

EC2 Series



The NEC EC2 series relays are low power consumption, low magnetic interference relays that meet 2500V surge requirements (between coil and contacts). Their compact lightweight through hole lead design makes them ideal for use in telecommunication equipment. This series complies with FCC Part 68 2500V surge voltage requirements.

The EC2 series is available in 2 form C (DPDT) contact arrangements for all latch types.

FEATURES

- Compact and lightweight
- 2 form C contact arrangement
- Low power consumption
- Reduced mounting space: 15 mm x 7.5 mm
- High-breakdown voltage of coil to contacts: 1500 Vac, 2500 V (2 x 10 μ s*)
- Capable of high-power switching: 700 Vac, 4.2 A, 4 times in case of accident
- UL recognized (E73266), CSA certified (LR46266)
- Certified to EN 60950

SPECIFICATIONS

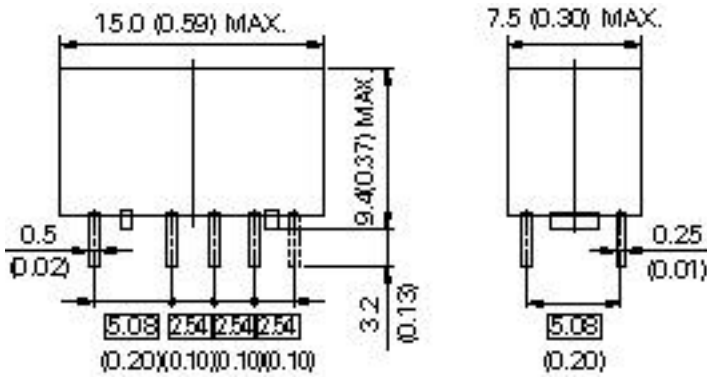
Contact Form		2 form C
Contact Material		Silver alloy with gold alloy overlay
Contact Ratings	Maximum switching power	60 W, 125 VA
	Maximum switching voltage	220 Vdc, 250 Vac
	Maximum switching current	2 A
	Maximum carrying current	2 A
Minimum Contact Ratings		100 mVdc, 100 μ A
Initial Contact Resistance		50 mOhm typical
Nominal Operating Power	Nonlatch type	140 mW (3 to 12 V), 200 mW (24 V)
	Single coil latch type	100 mW
	Double coil latch type	140 mW
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 μ s*)
	Between coil to contacts	1500 Vac (for one minute) 2500 V surge (2 x 10 μ s**)
Shock Resistance		735 m/s ² (75 G) (misoperating) 980 m/s ² (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 ⁷ operations
	Load	50 Vdc, 0.1 A (resistive) 1 x 10 ⁶ operations at 85°C 10 Vdc, 10 mA (resistive) 1 x 10 ⁶ operations at 85°C
Weight		Approximately 1.9 g

* rise time: 10 μ s,
fall time: 160 μ s

** rise time: 2 μ s,
fall time: 10 μ s

EC2 DIMENSIONS

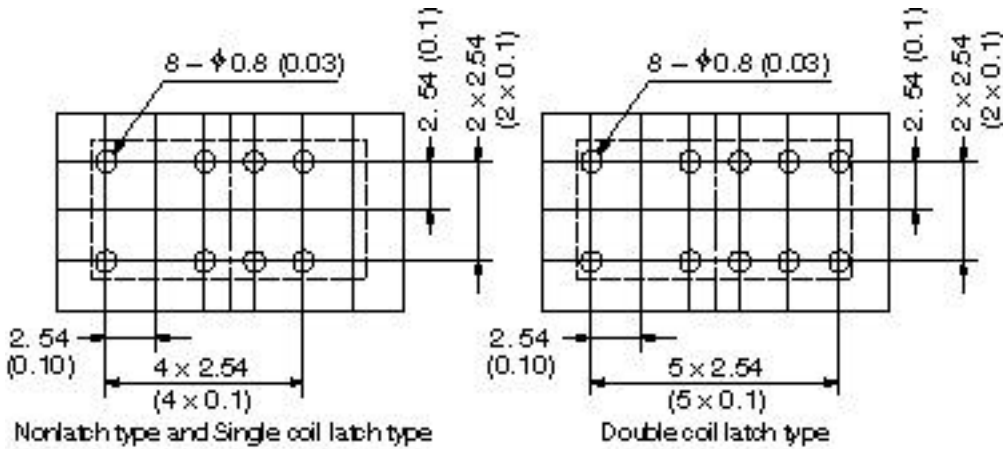
mm (inch)



Note: General tolerance : ± 0.2 (± 0.008)
 Dimensions in show basic size.
 NJ type : Leads-2.8 mm (0.11)

PAD LAYOUT

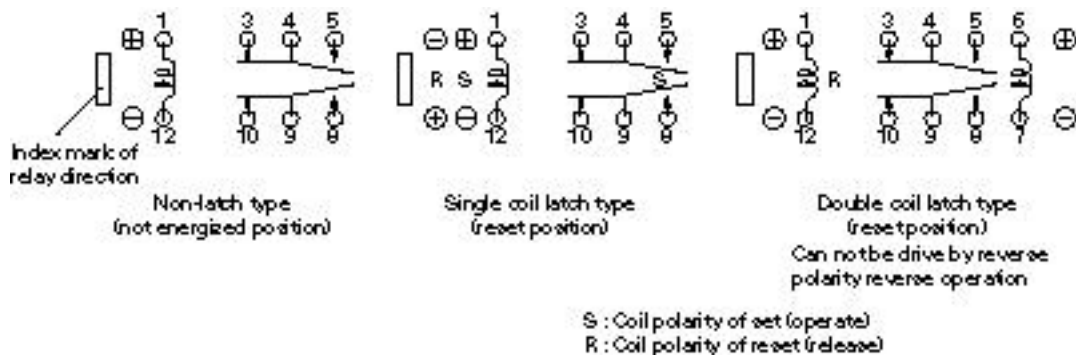
(bottom view) mm (inch)



Note: Tolerance ± 0.2 mm unless otherwise specified

SCHEMATICS

(bottom view)



PART NUMBER SYSTEM

EC2 - 3 S 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: Trimmed Leads Standard Type (UL recognized CSA certified Type)
 - NU: UL recognized CSA certified Type
 - NC: Ultrasonic cleaning available Type (only Nonlatch Type) (UL recognized CSA certified Type)
 - NPJ: Silver-palladium alloy contact (with gold alloy overlay) (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)
EC2-3NJ	3	64.3	2.25	0.3
EC2-4.5NJ	4.5	145	3.38	0.45
EC2-5NJ	5	178	3.75	0.5
EC2-6NJ	6	257	4.5	0.6
EC2-9NJ	9	579	6.75	0.9
EC2-12NJ	12	1028	9	1.2
EC2-24NJ	24	2880	18.0	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)
EC2-3SNJ	3	90	2.25	2.25
EC2-4.5SNJ	4.5	202.5	3.38	3.38
EC2-5SNJ	5	250	3.75	3.75
EC2-6SNJ	6	360	4.5	4.5
EC2-9SNJ	9	810	6.75	6.75
EC2-12SNJ	12	1440	9.0	9
EC2-24SNJ	24	5760	18.0	18

Double Coil Latch Type at 25 °C

Part Number (Standard)	Nominal Coil Voltage (Vdc)	Coil Resistance (Ohm) ±10%	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)
EC2-3TNJ	3	S 64.3	2.25	-
		R 64.3	-	2.25
EC2-4.5TNJ	4.5	S 145	3.38	-
		R 145	-	3.38
EC2-5TNJ	5	S 178	3.75	-
		R 178	-	3.75
EC2-6TNJ	6	S 257	4.5	-
		R 257	-	4.5
EC2-9TNJ	9	S 579	6.75	-
		R 579	-	6.75
EC2-12TNJ	12	S 1028	9.0	-
		R 1028	-	9.0
EC2-24TNJ	24	S 4114	18.0	-
		R 4114	-	18.0

Note S: Set Coil (pin No. 1 and 12)

R: Reset Coil (pin No. 6 and 7)

SAFETY STANDARD AND RATING

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

* Spacing: UL114, UL478, UL1950
EN60950

World Products Inc.
19654 8th St. East, Sonoma, CA 95476 USA
Phone: (707) 996-5201 Fax: (707) 996-3380
E-mail: emdsales@worldproducts.com

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