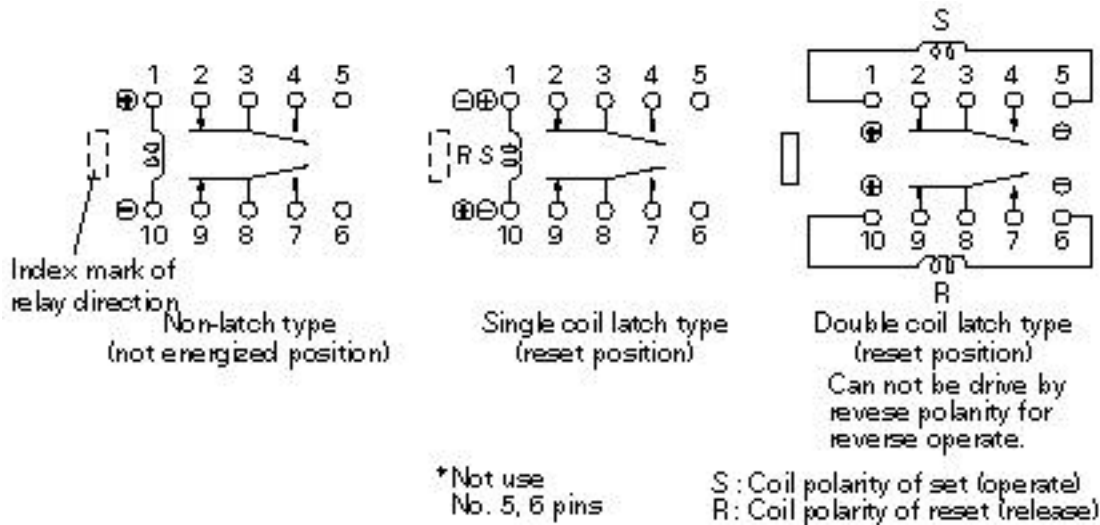
## PAD LAYOUT

(bottom view) mm (inch)



## SCHEMATICS

(bottom view)



## PART NUMBER SYSTEM

EA2 - 5 T NJ  
 ① ② ③ ④

- ① Relay Series
- ② Nominal Coil Voltage (See part numbers)
- ③ Latch type
  - Blank: Nonlatch Type (standard)
  - S: Single Coil Latch Type
  - T: Double Coil Latch Type
- ④ Identifier
  - NJ: Standard Type (UL recognized CSA certified type)
  - NU: Long lead length Type (UL recognized CSA certified type)

## PART NUMBERS

### Nonlatch Type at 25° C

Part Number (Standard)	Nominal Coil Voltage (Vdc)	Coil Resistance (Ohm) $\pm 10\%$	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)
EA2-3NJ	3	64.3	2.25	0.3
EA2-4.5NJ	4.5	145	3.38	0.45
EA2-5NJ	5	178	3.75	0.5
EA2-6NJ	6	257	4.5	0.6
EA2-9NJ	9	579	6.75	0.9
EA2-12NJ	12	1028	9	1.2
EA2-24NJ	24	2880	18	2.4

### Single Coil Latch Type at 25 °C

Part Number (Standard)	Nominal Coil Voltage (Vdc)	Coil Resistance (Ohm) $\pm 10\%$	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)
EA2-3SNJ	3	90	2.25	2.25
EA2-4.5SNJ	4.5	202.5	3.38	3.38
EA2-5SNJ	5	250	3.75	3.75
EA2-6SNJ	6	360	4.5	4.5
EA2-9SNJ	9	810	6.75	6.75
EA2-12SNJ	12	1440	9.0	9.0
EA2-24SNJ	24	3840	18.0	18.0

## Double Coil Latch Type at 25 °C

Part Number (Standard)	Nominal Coil Voltage (Vdc)	Coil Resistance (Ohm) $\pm 10\%$	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)
EA2-3TNJ	3	S 64.3 R 64.3	2.25 -	- 2.25
EA2-4.5TNJ	4.5	S 145 R 145	3.38 -	- 3.38
EA2-5TNJ	5	S 178 R 178	3.75 -	- 3.75
EA2-6TNJ	6	S 257 R 257	4.5 -	- 4.5
EA2-9TNJ	9	S 579 R 579	6.75 -	- 6.75
EA2-12TNJ	12	S 1028 R 1028	9.0 -	- 9.0
EA2-24TNJ	24	S 2880 R 2880	18.0 -	- 18.0

Note S: Set Coil (pin No. 1 and 5)

R: Reset Coil (pin No. 6 and 10)

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## SAFETY STANDARD AND RATING

UL Recognized (UL508)* File No. E73266	CSA Certified (CSA C22.2 No. 14) File No. LR46266
30 Vdc, 1 A (Resistive) 110 Vdc, 0.3 A (Resistive) 125 Vac, 0.5 A (Resistive)	

\* Spacing: UL114, UL478

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